

Ray Allsop and Don. B. Knock — Technical Editors

Wireless Weekly

3^D

INCORPORATING "RADIO IN AUSTRALIA & NEW ZEALAND"

VOL. 13. NO. 14.

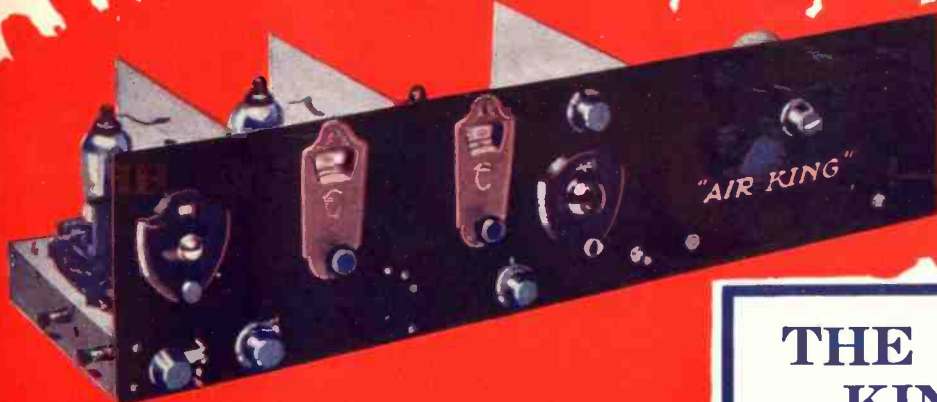
FRIDAY, MARCH 29, 1929.

(Registered at the G.P.O., Sydney, for transmission by post as a newspaper).

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says **DON KNOCK**

WITH THIS RECEIVER,
PHILIPS
NEW 16-88
METRE STATION
PHI COULD
BE HEARD 200
YARDS FROM
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PHILIPS RADIO!

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For All Stations.

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ALL the Highlights of the air are yours with the *New Stromberg-Carlson Electric 3*—yours with a clarity of tone and fidelity of reproduction such as you have never heard before!

You might well be in the crowded auditorium below the speaker's Rostrum, instead of listening-in on the broadcasting of the world's events from distant states—or within sight of this swaying wand of the orchestra leader—or watching the pianist's flying hands.

No note of the instrumental or vocal range is too high to come over the New Stromberg-Carlson Electric 3, with perfect clarity—none too low. Slurring, distortion, these are things of the past!

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There is one thing you can believe—your own ears! They will tell you—quickly and honestly, which radio set is best for you to have. They will give you a swift, unprejudiced verdict.

Free Installation in Metropolitan Area.

LET YOUR EARS DECIDE!

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Prices of the newest Astor Five are: Instrument only . . . £17/17/0
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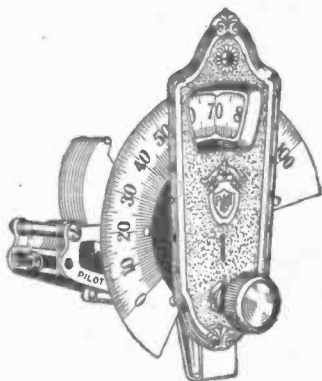
PILOT Products of the World's greatest Radio Parts Plant

Revised Prices!!

Owing to the heavy sales of Pilot Parts since Harringtons, Ltd., assumed the Australasian Agency, better buying arrangements have now been made, and it has been decided to pass on the benefits immediately. THE NEW PRICES ARE OPERATIVE FROM 1st APRIL, 1929.

In practically every instance prices have been appreciably reduced, and it is now a fact that PILOT-PRODUCTS OF THE WORLD'S GREATEST RADIO PARTS PLANT-COST THE AUSTRALIAN USER NO MORE THAN COMPETING LINES.

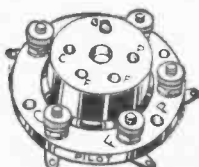
PILOT PARTS FOR THE "AIR KING" RECEIVER



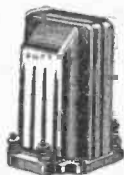
No. 1282L.
Illuminated Vernier Dial,
with Bulb.

Most of the world's radio experts show a distinct preference for Pilot Parts. For the "AIR KING" receiver, announced in this issue, the technical editor of Wireless Weekly largely specifies Pilot. We recommend the following parts for use in this receiver:—

Catalogue No.	Description	New Price operative from April 1st.
1608.—2	Pilot .00016 S.L.F. Variable Condensers, each	10 6
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V.M. 80.—	Micrograd	5 0
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No. 212.
UY Socket.



No. 391, 3½ to 1.
Ratio A.P. TRANSFORMER.

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Branches all States and New Zealand.

The HEAVISIDE LAYER PLAYS TRICKS

This explanation of certain puzzling phenomena may help to solve many difficulties for the radio fan. Those who are not quite certain what the Heaviside layer is are referred to last week's Proving Radio article. The illustration in the centre of the page will also help them.

A NEW mystery of radio, one that periodically changes the values of the channels used for broadcasting, has been discovered.

Dr. A. Hoyt Taylor, the world-famous meteorologist and astronomer, has just disclosed that there has been a steady downward drift of the Kennelly-Heaviside layer during the last four years which has somewhat reduced the value of the broadcast frequencies. If the lowering should continue for any length of time it might be necessary to completely change the band of frequencies used for broadcasting purposes.

Scientists admit that as yet they don't know very much about the cause, the effect, or how long it will continue. They can only speculate.

The Kennelly-Heaviside layer has an important, if not all-important, effect on radio transmission.

WAVES ARE REFLECTED.

When the radio signals leave the aerial of the transmitting stations in the form of electrical waves they go up to the Heaviside layer. There they are reflected back to earth.

If the waves were not deflected they would keep on going up, never returning to the earth. Then, so far as reception is concerned, it would be possible to get only the ground wave of the station, which covers an area of from ten to sixty miles, depending on power and other conditions.

The angle of which the signals or electrical waves leave the aerial depends on the frequency on which they are transmitted. On one frequency they go almost straight up. On another they leave at an angle of 90 degrees.

This deflection angle (as it is called) is always reflected back to earth at the same angle at which it was transmitted from the earth, that is, if a wave strikes the Heaviside layer at an angle of 50 degrees, then it will be reflected back to earth at an angle of 50 degrees. This explains skip distance to some extent. The space between the two lines forming the deflection angle is served only by a ground wave. This ground wave is transmitted from a broadcasting station at the same time as the ether wave (which spreads out in all directions, and which eventually strikes the Heaviside layer and is reflected back to earth).

Scientists and experimenters are not entirely agreed about the Heaviside layer. Some experimenters go even so far as to

aver that this layer is non-existent. Others say that it is thirty to sixty miles above the earth's surface, whilst there are other scientists that will not be shaken from their view that the Heaviside layer is thousands of miles away.

If the signal goes almost straight up it is reflected back to earth not very far away from the starting point. The greater the angle the greater will be the distance which the wave will cover before coming back to earth.

That is responsible for what is known as the "skipped distance" effect. On some of the high frequencies the waves come down to earth for the first time at a distance of 2000 or 3000 miles from the transmitter.

Of course, except for the ground wave, the signals cannot be heard until they return to earth.

SIGNALS SPAN EARTH.

On the very high frequencies, below 12 metres, the angle at which the signal leaves the transmitter is so great that the signals go all the way around the world before they ever come down. For that reason it has been almost impossible to do anything with the millions of radio channels below 12 metres.

Should there be a considerable lowering of the Heaviside layer it would give the high frequencies a practical value. But there would be an almost corresponding loss to the low frequencies.

In 1924, the first time an attempt was made to measure the height of the Kennelly-Heaviside layer, it was estimated to be about 100 miles high at night, while the ionising effect of the sun's rays would force it down to about ninety miles during the day.

Since then the Heaviside layer has dropped to about seventy miles during the day and ninety miles at night. In other words, there has been a drop of about 20 per cent.

Dr. Taylor thinks there is some connection between sun spots and the Heaviside layer.

The sun spots appear and disappear in cycles. During an eleven-year period there will be a maximum and minimum of sun spots.

If Dr. Taylor's theory is correct, then the Heaviside layer would go through the same cycle, moving up and down according to the sun spots.

Still assuming that the theory is correct, then the Heaviside layer should gradually go up during the next five years.

But it may not be due to the sun spots at all. Before scientists can know definitely they must have observations for the eleven-year period.



This is an important point. The air, being the best conductor known, would tend to resist a radio signal rather than assist it over such a vast distance. Of course, it can be said that radio frequency waves are not affected by air, but, on the other hand, if one remembers that the density of air has an effect on the signal (for it has been conclusively proved that radio frequency waves will not travel through a vacuum), then it stands to reason that the Heaviside layer must be much nearer to the earth than some experimenters imagine, because the belt above the earth where the atmosphere is practically non-existent, is only between twenty and thirty miles distant. If a signal or radio frequency wave will not travel through a vacuum, how, then, will it reach the Heaviside layer if this is in a vacuum?

BETWEEN YOU AND ME AND THE MICROPHONE

Tact

COUSIN MARJORIE PRITCHARD has her grievance against Uncle Bas. She had just sung one of those popular songs for which she is so well known in the Children's session when Uncle Bas took the microphone—"How are you, children?" he enquired anxiously. "All well?" Of course, Uncle Bas didn't mean it; but Mr. Jack Barnett, when he held the children's sessions was guilty of a deliberate fox paw. "Now, children, that you have heard Cousin Marjorie sing her little song, we shall have another song, appropriate to the occasion—"Rescue the Perishing." Which, as Cousin Marjorie herself feels bound to admit, wasn't fair.



Yea!

MANY nice letters have been received, congratulating the New South Wales Broadcasting Company on its Hyde Park broadcasts. Several say that Mr. Charles Lawrence is a concert on his own. But we believe Mr. Lawrence has denied this rumored perfection, saying that his instrumental knowledge is incomplete, owing to his total inability to blow his own trumpet.

These Moderns

MR. ROLAND FOSTER'S Classical Concert, in which he illustrated a short lecture on "Humour in Music," was quite unorthodox and interesting. But when Mr. Moore MacMahon told us that he was to play a Serenade to a She Cat, we began to fear greatly. But the Serenade proved to be much smoother than its title. Mr. MacMahon told us that such a title was quite a usual one when compared with some of the more modern ones. He cited an instruction of a modern composer, written instead of the customary "Agitato," etcetera, to

"play with the back of your teeth," and "in the mood of killing your mother-in-law," after which we looked at him very silently and quizzically. But he even offered to show us the music.

Bouquets Miscellaneous

IN conclusion," says Mr. Kay, of Mayfield, Newcastle, "I would like to acknowledge the courtesy which seems characteristic of the ladies and gentlemen entrusted with the broadcasting from both stations." We don't know whom this sweeping bow of gratitude includes, but we suspect it was made to the announcer who says, very distinctly, "Miss Highnote. SOPRANO, will now sing." We ourselves have often felt much indebted for such friendly warnings.



Penny for the Punster

"Watt are you doing here?" "Eating currents," replied the apprentice. "Anode you'd catch me at it?" "Never mind, but wire you insulate this morning?" asked the Boss. "Leyden bed." "Can't your relay shunts get you up?" "Amperently not, sir." "Fuse going to do that every day, you can go ohm," said the Boss, and the circuit was broken right there.

2BL Fashion Note

WHEN Mr. Jack Barnett appeared one Sunday evening in what he was pleased to call a Berry, we complimented him on his heroism. You know—a Beret—one of those caps without peaks. French for Tam o' Shanter. Mr. Barnett told us that he had worn it in his car all the way from the Mountains into Sydney. He said that people on the punt queue had been interested; but only politely interested. He said that the colour—light blue—didn't quite suit him; and that he was going to get one made, in a dark blue shade



to match a certain blazer which is soon to dazzle the natives. Double-breasted, it is going to be. The reason for all this sartorial re-sartoring is that Mr. Barnett is going picnicking with Mr. Fred Scholl and Mr. Ted Henkel, whose clothing is always extremely beautiful. Mr. Barnett is going to show 'em. However, we regret to have to chronicle the fact that Mr. Barnett refused to wear his Beret from 2BL to the Quay. He said there were limits.

The Fleeting Breath

WE were watching a band broadcasting through 2FC. The music had been working to a great crisis; to complete which, there was a solo for the soprano cornet. The soprano cornetist was a tiny man, and he began enthusiastically, blowing as hard as he could. His whole body trembled. His eyes were starting out of his head. His cheeks puffed and puffed as the music soared in sweeping legato from its orifice. There were only two notes—two high notes to be played; and we were awaiting them in confident anticipation. But

the notes weren't noted. On the second last note the little man gasped, put down his cornet, and looked pathetically at the bandmaster. It had been too much for him. The bandmaster smiled—he Smiled—and went on conducting.



Vain Repetitions

CAPTAIN STEVENS let the electric player-piano finish its tune, and rewind itself; then he began to announce the cricket scores. But just as he was detailing the essential wickedness of a certain Hammond, the piano burst out once more with "Mother Machree." The Captain rushed over, found he had left the repeater button down, and adjusted matters; then apologised to the company for the lady's untimely eruption.



Cookardina

WE found Mr. Jack Barnett at 2FC, reading a book, with Miss Nea Hallett. He looked up, and inquired abstractedly, "Have you a dust-bin?" Always anxious to oblige, we said, "No, not just now; but we can bring one in to-morrow morning if that will be satisfactory." He said, "What on earth are you talking about?" We said, "Dust-bins." He said, "Oh, that's only a line from this play I'm rehearsing with Miss Hallett," and began to laugh so aggravatingly that we entered the lift immediately.

Towname

IF radio has done nothing else, it has brought to our notice the town of Cookardina, from which Mr. Gordon Davidson, a "Wireless Weekly" reader, wrote to Mr. Alfred Cunningham, at 2FC.

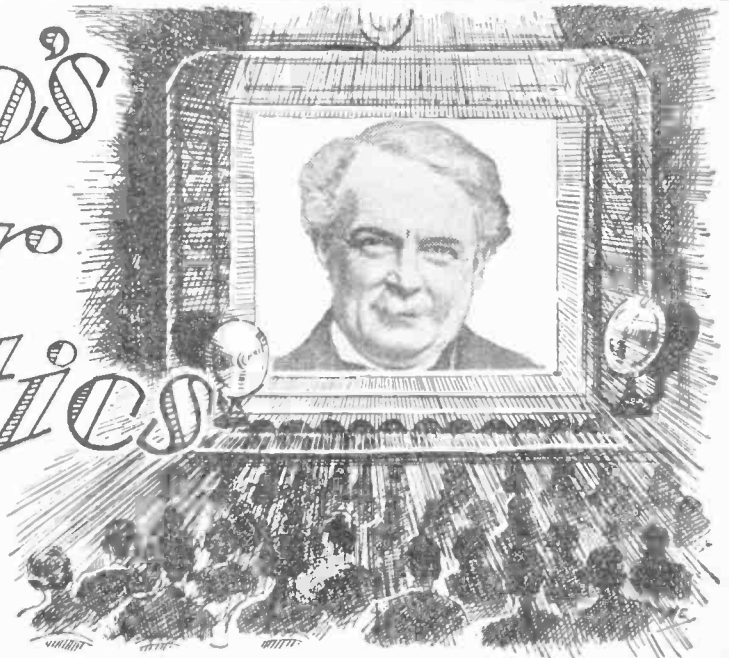
New Role

SUICIDE is becoming a habit among the Turks, with fatal results, as the newspapers say. So the Stamboul University is broadcasting a series of anti-suicide lectures. The radio-lecturers are trying to counteract the mental state which leads to suicide; and claim that Kismet in no way resembles the ideal maxim of contact, whatever that may be, taught by certain schools of philosophy as an escape from the treachery and the tyrannies of life, whatever these may be. They say that modern suicides are the results of a philosophic tendency; and this theory is banked up by the fact that most suicides are of well educated Turks, Turks who have come most in contact with Europeans, and Turks who live in the towns. Which only serves to show how different we are in Australia. Whereas, in Turkey, the highbrows need radio to cure them of the cankerous diseases of philosophy, here they need philosophy to inure them to what they call low-brow radio programmes. Also, in Turkey, women are the most habitual suicidal offenders, whereas here, in our own fair land, our highest women (sopranos) have rejected suicide for manslaughter. It all serves to show, as Mr. Spencer has remarked before us, that in different countries the customs which seem obnoxious to the one are most venerable to the other.



Radio's Power in Politics

Radio combining with the movie-talkies has completely altered electioneering methods, as shown in this article.



Party leaders will appear on the screen at suburban theatres, and will address the audience direct.

ELABORATE arrangements, already in hand, will make the forthcoming general elections in England unlike any other fought before. According to recent cable messages, oratory and propaganda will be produced in mass and mechanised. Wireless loud-speakers, movies, and "talkies" will be used in an effort to reach the whole United Kingdom.

"It is surprising that the more general use of wireless broadcasting in election campaigns has not been made in Great Britain long before this," said Mr. George Wright, chairman of directors of the N.S.W. Broadcasting Company, commenting on the British political arrangements recently.

"Very early in the history of wireless in Australia," continued Mr. Wright, "we saw that broadcasting could take a most effective part in political campaigns. Over three years ago we approached the Federal Ministry, pointing out the valuable aid our broadcasting stations could give in enabling

each political party to place its views effectively before the electors. Consideration was given to this suggestion, and the Federal Government decided that the leader of each party should be allowed to broadcast on one occasion. The same facilities were extended to the State campaign. Subsequently the Federal authorities allowed an extension of this privilege. Political leaders in the Commonwealth arena are now allowed to broadcast once in each State, and once through a chain of inter-State stations during each campaign.

"It is rather interesting," added Mr. Wright, "to see that the British authorities are granting privileges to the leaders of each party, exactly on the same lines as those which govern the transmission of political campaign speeches in Australia, and that Messrs. Baldwin, Ramsay Macdonald, and Lloyd George will be broadcast first at the

outset of the campaign, and lastly on the evening of the poll. It was during the broadcasting of Mr. Bruce's policy speech from Dandenong, a little over three years ago, that Australia startled the world with a land-line transmission of over 700 miles. When this was reported overseas, grave doubts were expressed as to whether some mis-

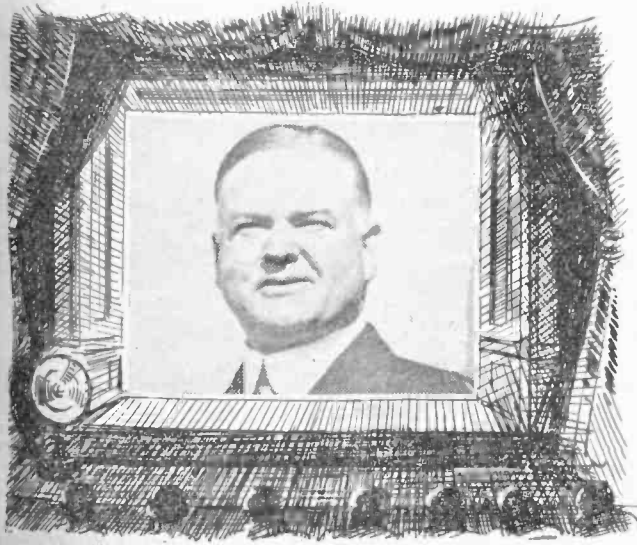
take had not been made in the mileage of the line used. This transmission was subsequently quoted in quite a number of countries as the forerunner of a new era in broadcasting."

Probably no development has so changed electioneering methods in America as has broadcasting. Waiting on the recent Presidential election, Major J. Andrew White, a prominent authority, says—

"Radio has changed the ways and means of campaigning. Broadcasting is really a house-to-house canvasser. It accompanies the candidates into the home—direct to the family circle. The members of the family now form their own political opinions. All do not vote the one ticket just because their ancestors have always been members of respective parties. To-day mother may vote for a Democrat, and father for a Republican, just because of impressions formed by listening in on the radio. Radio is switching votes. The family does not follow the beaten path of Democracy or Republicanism. In many instances the loud-speaker moulds the public mind in casting a ballot. Discussions of the political issues are heard in the family to-day. Radio opens controversy on political subjects, and that has helped to swell the registration figures. Furthermore, the candidates themselves are discussed more in the home than ever before.

"Radio had a nation-wide effect in the last campaign. Applause was cut down when meetings were broadcast. The candidate was at the microphone ahead of time. When the radio man signalled that the circuit was open the speaker was ready to begin his speech. There was less artificial applause for this reason. It is useless to plant rosters in the audience, because they would 'eat' up the candidate's time.

"Hoover's demonstration in New York consumed some valuable minutes on the air. The greeting given him from the sidewalks of New York was very effective on the radio, but he had to run over his allotted time. Too much applause is not good, because the radio audience tires of the noise. Listeners cannot see the enthusiastic crowd, spotlights, and thousands of waving flags to occupy



their attention. What the invisible audience tunes in for is the speech. Many go to the mass meetings to get a glimpse of the candidate to satisfy their curiosity and witness the demonstration, not necessarily to hear him. They can hear far better on the radio in the quietness of the home than in a large auditorium, even though they have a good seat.

Political ballyhoo is a thing of the past. The radio audience does not tune in for humbug. Radio demands thoughts.

"The candidates are as obedient to radio as lambs. They wait for the signal from the

radio man, and they do all in their power to get silence just before the time to broadcast arrives. They keep their eyes on their watch and upon the announcer.

"Broadcasting has made sincerity a keynote in a campaign. A candidate cannot go into one State and say one thing on the radio and a week later jump to the other side of the fence just to please another section of the country. When he speaks in Boston he may be heard in California.

"Radio has caused the city folks to discuss farm relief and give thought to rural problems. Radio makes the problems of one

section the problems of the nation. Another thing radio has done is to help increase campaign funds. Individuality in voice asking for contributions has proved much more effective than printed circulars peddled from door to door."

Thus has broadcasting affected methods of political electioneering. It seems that there is hardly an avenue of human endeavor which hasn't felt the influence of the advent of broadcasting, and this particular avenue, above all, is likely to change our political and economic thought more than any other.

The Microphone Presents—

Revue

ALF LAWRENCE AND NELL CRANE, popular entertainers, are coming over from Melbourne for a short visit, and will participate in a bright revue. Charles Lawrence is busy arranging for the evening of April 6.

Female Choir

THE EUTERPIANS' FEMALE CHOIR, successful competitors in the recent Radio Elsteddod conducted by the New South Wales Broadcasting Company, Limited, are preparing unusual items for their engagement at 2FC on Monday night, April 8. A well-trained combination, under the able conductorship of Mrs. Crystal Bates, their performance is anticipated with pleasure.

Cheer-up Society

UNCLE FRANK will introduce 2BL children to the "Cheer Up Society," on Sunday evening, March 31, between 6 and 6.30 p.m. The half-hour will be devoted to the excellent work the young people are doing under Uncle Frank's able guidance, and the far-reaching effect of their activities. Choral items will be rendered by the society's choir—a combination of remarkably gifted young people.

Music Teachers' Conference

THE second Annual Conference of the Music Teachers of New South Wales opens on Tuesday, April 2, and arrangements have been made for the various morning and afternoon sessions to be broadcast. On the morning of April 2 the first of three pianoforte lessons will be given. Lecturers: Mr. Frank Hutchens and Mr. Laurence Godfrey Smith. Assisting artists: Miss Winifred Burston and Miss Iris de Cairos-Rego. The lesson will be broadcast between 10.45 a.m. and 11.15 a.m. In the afternoon Dr. W. Arundel Orchard will lecture on "Musical Literature," to be followed by the first violin lesson. Lecturer, Mr. Lionel Lawson. Dr. Orchard will speak at 2.30, and Mr. Lawsoop at 3 p.m.

On Wednesday, April 3, commencing at 10 a.m., Mr. Lawrence Campbell will conduct the elocution session.

Thursday, April 3, is set apart in the morning for Mr. Spencer Thomas's vocal session, commencing at 10 a.m., and in the afternoon Mr. Lindley Evans will conduct the school music session and the third pianoforte lesson.

Friday, April 5, is for the second violin lesson, at 10 a.m., conducted by Cyril Monk, and in the afternoon at 2 o'clock the vocal repertory session, arranged by the vocal committee—Messrs. William Asprey, Frank E. Down, and Roland Foster. Artists: Madame Goossens-Viceroy, Miss Heather Bell, Miss Marjorie Beeby, Mr. Robert Harper, Mr. Clem Williams, Mr. W. Reginald Gooud; accompanist, Mr. Lindley Evans.

The chamber music evening, to be given in connection with the conference at the

WHISTLING COMPETITION RESULT

The voting in the Whistling Competition was as follows:—

Harry Graham	688	votes
Harry Croot	612	"
Les Austin	348	"
Phil Mountain	346	"
Carlton Fay	29	"

2023 "

Out of the 82 entries received which placed the artists in the correct order of their popularity, that of Mrs. Brenda Williams, of 19 Kembla Street, Arncliffe, was drawn as the winner of the £2/2/ prize offered by "Wireless Weekly."

Entries were received from every part of New South Wales, and all testified as to the success of the competition.

Mr. Carlton Fay's effort was apparently received by an unappreciative public—if we can judge from remarks contained in many letters received. "I would recommend a milk thistle and a little more canary seed for Mr. Fay for the next Whistling Competition," writes a country competitor. "A much better pianist than canary," says a listener at Katoomba. Another listener—perhaps a little more kindly disposed towards Mr. Fay—makes a good suggestion. "If there is a special prize, give it to Mr. Carlton Fay. He caused a good laugh, at any rate."

Conservatorium on the evening of April 2, will also be broadcast for the benefit of 2FC listeners.

Messages to Byrd Through 2FC

ON Thursday, March 7, 2FC endeavored to communicate with Commander Byrd, in the Antarctic. Two messages were transmitted to the famous explorer, and, although no acknowledgement was received, it was believed that the transmission was successful. A short-wave transmitter was used, the wave length being 31.25 metres. Messages passing between Commander Byrd and his supply ship were clearly heard at the studio. The Consul-General of the United States of America (Mr. Lawton) sent a message of greetings on behalf of Americans in Sydney, and Hunter Mann, the Boy Scout, who presented Commander Byrd with a Virginian flag before he left New Zealand, spoke on behalf of the Australian and American Boy Scouts.

The Imperial Port

MR. J. R. TOOVEY, principal assistant to the general manager of the Port of London, will give a short address on "London, the Imperial Port," at 2BL on the evening of April 9.

Novel Hour

JAMES DONNELLY can always be depended upon to do something unusual, and his "Real Folks Hour" on Monday night, April 8, offers 2BL listeners sixty minutes of novel entertainment. The scene is laid in a typical country town, with local celebrities participating—the Mayor, the youthful incorrigible, and "star" artists of whom great things are expected. Gay badinage, bright music, and lots of impromptu atmosphere augur well for the success of this unusual venture.

Zoo Expedition

STATION 2BL's young listeners are going to have a unique experience in their session on March 25. They are going to the Zoo by radio! And at such a time—just as the animals are being fed, particularly the panthers and the lions. Uncle Bas will be there to tell them all about it, and if the microphone does not get frightened and run away the kiddies will have a most exciting time, listening to the tea-table conversation of the king of beasts and his royal court.

Students' Recitals

THE broadcasting companies are seeking continually for fresh material, and there is no greater medium than radio to bring young talent to the fore. Sydney's leading teachers have been quick to avail themselves of the suggestion to arrange a series of students' recitals, and Mr. Walter Dibley has made Paling's Concert Hall available for this purpose.

The following are the recitals which have already been arranged:—

2BL SERVICE, 4.0 to 5.0 p.m.—

12th April—G. Vern Barnett's students.

23rd April—Walter Thorman's students.

24th April—Mischa Dobrinski's students.

1st May—Rex de Cairos-Rego's students.

2FC SERVICE, 3.0 to 4.0 p.m.—

10th April—Cyril Monk's students.

17th April—Madame Emily Marks's students.

16th April—Alexander Sverjensky's students.

2nd May—Lawrence Godfrey Smith's students.

15th May—Roland Foster's students.

22nd May—William Dallison's students.

3rd June—Gladstone Bell's students.

10th June—Iris de Cairos-Rego's students.



Oswald Anderson.



Charles Lawrence.



Carlton Fay.



Peggy Dunbar.



Dorothy Stewart.

The HOSPITAL CONCERT PARTIES

How the N.S.W. Broadcasting Co. provides hundreds of hospital patients with bright and entertaining concerts is told in this article. Another popular outside show—the broadcasting from Hyde Park—is also described.

ON Saturday, March 9, the New South broadcast its hundredth hospital concert through 2FC from the Empire Theatre, Camden, to aid the funds of the Camden District Hospital. On Tuesday March 12, the company gave its second concert from the Hyde Park Band Rotunda with the connivance of the Civic Commissioners, Standard Telephones, Limited, and the "Daily Telegraph Pictorial." Each concert was a complete success.

The Camden Expeditionary Force embarked at Market Street in two cars, one driven by Mr. Oswald Anderson; the other by the Uncle Ted whom Sandy has made famous; and proceeded to Camden by devious, but for the most part, good routes. The first port of call was the Carrington Convalescent Home, where the concert party, under the direction of Charles Lawrence, did its stuff to a crowded dining hall.

There was much cheering, because the convalescents at Carrington do not often get parties of Sydney professionals to entertain them. The whole party then sat down to tea, while Mr. Lawrence particularly admired the home-made tomato sauce. After tea the artists withdrew to wiggle themselves into evening dress. We had previously noted that, although Arthur Prince, Charles Lawrence, Ad Cree, Uncle Ted, and John Warren had brought suitcases almost as big as themselves full of evening dress, Nea Hallett and Peggy Dunbar found their shallow music cases quite sufficient to hold EVERYTHING. Such are the fashions of our time.

Everyone embarked again, leaving a crowd of children marvelling loudly over the exploits of Uncle Ted and Sandy, over the intricate conjuring tricks of Arthur Prince, and many other things.

Camden is a beautiful little township. It is set in the middle of rolling green country, and is proud of its beautiful trees, its extremely old church, and its extremely modern picture theatre. We noticed the picture show because it was dark when we arrived. We have the rest at second-hand from Mr. Lawrence, who spoke about it for some time with the fervour of a horticulturist and the deep reverence of an old-church maniac.

At any rate, all broadcasting preparations were complete when we arrived. The line was through to Sydney, and the instruments, brought up by the company's van, were set out in battle order.

The stage, by the way, was the dress circle of the picture show, and the seats had all been turned backwards to face it. At precisely 8 o'clock Mr. Lawrence opened his box of tricks with the magic formula "2FC broadcasting a programme from the Empire Theatre, Camden." to a crowded house. And what a programme! Charles Lawrence's wit kept bubbling up between items, and the artists became their true concert selves. They had their audience. Ad Cree's hilarity was reflected back from the hall, and he became more and more hilarious. John Warren eyed several pretty girls in the front row, and became even more Irishly beguiling. Miss Dunbar sang about the pleasures of gardening to people whose quiet enthusiasm for the pastime could be seen in their faces. Arthur Prince's banjo seemed to twang much better to the occasional thumping of feet in the back rows, and Nea Hallett achieved the highest ambition of all soubrettes: That people should come to hear and remain to hear.

Midway through the programme the Mayor on behalf of the Camden citizens presented the president of the board of the Nepean District Hospital (Mr. Macarthur Onslow) with a cheque for one thousand nine hundred pounds. Not a bad figure for a little town like Camden, and something of a credit to the organising ability of Mr. Sidman, who runs the local newspaper, the Camden Show

(bigger and better this year), and several other things.

At the conclusion of the concert, which brought in nearly thirty pounds to the hospital fund, the artists were tendered supper by Mr. Onslow. Many wonderful toasts were proposed, seconded, and swallowed; much glorious oratory floated upon the Camden air. "These sandwiches," said Mr. Warren, "are delicious." "Leave some for me," said Mr. Lawrence, referring either to the sandwiches or to something else.

And so back to the motor cars and home-wards towards Sydney, everyone feeling as sleepy as people can feel in cars travelling at — miles per hour. There is still a dispute whether the company's van arrived in Sydney before or after Uncle Ted's car. Most of the artists were home by 2 a.m. on Sunday.

So ended the Camden Hospital Expedition. It is an excellent type of the many other hospital entertainment parties arranged by the New South Wales Broadcasting Company, Limited, who are, perhaps, the first company to carry out such a service. As they say: "It accomplishes its object in providing a bright hour for those cast into a backwater in life through sickness, and at the same time provides excellent atmosphere for the benefit of its listeners; and perhaps a little object lesson, whereby the need of their appreciation of the health they enjoy is brought home to them." The company has also arranged that many hospitals which are equipped with wireless sets may receive a "Cheerio" message through 2FC and 2BL. The following is part of a comprehensive list of institutions which have been called up:—

Asylum for Infirm, George Street, Parramatta.

After Care Association, Brent and Lennox Streets, Five Dock.

Australian Protestant Orphans' Society, Albert Road, Strathfield.

Balmain and Districts Hospital, Booth Street, Balmain.

Burnside Orphans' Homes, North Parramatta.

Blue Mountains District Anzac Memorial Hospital, Bathurst Road, Katoomba.

Bull Hospital, Bull.

Callan Park, Rozelle.

Corowa Hospital, Corowa.

Camden District Hospital, Camden.



Margaret Grimshaw.



Dorrie Ward.

Ccast Hospital, Little Bay.
 Donistone Hospital, Eastwood.
 District Hospital, Leeton.
 District Hospital, Tumut.
 Deniliquin Hospital, Deniliquin.
 Havilah Home for Children, Hinemoa Av., Wairoanga.
 Home of Peace for Dying, Addison Road, Petersham.
 Inverell District Hospital, Inverell.
 Lewisham Hospital, Lewisham.
 Mental Hospital, Gladsville.
 Mental Hospital, Morisset.
 Mental Hospital, Orange.
 Mental Hospital, Rydalmere.
 Millowa Boys' Home, Brunswick Parade, Ashfield.
 Manly Cottage Hospital, Manly.
 Maitland Hospital, Maitland.
 N.S.W. Home for Incurables, "Weimala," Morrison Street, Ryde.
 N.S.W. Home for Incurables, "Moorang," Great North Road, Ryde.
 Newcastle Hospital, Newcastle.
 Nepean District Hospital, Penrith.
 Oberlin Hospital, Hazelbrook.
 Prince of Wales Hospital, Randwick.
 Parramatta District Hospital, Marsden Street, Parramatta.

Royal Alexander Hospital for Children, Bridge Street, Camperdown.
 Royal Alexander Hospital for Children, Collaroy.
 Red Cross Hospital, Exeter.
 Red Cross Hospital, "Malahide," Pennant Hills.
 Red Cross Hospital, "Bodington," Wentworth Falls.
 Royal Hospital for Women, Paddington.
 Salvation Army Home, Thomas Street, Balmain.
 St. Vincent's Hospital, Lismore.
 Sisters of Charity, Hospice for Dying, Victoria Street, Darlinghurst.
 Scarba Welfare Home for Children, Wellington Street, Bondi.
 The second broadcast from the Hyde Park Rotunda was also under the direction of Mr. Charles Lawrence, whose facile wit seems to act as a kind of cement to bind items into a programme that will appeal to everyone. The night was fine, and a crowd, numbering 3000 or 4000 people, sat, lay, and stood on the slopes encircling the rotunda. The artists were:—The Metropolitan Band, conducted by Mr. Palmer; Miss Goodwin, soprano; Clarke, bass; Charles Lawrence; and Carlton Fay, pianist. The Parks Superintendent of the City Council; Mr. Cooper (he gives garden-

ing talks from 2BL), was there, and expressed his great delight with the whole business. "This," he said, with a gesture comprehending microphones, amplifying horns, artists, and audience, "is what the parks are made for. All kinds of people are here; many of them only too pleased to have such a pleasant way of spending the evening. Dr. Purdy is continually advising people to make as much use of their parks as possible. These concerts will bring them here, especially since they are amplified and can be heard right across the street. I was just talking to some Queensland people. They were surprised at the crowd, and wondered why something like this had not been done in Brisbane."

We believe this is the first time in Australia, at least, that such broadcasts have been arranged, and certainly their results should argue much for their continuance and for their institution in other States. They serve both the surrounding audience and the listeners-in; to the one they give an excellent concert programme, well presented, and to the others, "an excellent atmosphere." There is a great difference from the loud speakers' point of view between an artist with an audience and an artist in a studio and the difference in nine cases out of ten favors the artist with an audience.

The Captain to His Comrados

(Being notes from the happy personal chats to past and present schoolboys and schoolgirls and their parents all over Australia and New Zealand. Conducted by "The Captain" every Sunday morning from station 2FC, Sydney.)

Cricket Goes to Rest

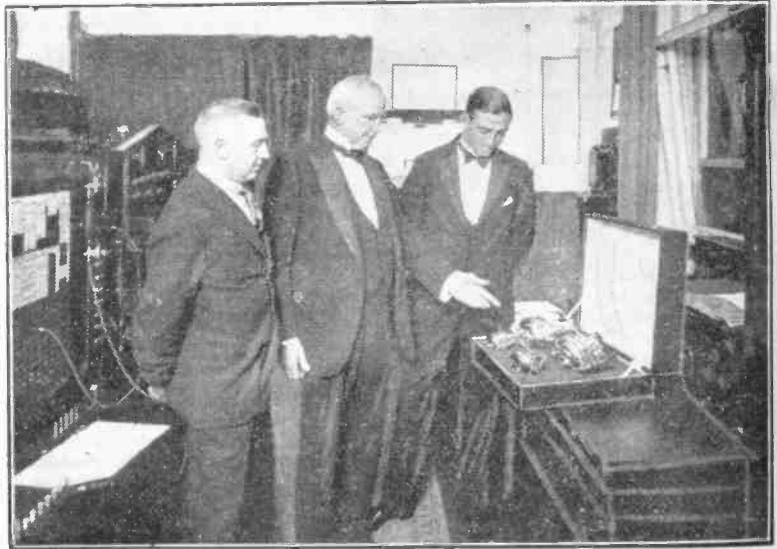
THE end of the first term is not so far away and cricket will be giving way to the thud of the football. Funny sound, isn't it? Just that bladder of wind inside a piece of hide from a cow! And yet when the afternoon wind blows keen and the warm sun is only remembered for surf days which are past, the thud of a football has a sound which calls to every boy and stirs his blood with the tingling thrill of winter combat on the springy turf. The same thing, of course, applies to cricket.

Bush Cricket

I REMEMBER once riding in the bush miles from anywhere when I heard a noise which made me pull up with a jolt. Nothing could make a sound like that except a ball and a cricket bat. And yet? I rode on and came on an English settler battling to the erratic bowling of a full-blooded Australian "Jacky." A real stump formed the stumps and the net was made of chaff bags suspended from a couple of saplings. The fieldsman was a shrewd cattle dog who enjoyed it more than anybody! I had a knock too, and finished with a blue and green thigh, a crippled shin, and a promising black eye. I have seen better playing conditions on the Sydney Cricket Ground, but never had a funnier game than that produced by a chance meeting in the bush between two old Public School boys, each of them from an opposite side of the Empire.

Kicking Stiffness

NOW that football is "in" amongst the big clubs, the schools will soon be hard at it. Now, comrados, take your time. The weather will be really too warm for another month, and especially watch out for that stiff thigh through doing too much kicking too early. The best way I know to avoid this painful beginning to the winter season is to practise kicking with either foot. It is a useful accomplishment and soon becomes a simple trick. In Perth and Adelaide and Melbourne, where the boys play Australian rules mostly, kicking with either foot is look-



The Hon. Donald MacKinnon, President of the Victorian Cricket Association, handing to W. Hammond, the English cricketer, the present of a silver tea and coffee service from the listeners-in in Victoria. Major W. T. Conder, looking on.

ed on as a necessity. I think under our Rugby code, it is a much neglected art, and many a tight corner could be turned into a useful gain on the line if the player could drop the ball so as to deliver a hefty punt with either foot. If you are a right-footer you want to remember to toss the ball very wide when using the left foot. The inclination is to drop it close in to the leg. This cramps the swing, and the ball is only skied or dribbles away uselessly off the side of the boot.

Far Calls

Thanks for notes from M.C. (East Dubbo); J.S. (Albury); W.L. (Balranald); T.M. (Tweed Heads). I have answered your notes personally. I shall always try to do so when information is wanted which is purely of a personal interest. Over the air, only initials are used, but comrados must always sign letters to "The Captain."

You Girls!

Last week a girl comradio asked my advice about swimming costumes! Young cat! She probably knows more about cottons and woollens than I am ever likely to hear. Now comes a Bowral girl who wants to know

which school "The Captain" attended and which school he thinks will win the "Head of the River" eights next month. What a nerve! But I'll tell you all the same. The name of my old school begins with the letter Y and you sound this letter Y soft as in the word "goat." The winner of the eights I shall tell you (if I see you) at about 5 p.m. on the 28th day of April, 1929.

The Captain's Book List

The following Australian books have "The Captain's" special recommendation:—
 "The Beehive" (Elizabeth Powell). Girls.
 "The Valley of Adventure" (Edward Timms). Boys.
 "The Vanished Tribes" (James Devaney). Seniors.
 "Mystery Gold" (Bartlett Adamson). Everybody.

Greeting

So, until next week's "Wireless Weekly" comes out and until you hear me at 2FC next Sunday morn at 10.15, I say, "Good wishes to you all. Cheerio, comrados!"

—"THE CAPTAIN."

Inadequate Country Services

By our
Melbourne Correspondent

Stations.	Metres.	Power.
Melbourne	3LO 371	5KW
	3AR 484	5KW
Sydney	2FC 442	5KW
	2BL 353	5KW
Adelaide	5CL 409	5KW
Perth	6WF 1250	5KW
Brisbane	4QG 395	5KW
Hobart	7ZL 516	3KW

SHORTLY after the commencement of wireless broadcasting in Australia, 3LO, Melbourne became aware that the centralised system of transmission from the capital cities as laid down by the wireless regulations did not provide efficient services for country listeners. Engineers were sent out by 3LO to make tests throughout the country, and an expert from the Melbourne University—Mr R. O. Cherry—was retained to carry out research into fading and distortion under the direction of Professor T. H. Laby, M.A., Sc.D., etc., who is a member of the Radio Research Board. Afterwards some very important tests were made by 3LO to ascertain the extent of these phenomena, and the results showed definitely that outside a radius of about 40 miles of the transmitting stations satisfactory reception could not be expected at all times.

The map on this page shows the immense area of the Commonwealth, in which listeners are at a decided disadvantage in broadcasting reception. Of course, most of this area is very sparsely populated, but those portions shaded with lines are more or less thickly populated.

When it was realised by the directors of 3LO that country listeners were not receiving adequate services, they applied to the Commonwealth Government for the necessary permits to establish relay stations, similar to those in England, but those permits were never granted. If they had been, those relay stations, which would have been of power equal to that of 3LO, would have been in operation nearly three years ago. As it is, country listeners can only continue to be optimistic, but from present indications, it would appear that they are beginning to lose faith, with the result that interest in wireless is unfortunately waning in the country.

Betty Ross Clarke
BETTY ROSS CLARKE, the popular American stage and screen star, will be heard from 3LO on April 1, in a selection of dramatic recitals from the works of famous composers. Many will remember Miss Clarke's performance in "The Ghost Train," and will be glad to learn that she is including some ghost stories in her repertoire.

The Buccaneer's Return
BACK from a highly successful season at 5CL, Adelaide, comes Captain Donald MacLean to 3LO, where he will speak on "The Conquest of Peru," on April 3.

The Sundowners
THE Sundowners, one of the most popular male quartettes in Melbourne, will be over the air from 3AR, on April 6, in a programme of popular music, with solos from Tom Semple and Robert Sanderson.

Stanley J. Allen
STANLEY J. ALLEN'S fine operatic tenor voice will be on the air from 3LO on March 5. Mr. Allen is well-known throughout Victoria as a concert artist, and has sustained principal parts with leading operatic societies in Melbourne.

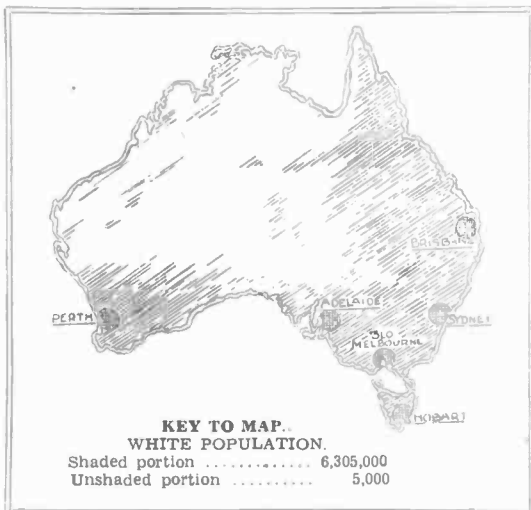
Alfred Ackland
ALFRED ACKLAND, the young Australian violinist will be heard in a short recital from 3LO, on March 31. Mr. Ackland showed great promise when a boy, and the turning point in his musical career was the winning of the 3LO Instrumental Scholarship, which entitled him to three years' further training at the University Conservatorium. He has passed all his exams with outstanding success, and is completing his studies under the direction of Mons. Edouard Lambert.



Alfred Ackland.

Thomas George
THE popular Melbourne bass-baritone. Thomas George, will be heard from 3LO on April 5. Apart from his solo work, Mr. George is well known in connection with the studio productions of grand operas, and has done excellent oratorio work in connection with choral and philharmonic societies.

Another Old-time Night
HUNDREDS of listeners will be glad to learn that another old-time night has been arranged from 3LO, for April 2, when a splendid holiday programme has been arranged. In addition to the usual excellent music provided by Hoffman's No. 1 Band, old-time choruses will be rendered by the "Boys of the Village," vocal solos will be contributed by Graham Burgin and Freda Treweek, with a novelty whistling number by Lysie Davey. The popularity of these old-time nights seems ever on the increase; the budget of "request" items especially with regard to choruses and "cheerio" messages is just as big as ever, in fact, it would appear that something has at last been discovered that will satisfy everyone.



Bob Molyneux
BOB MOLYNEUX will be over the air from 3LO, on April 4, in a budget of new numbers that have had a great success overseas.

On Khelum River
AN orchestral setting of the cycle, "On Khelum River," by Amy Woodford Finden, will be given from 3AR on April 1, by the Station Orchestra, under the direction of Frederick Hall.

World-famous Artists
A FINE programme of the world's best records will be given from 3AR on March 31, when vocal numbers by such world-famous artists as Clara Butt, Geraldine Farrar, Galli Curci, and Miriam Licette, will be included. Much time is given to the arrangement of these gramophone records, and no pains are spared to give listeners the latest and very best of the new consignments that are continually arriving from overseas.

Popular Soprano
MISS RUBY DUNSTAN, who is included in the programme from 3AR, on March 31, is quite an old favorite with listeners, and claims to be one of the first vocalists to sing from 3LO. She has been most successful in competition work at Goulburn and Kyneton, and carried off the Ladies' Championship at Ballarat, in 1918. She founded, and for many years conducted, the Albert Lyric Society, and was instrumental in raising quite a lot of money for war charities. She is the lead soprano of the Southern Choral Society, and with many years of experience at her command, can always find something to appeal to her audience.

Jessie Irwin
JESSIE IRWIN one of the most popular sopranos heard over the air from 3LO will be singing from the studio on April 3, and will contribute several "special request" items to the programme. Miss Irwin will be remembered as the winner of the Herald Radio Voice Contest, when she successfully carried off the first prize from 750 entrants.



Jessie Irwin.

PROGRAMME PERSONALITIES

Mr. Carlton Fay

MR. CARLTON FAY looks back through his big, horn-rimmed glasses on a life of travel, of which his calm matter-of-factness, and, perhaps, his natural modesty, will tell you very little. We have gathered that, as a promising young Sydney pianist, he went to Leipsic, where he studied for four and a half years under Josef Pembaur, a celebrated Austrian virtuoso, who is now being found out, and followed in Australia through his gramophone recordings.

Halfway through his studies with Josef, Mr. Fay paid a flying visit to Australia, and gave several concerts. On the Continent he played as accompanist and solo pianist in several tours through Germany, and in Austria, Italy, and Switzerland.

Just prior to the Great War he returned to Australia, and toured as soloist with Ella Caspers, whom someone may remember. Then he settled down in Sydney to teaching and concert platform work, afterwards joining the staff of the State Conservatorium of Music, as teacher of piano forte, afterwards touring several States, conducting Italian opera.

Then—he is a very hard fellow to follow—he came back to Sydney, gave several concerts, and buzzed off to Java and Singapore, where he soloed and accompanied. Then he came back and toured New Zealand with No-tar-i-el-lo, the Italian tenor, whose name has just given us such a lot of trouble.

In 1924 he left for Africa, where he stayed four months, and England. In London, he renewed his 1916 acquaintanceship with Peter Dawson, and accompanied him through England and Ireland, and many difficult ditties. He also helped the redoubtable Peter to make some of the records which have made the rather improbable name of Dawson deservedly famous. In fact, the directors of the Gramophone Company complimented him on his touch, which reproduced admirably. Master Josef, it seems, held the view that, although musical notes could be notes of many colors, they should be only one at a time, and this should be a clean one; and he instructed student Fay accordingly.

So when, in 1926, Mr. Fay came back to Sydney, and began broadcasting through 2FC, it was not surprising that he was an instant success on the air; and that his almost intuitive mastery of the new medium should make him a regularly-appearing favorite with listeners-in.



CARLTON FAY meditates over his sorrowful part, as here recorded.

That Familiar Air

WE went up to 2BL and heard a familiar air. "We know that air," we said. "That's 'In a Chinese Market Garden.'" Whereat thereat there was loud laughter; and it was explained that we had coupled together the names of three "popular numbers." "In a Chinese Temple Garden," "In a Persian Market," and "In a Monastery Garden." The fact is, we are growing a little weary of these numbers. Whenever we tune in a station nowadays we are sure to be transported either to a Chinese Garden or a Monastery Garden or a Persian Market; and although these are very delightful to walk in, we have a feeling that they have become more and more trampled on, and are beginning to lose their youthful freshness. There should be a closed season for Gardens, and a siesta for Oriental Markets. Besides, at the distance from which we like to hear these saccharine melodies we cannot tell one from another. Even "Come Into the Garden, Maud," would be a chance, indicating, as it would, a metamorphosis from the passive to the dynamic.

Mr. Jack Dunne

WE met Mr. Jack Dunne at 2FC. In his costume of the captain in "Hit the Deck." He had just come up to sing some of his charming ballads between cues. His face looked very sunburnt, but that had been put on; and his hair was very grey, and that, also, had been put on. We went down to his dressing room, and met the officers' mess. Then Mr. Dunne said a few words.

He has travelled over most of Australia and New Zealand with the Firm's companies, baritone in "Kid Boots," "Sally," "Polly With a Past" (with Rene Kelly), and he took Claude Fleming's place in "As You Were." He played Johnny Lenley in "The Ringer," with Moscovitch, and spent one or two years with the Tivoli.

He has broadcast from almost every station with which his tours have brought him in contact—in fact, if he were a radio fan, bent on collecting call signs, he could scarcely have done much better. 2FC, 3LO, 5CL, and 4QG, in Australia, and 1YA, 2YA, and 3YA, in New Zealand, have availed themselves of his services in as large quantities as possible. At 3LO, especially, he was successful with whispering baritone songs. He was heard very clearly in Schenactady during 2FC's big American broadcast.

Mr. Dunne finds very little to choose between the programmes and facilities of the various Australian stations, but is of the opinion that the New Zealand stations have a great deal to learn, and many inherent faults to overcome, particularly a deficiency of local talent.



JACK DUNNE.



R. A. BARTLEMAN, who has been heard from 2FC and 2BL for many years.

R. A. Bartleman

MR. R. A. BARTLEMAN has been before the public for 15 or 16 years. For the past four years of that time, ever since the station was started in 1924 in Palling's Buildings under Mr. Oswald Anderson, Mr. Bartleman has broadcast regularly from 2FC.

His experience has convinced him that radio has eliminated many of the difficulties of small travelling companies. He remembers some amusing incidents which occurred during his tours with costume comedy companies. In one small hall in a New South Wales town the artists, among whom was Mr. Ad. Cree, the comedian, were shown into a canvas dressing-room set up at one corner of the stage. As they dressed for their parts the lamp-light made quaint silhouettes on the canvas, which amused the crowd, but necessitated a darker cloth. To round off the evening, Mr. Bartleman descended a flight of stairs, and stepped sharply on a hen, which was sitting on a batch of eggs. "Messy business," said Mr. Bartleman. At another time the company was performing in a half-completed building. A rainstorm blew up, and drenched the company's costumes, so that during the concert numbers the artists appeared dripping wet. The next day the company's wardrobe was hung out to dry; and the day after that the trousers of Mr. Bartleman's evening suit were missing. It was afterwards discovered that the town goats had been hungry, and had commandeered them as forage.

Such experiences make broadcasting seem comparatively tame. Mr. Bartleman has sung more than 400 songs from 2FC.

He finds that broadcasting makes artists more careful with their work. There must be a closer understanding of the technique of production, which is entirely different from that of the concert stage. The artist must watch his tone values, or the sensitive microphone will blast instead of giving clear reproduction. Like many other great singers, Mr. Bartleman insists on the necessity for clear enunciation and diction, holding that the story of the song is quite as important as its music.

ARE RADIO PLAYS?

A somewhat ambiguous and impertinent query, but one which our contributor deals with in an entertaining, if direct and uncompromising, manner.

BY J. ALLINGTON POWYS

WHY do people go to the Theatre? I shall cut out the drivel about love of art, and the transcendental aesthetic, and the worship of the higher things. People don't go to a modern play—people never have gone to a play—to be uplifted.

The cultured vulgarities of Noel Coward; the vulgar culture of the American Musical Comedy; the wise universality of Bernard Shaw; the universal wisdom of Shakespeare; the absurd melodrama of Edgar Wallace; the melodramatic absurdity of Sheridan: these are all of a piece when we come to analyse our reasons for seeing and hearing them. They are written and played for our amusement. Our thrills, our sighs of pity, our gasps of horror, our shouts of laughter—hear them all together and brand them amusement. The noblest music is a pleasant tickling of the ear; the most glorious pageants are pleasant feelings to the eye; the most magnificent oratory and poetry is a pleasant excitation of the brain and senses. Amusement and pleasure—these are the Gods to whom all schools of art, romantic, classical, symbolical, futurist and realist, must bow; and by whom they must all be judged.

In other words: What the public wants. What the public wants nowadays is typified in our pretty little plays of social life, our dirty little dramas of real life, our turbulent little thrillers of ethereal criminality, and our musical comedy, revues and vaudeville. Wagner and Company are occasionally turned on for the benefit of the few; but there is very little suggestion that the public wants Wagner and Company. Gramophone excerpts from the most sickly-sweet of operatic music are quite sufficient.

But take musical comedy. Technically, it absorbs every resource of the Theatrical Medium. It employs scenery, dancers, music and elocution to gain its ends. Strip musical comedy of its scenery and its ballets, and you have the total resources of the radio medium for presenting plays: that is—music and elocution; words and music. And if music is, as Wagner said, a projection and fulfilment of poetry, then radio is the medium of poetry—where nothing matters but the feelings suggested by sound, and the ideas associated by fancy.

But the medium which is so kind to poetry is cruel to the drama. There is no scenery; only a loud-speaker. There are no people; only their disembodied voices. Therefore, the radio drama demands concentration and imagination from the listener-in; and considerable constructive ability and imagination from the producer. The best man to write a radio play would be a blind man.

Several points to be observed in the construction and production of radio plays are obvious; and are therefore so much liable to be overlooked that I shall enumerate them.

First: There must be few characters. I think three, exclusive of choruses and nonentities, enough; four, exclusive of choruses and nonentities, amply sufficient; and five, exclusive of choruses and nonentities, as many as can be used without confusion.

Second: There must be no two voices alike. The voices must be absolutely different; and they must be carefully chosen and used to suggest the type of character who is speaking.

Third: The situations must be suggested in the dialogue. It is of no use that an interpreter should say "Lady Angela now stands still and looks

mutely into his eyes, drops her gaze, and walks slowly from the room without it." All that must be suggested in the dialogue or cut out.

Fourth: There should be no change of setting throughout the piece. It may be possible for the characters to walk from place to place, taking the listeners with them, as it were; but sharp changes should be avoided.

Fifth: The plot should be simple; and the action should turn on clean-cut situations.

Sixth: The time of the piece should be comprehended in the time taken to play it.

Seventh: Effects must be used only to supplement the voices; and the voices must always explain, suggestively, the sound-effects used.

"Are Radio Plays?" is the title of my article. After some time spent in listening-in, I have little hesitation in saying no. The reasons are not small ones. I do not criticise details. The fact is, that in almost every play I have heard, grave mistakes have been made, either of construction or production.

I have listened-in to plays using nine, ten, and twelve characters. At least, the names of twelve characters were read out beforehand. When the limit of five characters has been exceeded, it is next to impossible for a listener to remember which is which. In the theatre, the audience have the characters, in costume, before them. On the air they have only the voices. Which brings me to the next point.

I have heard plays in which several people, with the same type and pitch of voice, were taking parts. The result has been nothing but confusion. Indeed, I think there is no way in which producers err so much as in indiscriminate choice of voices. I have also noticed that most attempts at character-sketching over the air have resulted in a meaningless flow of jargon-like diction through my loud-speaker, of which I could distinguish, perhaps, one word in each sentence. Moreover, I have found that uncouth bellowing into the microphone, although it may seem to suggest a turbulent nature, does nothing but reproduce the effects of a thunderstorm on my loud-speaker. I have listened-in to hours of this.



SCIENCE IN A.D. 2920.

Archaeologist: This is the skull of a man of the Old Radio Age. We can date it within twenty years.

Friend: For goodness sake! How!

Archaeologist: Look at the evidence of wear around the ears. He used to wear headphones.

I have yet to hear a radio play in which the situations are perfectly suggested in the dialogue. I have often been bored, however, by a lengthy explanation, beginning: "Sir Arthur now places his hand . . ."

There are too many sharp changes of setting. It doesn't seem natural over the air.

I have yet to hear a radio play with a well worked-out plot. Of course there have been many charming sketches produced, with plots exceptionally well worked-out. Where these were free from faults of presentation, and were suitable to radio production, they were most successful. But I am talking of radio plays; and I repeat that I have yet to hear a radio play whose plot is easy to follow; and which has a beginning, a middle and an ending. All radio plots I have heard up to the present time have seemed no better than broken chains of badly rehearsed incidents.

Finally, there has been a great deal of nonsense written and put over the air about effects. Effects are of no dramatic use if they fail to illustrate the play, or if they blur the main incidents out of perspective, or if they hold up the action, or if they are used simply as effects for effect's sake. The only legitimate effects are those to be gained from the actors' voices: all others are subsidiary. The constant clamouring after effects serves no other purpose than to drown their usefulness. The play's the thing.

It is time we realised that there are no radio plays—no plays specially written for the radio. The fact that radio is still very young accounts for part of the dearth. The fact that there is no money in radio plays accounts for the rest.

When the broadcasting companies are prepared to pay from £10 to £20 for the script of a play which will run twenty or thirty minutes we may see something worth while. That time will be long in coming. Broadcasting companies have to produce one programme every night in the week. If they have to pay from £10 to £20 for the script of a play which can only be produced once or twice during the year, and which will take up only twenty or thirty minutes of their programme time, they will need large revenues.

On the other hand, a good radio play is a fortnight's work or is the equivalent of a fortnight's work to an author whose only chance of making money out of it lies in sale outright to the producing company. In this uncomfortable position I shall leave the question standing.

In conclusion, the radio medium is capable of holding all kinds of play—from low comedy to tragedy. Its future development will probably come through the utilisation of musical instruments, for atmospheric effects, and songs and ballads for variety and to mark the crises in the action.

If television is to come, on anything larger than a two-inch square, it is to be hoped that it will come quickly, so that the radio medium will be complete while the radio play is in its infancy.

Otherwise, some future actor will be lamenting, as Charles Chaplin now laments over the talking picture, that new developments of the medium throw art many years back into the gutter where crudity, and the dilettante reign supreme.

Wireless Weekly

Incorporating "Radio in Australia and New Zealand."

FRIDAY, MARCH 29, 1929.

Radio—A Luxury or a Necessity?

"Is radio a luxury or a necessity?" is the enquiry prompted by the recent decision of an English magistrate.

A broadcast listener, who appeared in court charged with having operated a radio receiver without a license, pleaded as an extenuating circumstance that radio was indispensable to his livelihood. His plea—that of a casual piecework laborer depending on broadcast news and reports for possible employment—placed radio as a necessary noticeable in their case because of to his well-being as food, and clothes, and shelter, which justified radio piracy.

The magistrate, however, would not accept the definition of the offender. To the contrary, he ruled that radio was a luxury—to be classified under the category of fine motor-cars, expensive furs, and diamonds. Consequently, under the existing law, the radio pirate was meted out the penalty exacted by this modern offence.

Although the culprit's defence sounds particularly weak, and, under the present law, is not tenable, the magistrate's decision does not give a degree of finality to the question. Apart altogether from the matter of paying licenses, which merely begs the question, there is no doubt that broadcasting is becoming indispensable as its services are extended.

The country dweller buys and operates a receiver for both the musical programmes and the news, weather, time, and market reports, but it is noteworthy that the consideration of service is playing an increasingly important part in his calculations. As broadcasting progresses, the programmes are becoming more incidental and what were once incidental items are becoming increasingly important.

City people may not appreciate this so much, but the service side of radio is less noticeable in his case because of surrounding activities. The test is to dispense with the customary receiver for a week or two, and the difference is immediately noticed—not because of the absence of the programmes as because of the small services like time, weather, news, and sporting results.

Broadcasting may not yet be a necessity; but is it a luxury?

The Scientific Era

By Kay Allsop.

THE better understanding and more general application of the principles of radio in controlling and energising mechanical apparatus and the quick strides made in the studies of physics of allied electrical phenomena, have brought man to the beginning of a new era—the scientific age. It is an era of the extension of the human senses by mechanical means of the five common and known senses—those of sight, hearing, touch, taste and smell.

The most important to everyday life is the ability to see and hear. This is true, in the long run, for these two senses are those by which we communicate naturally and most easily with the world around us, and through which we learn to better ourselves in knowledge gained to improve the comforts of ordinary living. And it is with these two senses that radio has been most seriously concerned. By a combination of electrical, magnetic, chemical, and acoustical means man's hearing has been increased from a distance equal to once or twice around the earth. And not only that, it has opened up thousands of channels for hearing without interference that would not be possible if man could hear that far naturally.

Literally, hundreds of thousands of messages are being sent simultaneously and received through our ether that could not possibly be done with acoustical methods alone. The art of electro-acoustics, including transmission of audible signals, both speech and music and amplification of these signals, has been so developed that these principles are now used extensively in industry and commerce for carrying on their work and speeding up their efficiency.

As to seeing, the art of television has already made long distance sight possible, and the apparatus used in its operation has already been adopted for enabling industrial machinery to actually see and thus better do its tasks.

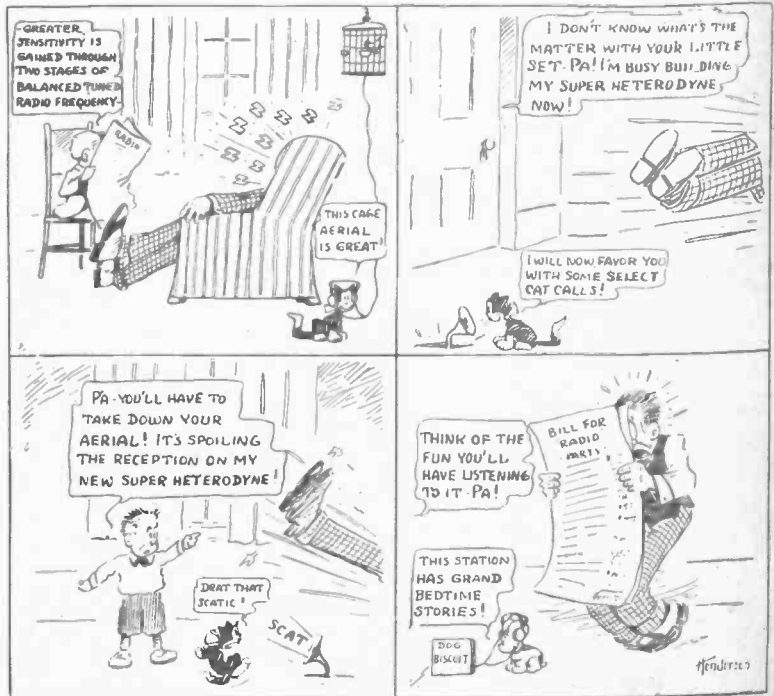
The actual principles of radio are really the long arm of these extended senses, and it is by this means only that the senses of hearing and sight can be stretched to distant locations without wires or other mechanical apparatus, or without purely optical methods. Of course, by means of telescopes and with other instruments, man's sense of sight has been increased to distances including the farthest stars, and by them man has been enabled to learn not only the habits of the stars and planets, but even their composition, their size, their weight, and in some cases even to estimate their age.

But these purely optical methods are good on earth only as far as the actual seeing can be done in a straight line. We cannot see by a telescope around the curvature of the earth, no matter how powerful the instrument. We can do this by television. We can transmit a picture of an event across an ocean and have the picture printed in the newspapers in the next edition. A tremendous extension of sight, and in a curved line, not possible with telescopes.

It will not be long before we can sit at home and see and hear in natural colors and natural tones, almost anywhere on earth, by means of radio and its associated fields of scientific endeavor.

Man can also see clearly in the dark by means of the invisible ultra-violet light and the photo-electric cell. Cells of these types are used in recent experiments to keep their automatic eyes open and watching for fogs or darkness of any kind in the city of London—a complete but simple unit that turns on the street lamps when the light falls, and turns them off when it shines. Another instance of the extension of real sight to automatic machinery for the comfort of man.

The Young Idea Gets Radio - No 3



THE SAFETY VALVE



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

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

Only a Poor "Old Worker"

Dear Sir,—To use the "Safety Valve" is sometimes interesting, sometimes amusing, and often times it is both. It was with a certain amount of feeling I read the disgusting, cowardly, and unwarranted attack on Mr. Beaver, the announcer at 2KY, in the issue of March 8, under the non-de-plume of "Bo Buer."

This individual says, to hear the announcer at 2KY makes him cry; well when one is in their childhood (either first or second stage) almost anything will make them cry. However, "Bo Buer" may some day get out of his childish ways, and grow to be a real man. Then, perhaps, he'll regret one day that he put himself out to try and damage the reputation of one so much his superior. Knowing Mr. Beaver, I say he has nothing to learn from "Bo Buer" or anyone else in English. I'm only a poor "old worker" so he'll not get a reputation pulling my English to pieces.

Yours etc.
ERNEST L. PARKINSON.

Leighardt.

The Edmunds

Dear Sir,—Talking about five valve receivers, the "Edmunds" will please the most fastidious, with its ease of tuning and tremendous volume from interstate. Sometimes when conditions permit it is far too loud on four valves for a room. This is pretty fair for a straight five using no reaction. Even 2YA comes in remarkably well, and by using good components throughout the tone is excellent and it takes a good speaker to handle all the volume it can give. You can only get whistles by trying for them. I have built all kinds of receivers and the "Edmunds Five" will take some beating, considering it has three dials and no regeneration, using the ordinary run of valves. This circuit was in "Radio" early last year, and, owing to unforeseen circumstances I have only recently had the set operating.

Yours etc.
E. JOHNSON.

Earlwood.

Nowadays

Dear Sir,—No wonder people go crook about the music from 2BL. It is very bad. There is too much of this classical stuff nowadays. We people look forward to a bit of lively music through the day—not all this classical stuff. We are always glad when station 2UE comes on at night and in the day. It is a pleasure to listen into the station. They have a good selection of records, which I think 2BL could get if they liked. Even stations 2GB and 2KY have a better selection of records. When 2UE comes on you can put away your phonograph for one night. Hoping 2BL will wake up to itself and put on some popular music.

Yours etc.,
FED UP.

Long Bay.

More in Wireless Than

Dear Sir,—In a recent issue of "Wireless Weekly" I noticed a letter from a very dissatisfied listener, complaining of the transmissions from A class stations in Australia.

Being a constant listener, and the owner of a Radiola straight six. I find no fault with the programmes. I think they are splendid—very clear and loud. I am of the opinion that the majority of those dissatisfied listeners tune their set in, and have it to boom in as loud as it can, or fade off. That, in my opinion, is why they blame the programmes. I find that there is more in a wireless set than just tuning in and sitting back to listen. I find that one has to sit by his set and control it by means of the volume control, as at times signals are very strong, and it is the duty of a set owner to keep his set at the one pitch, instead of letting signals boom in one minute and fade off the next. Too much volume causes mustiness. Then, of course, the stations are blamed, and straight away they take up their pen, and "Wireless Weekly" hears all about it.

Ever since I have been the owner of my present set, which is an excellent one—both in volume and tone—I find no cause to complain about fading, because I never get any. I always have sufficient volume in hand to overcome that as I sit by my set and use my volume control to keep the signals at the one strength throughout.

Yours etc.,
MAC.

Barellan.

Bacon?

Dear Sir,—"Fedup 2" says he is an Australian (?). If so he is no asset to his country, and we are not proud of him, Australia is the land of the free, and why should broadcast listeners be obliged to listen to programmes to suit "Fedup's" depraved taste. Neither 2FC, 2BL, nor 2UE, or anybody that knows what's what for that matter, are likely to be greatly perturbed by your correspondent's grunts (15/2/29), and, seeing that he admits he is "Fedup," why not turn him into bacon?

Personally, I wish to thank 2FC and 2BL on their fine Sunday programmes. The ministers of the various churches, and all those who, in any way so unselfishly contribute to their time and talents for the benefit of those less fortunate individuals who through sickness are debarred the privilege of public worship; my wife, an invalid for seven years, has been cheered during many weary hours by the bright, helpful Sunday programmes, and we trust they will be continued.

Yours etc.,
A. C. SWENEY.

Newcastle.

"Spoon Out of Our Pie"

Dear Sir,—In your issue of March 1, there appeared a letter, congratulating me on my former letter, and in the very next column a "Disillusioned" person "aired his woes," so to speak.

Really, I thought I had shown adults that they were "trespassing," but it seems that this old world of ours still holds some people whose favorite pastime is criticising the children's sessions—for the want of something better to do.

Even if "Disillusioned" cackles himself, that is no excuse for his saying Uncle of 2FC does the same. Uncle has a nice, cheery laugh that we all love to hear—I might mention it cheers up many a girl and boy—invalid or otherwise. I have previously explained about the answering of letters, etc., so there is no need to go into it again, but, please, adults, keep your spoon out of our pie.

In conclusion, I quite earnestly advise "Disillusioned" to "bag his head in a sugar bag"—and, if he hasn't one, I'll willingly send him a dozen of 'em.

Yours, etc.,
2FC Niece,
"DAISY OF YANDINA."

Let Us be Cheerful

Dear Sir,—There are all kinds of fanatics in the world, including religious ones. These doleful, mournful, pious, hymn-singing angels live like saints on Sunday and like devils on Monday. Why should they dictate what a large majority should be compelled to listen to. Let one broadcasting A class station give them their mental uplift. Church services on Sunday are like keyholes, everyone has one anywhere on the set. I would rather live a cheerful life here and now than mourn, mope, and muddle about the miserable mysteries of life after death.

We get the pip with this baneful Bible-banging Sunday stuff, especially as many religions prefer Saturday as their Sunday. Fed-up is right, but not as fed up as I am. Let us be cheerful, which brings health and happiness and good mentality. The varied parsons and their voices pall on one and become monotonous, making one believe he really is a sinner with sinkers in every pocket and lead on his head. They (the churches) please a certain section and give them lighter hearts, etc. My heart is on my sleeve, and will remain there until I am forced to have a sudden trip West. Then I even hope my friends will be quite cheerful and enjoy themselves. When the world is another two hundred years old churches will only get a couple of hours in on a Sunday—not the whole blessed day. At present one A class station is surely sufficient to appease the appetites of these plous and pitiable people.

Yours etc.,
G. O'KELL.

Sans Souci,

ARE YOU IN ON THE "RENOWN"?

THE WONDER 3 VALVE SET

DESCRIBED IN LAST WEEK'S WIRELESS WEEKLY

This is the Set with the 5 Valve Performance
 EXACT PARTS COST £6/13/2

- Do You Want Long Distance Reception
- Do You Want Knife Edge Selectivity
- Do You Want a Set Which is Easy to Build
- Do You Want Pure Music and Clear Speech
- Do You Want a Set Which is Easy to Tune



BUILD THE "RENOWN"

THE "AIR KING" RECEIVER

SOME GUARANTEED PARTS FOR BUILDING IT.

	£	s.	d.
Bakelite Panels, with beautiful Walnut finished surface, 34 x 8 x 1/2	0	13	9
Aluminium Panels, 34 x 6 x 18 G	0	6	0
Aluminium Panels, 34 x 8 x 18 G	0	7	6
Airzone Subpanel Brackets, pair	0	3	6
Pilot S.L.F. Condensers, .00015	0	11	3
Switch Arms (adjustable)	0	0	7
Contact Studs, with Nuts, dozen	0	0	4
B.M.S. Fantail Double Circuit Jacks	0	2	2
Awa Anti-vibration Sockets	0	3	0
Pilot Wasp Coil Kits	3	0	0
Radioes Screen Grid Coil Kits	3	12	6
Brachstata, each	0	4	9
Awa Ideal Transformers	0	18	0
Ferranti AF5C Push Pull Transformers	3	3	0
Ferranti OP6C Push Pull Transformers	1	16	6
Radioes R.F. Chokes	0	8	6
Clix (colored) Plugs and Sockets, pair	0	0	3
Philips A442 Valves	1	10	0
Philips A415 Valves	0	15	0
Philips B605 Valves	0	13	6

PHILIPS' AC POWER PACKS, £12
 for BUILDING INTO THAT ELECTRIC SET
 included B. and C. Eliminator, Valves (rectifying), and filament Transformer
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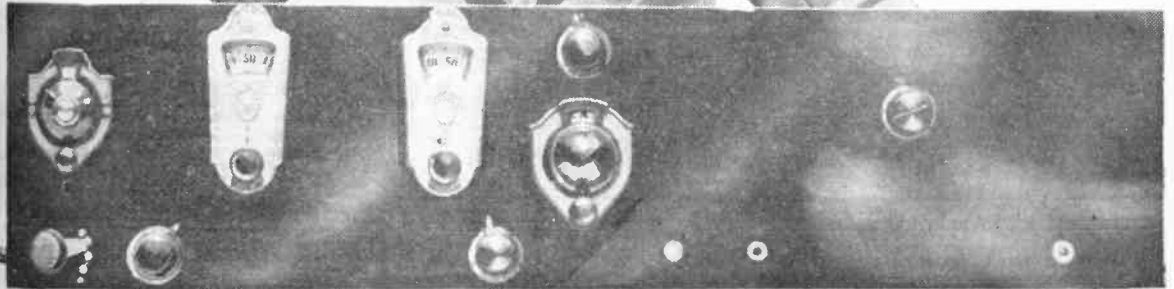
The AIR KING

BY DON B. KNOCK
(Associate Technical Editor)

Incorporating the latest developments in reception on the low waves.

Tunes in PHI, PCJ, PCL, 5SW, KGO, KDKA, 2XAD on Loud Speaker like local stations.

"Most Powerful of all Short-wave Receivers"



OR many years an insatiable appetite for short-wave communication has been the lot of the writer, and instead of losing my interest in this most fascinating aspect of radio, as unfortunately so many old timers have done, I am still able to say, like the song: "That's My Weakness Now."

Two years ago in the city of Sydney the apathy of many well-known radio authorities and manufacturers toward short-wave receivers seemed incredible to me, and I well recollect, in one instance, how I was sarcastically informed, after I had gone to the trouble to make an efficient little "Schnell" detector and two audio "low lossers," with the idea of giving the manufacturer something new for his potential customers: "Of what commercial value is it, anyway?" That company lacked enterprise, and all the talk in the world would not convince them that short-waves had come to stay.

Even only the other day, the head of the radio department of a very well-known company, whose business during the summer season has not been too brisk in the radio side, astounded me by a rather ridiculous remark for the period A.D. 1929. He had sought my advice regarding a new type of portable receiver for the usual broadcast band, and together we discussed the technical details of this particular suggestion. During the course of conversation, I asked why the company did not turn out a suitably-designed short-wave receiver, or a combination long and short

wave portable, and his reply was, "We must stick to the things we earn our bread and butter by."

Not for a moment would I infer that any radio manufacturer is going to make a fortune by turning out short-wave receivers as a commercialised product for the public, particularly in Australia, where we have a radio public of a constructive kind, and who prefer to purchase their components and build their own apparatus whenever possible. Yet that remark showed that the utterer was certainly not fully aware of modern progress, and seemed impervious to the fact that almost every day and night there is some long distant broadcast programme to be heard by the medium of short-waves from 75 to 14 metres.

More so during the past two months has this been in evidence, for many overseas organisations have been busy erecting new high power stations, solely for the transmission of international programmes, and their labors have borne some excellent fruit. There is one aspect of international broadcasting today which must not be overlooked, and that is that in comparison to the latter part of 1928, the channels reserved for this purpose are now mostly free from interference. The Washington Conference, held last year, resulted in a great shuffling of the cards, and amateur and commercial telegraphy stations were allocated frequencies which must be strictly adhered to throughout the world.

Although the new frequencies appeared to be unnecessarily restricted to the amateur,

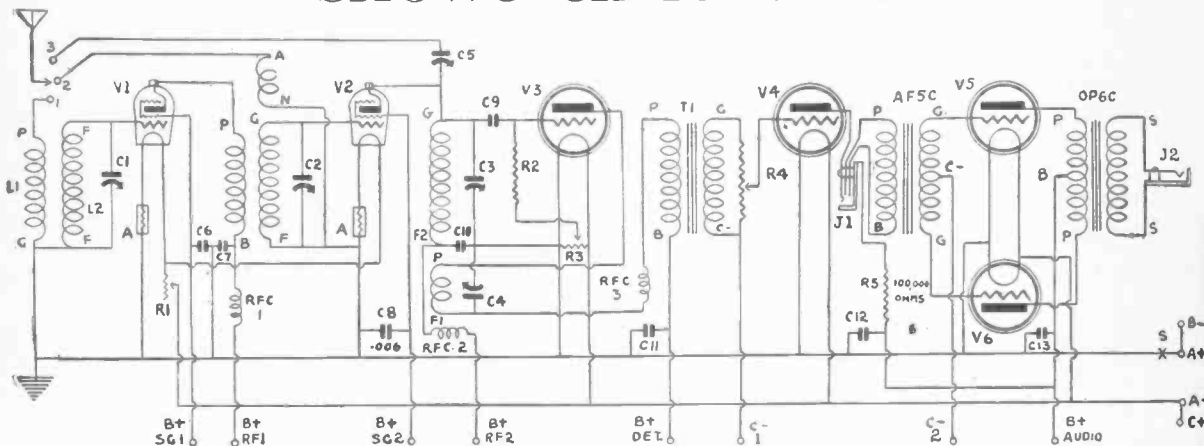
he, at any rate, breathed a sigh of relief to know that he had a sacred bit of territory all his own, and right away started in to make the best of it. His international contacts continue as before; in fact they are on the increase for the reason that so many are now paying attention to the 20-metre band they had previously sadly neglected.

Most of the experimentation in frequencies by the organisations interested in short-wave international telephony has been concluded, and it is now fairly well known which are the most suitable frequencies for day or night communication with certain parts of the world at certain times.

It is, therefore, safe to state that those stations heard to-day will be invariably operating at that particular frequency for a long time to come, and the inevitable result of this will be that engineers will be able to get to work on receivers with inductance and capacity systems which will be limited (with interchangeability) to a little above and below those frequencies, thus raising considerably the efficiency of the circuits.

This amounts to the type of receiver evolved for the use of the experimental transmitter, the tuning scale of which covers only the band allocated on each frequency. That is to say, that where the operator of such a receiver is listening on the 20-metre band reserved for amateur communication, his tuning dial or dials will cover only in the indicated degrees from 20.83 to 21.43 metres, and on the 40-metre band from 41.1 to 42.9 metres. The condensers used for

THEORETICAL CIRCUIT DIAGRAM SHOWS SIMPLICITY



such tuning are necessarily very small, and the inductances designed to correspond, thus spreading the signals over the complete scale, whereas the average type of receiver we have been used to crowded them closely together.

The receiver I am about to describe is not, as it stands in the illustrations and description, designed for the experimental telegraphist; for, although tuning at the hands of an experienced operator with a delicate touch will sort out the stations on the amateur frequencies, it would be somewhat difficult in the hands of a beginner, and, to-day we have many beginners in the ranks of the "ham" as well as the "B.C.L." Although the international broadcast stations can now be found regularly around the various wave-

bands, yet they are not all within certain limited frequencies, so that in designing the AIR KING, I deemed it necessary to consider primarily the broadcast listener, and to leave the "ham" to work out his own salvation, which I know full well he will do.

The modifications required to construct this receiver as one solely for use on the amateur frequencies are not very difficult, as will be explained later, and for the present I will confine my description to the set as it appears in the photographs for the international broadcast listener. It is quite some little time ago that I promised WIRELESS WEEKLY readers something in the nature of a "world-beater" in short-wave receivers: and this is the fulfilment of the promise:

following on many weeks of experimentation with my original idea of an untuned stage of R.F. preceding a tuned stage.

I have not gone to the trouble to give the number of readers who built and who are getting good work from the ALL EMPIRE receiver, but I know from my correspondence that they are legion, even if some of them did break away from the original specifications, and insisted on using it on the normal broadcast wave-bands! At the time I completed the ALL EMPIRE receiver, I thought that here is surely something that cannot be bettered, but, after the set had been in full swing for a month or two, ambitious ideas were formed, and there seems to be no limit to doing just a little better in matters radio.

A normal radio-fan would have been content, but, being of an inquisitive nature, I saw visions of further R.F. amplification with a minimum of ease, and is was nearly my undoing! It seemed quite an easy matter to sketch out on paper what appeared to be the last word in powerful short-wave receivers, but an entirely different proposition when the time arrived for a try-out.

It will be recalled that the untuned method of using a screen-grid valve as an R.F. amplifier for short-wave reception was explained in my article on the UNI-INTERNATIONAL FOUR receiver. This practice, which is widely followed in America by commercial manufacturers, is of a certain benefit in providing a little more amplification than is usually obtained by a detector and audio combination alone, but the amplification obtained is in the valve itself, and is not by any means real R.F. amplification. Nevertheless, some actual benefit is derived by this means, and the advantage is gained that the receiver does not suffer from a sudden cessation of oscillation in certain parts of the tuning range, caused by resonance with the fundamental or harmonics of the aerial system used.

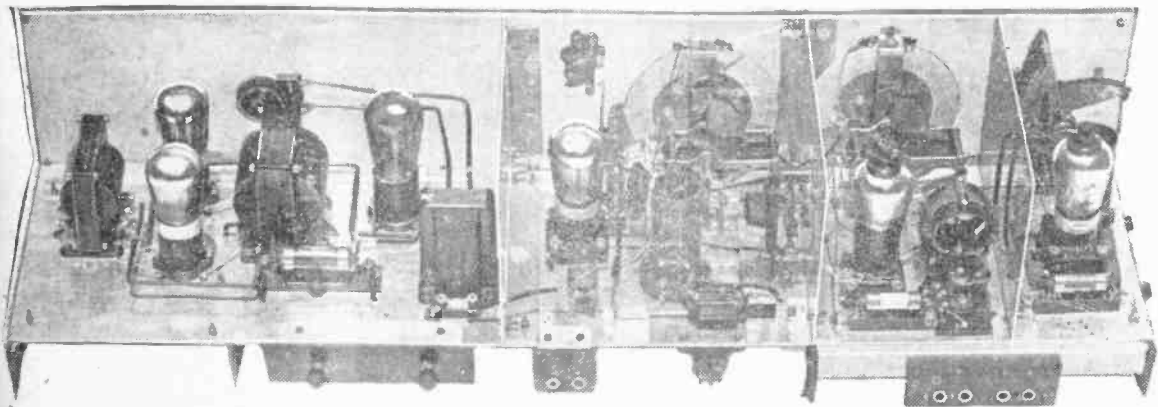
It occurred to me that, in view of the already excellent performance of the ALL EMPIRE short-wave receiver, there should be no reason why that receiver could not be preceded by an untuned R.F. stage, thus giving a still greater lift to the detector circuit, and without any further tuning control. As I remarked before, it seemed all right on paper, until I came to try it.

The AIR KING was first tried with an untuned stage of S.G. R.F. amplification, followed by a tuned stage of S.G. R.F., then the detector, one stage of conventional transformer coupled audio, and a push-pull audio amplifier following this. On testing I found that the R.F. tuning synchronised beautifully with the detector circuit, as I had hoped for, and

LIST OF PARTS FOR THE "AIR KING" RECEIVER

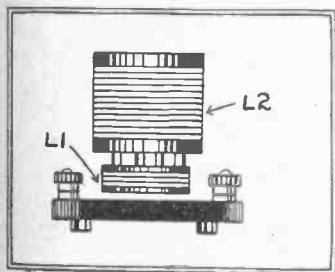
- 4 lengths of aluminium angle strip.
- 1 Bakelite or Formica panel, 3 1/4 x 8 x 3/8 inches.
- 1 sheet aluminium panel (1 1/4 gauge), 3 1/4 x 6 inches.
- 1 sheet aluminium panel (sub), 1 1/4 gauge, 3 1/4 x 8 inches.
- 4 sub. panel brackets.
- 3 aluminium partitions, 8 x 6 inches.
- 2 Pilot .00015 SLF variable condensers.
- 1 JB or AWA Logarithmic .00015 variable condenser.
- 2 Pilot .0001 Midget variable condensers.
- 2 Pilot back of panel Vernier dials (type 1282).
- 1 Kurz Kasch Vernier dial (reaction control).
- 1 Emco Baby Velmio Vernier dial (1st RF control).
- 1 30 ohm. variable rheostat.
- 1 400 ohm. potentiometer.
- 1 CH battery switch.
- 1 switch arm and 3 contact studs.
- 1 double circuit telephone jack.
- 1 single circuit jack.
- 1 Royalty 0 to 500,000 ohm. potentiometer.
- 7 AWA anti-vibration valve sockets.
- 1 Benjamin anti-vibration English base valve socket (for Mullard PM14).
- 1 Pilot UY AC valve socket (for iscap coils).
- 1 Pilot Wasp coil kit, 17 to 500 metres (detector circuit).
- 1 Radiokex screen grid coil kit (2nd RF circuit).
- 6 old UX valve bases (1st RF circuit), for home-made coils.
- 2 Brachistats (type 1C), for RF valves.
- 1 Pilot 3-plate Midget variable condenser (detector circuit aerial coupling).
- 1 Pilot, Philips, or AWA Ideal 3 1/2 to 1 ratio audio transformer (1st stage).
- 1 Ferranti AF5C push-pull input transformer.
- 1 Ferranti OP6C push-pull output transformer.
- 1 Mullard or Ferranti 100,000 ohm resistor, with mounting (voltage drop to 1st audio).
- 1 Mullard 5 megohm grid leak, with mounting (detector).
- 3 Radiokex RF chokes.
- 1 Sangamo .00025 grid condenser.
- 1 Sangamo .002 fixed condenser.
- 1 Sangamo .006 fixed condenser.
- 2 TCC 1 microfarad by-pass condensers.
- 2 TCC 2 microfarad by-pass condensers.
- 1 Alpha 6-point battery plug, with connector.
- 6 pin plugs and sockets (A battery and B positive RF and SG connections).
- 4 terminals.
- Valves used:—
- Mullard PM14 1st RF (Philips A442 alternatively).
- Philips A442 2nd RF.
- Philips A 615 detector.
- Marconi DEP 610 or Radiotron UX 112A 1st audio.
- 2 Philips B605 or Mullard PM256 push-pull audio.
- 1 30-volt grid bias battery.
- 150-volt B battery supply. Philips B eliminator may be used on audio stages.

ALUMINIUM CHASSIS AND BAKELITE FRONT PANEL



the amplification, judging by noise level, was certainly there, but the signals were away in the dim distance. Every kind of aerial coupling was tried to that first untuned R.F. stage, but with the same results, painfully weak signals!

Next I coupled the aerial to the tuned R.F. stage, and the story was immediately a differ-



First R.F. coil on valve base, showing aerial coupling coil on socket.

ent one. As good as the ALL EMPIRE set had been as a short-wave loud-speaker job, this was something worth writing about. The high quality audio amplifier passed the signals from all kinds of stations, commercial, amateur, and S.W. broadcast, into a Magnavox Dynamic speaker, with great volume, and on telephony there was not the slightest trace of distortion. So far so good, but the loss of that extra R.F. stage I was determined to use was disconcerting.

It appeared that the untuned R.F. valve was acting as a buffer, and effectively impeding signals to the tuned stage, giving the conclusion that the principle can only be used in front of the detector. There was only one sensible alternative, which was to indulge in the luxury of another tuned R.F. stage before the one in front of the detector. The foreboding of possible difficulty in tuning the complete receiver was overcome by the simple expedient of arranging a three-point switch to throw the aerial straight to the detector circuit, this second R.F., or the whole, and in practice this has worked out far better than I had hoped for.

As the result, here is the AIR KING, the most powerful short-wave receiver I have heard, and which has the advantage that it may be used on the normal broadcast band, although in this case the R.F. stages are not used, but only the detector and audio amplifier.

Refer to the theoretical circuit diagram in my following explanation, and the function

of each circuit with its associated components will be clear.

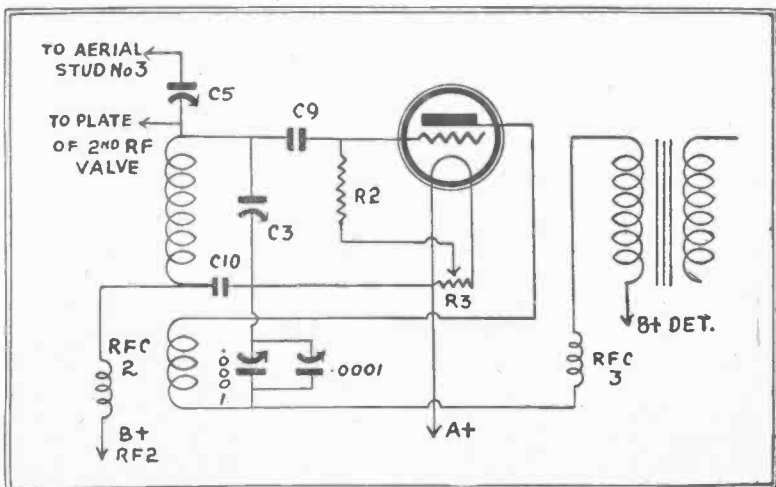
We will start in the correct way, from the aerial end, and finish up at the output. As we have two tuned stages of R.F. amplification and the detector, it is obvious that three coil systems are used. The coils for the first stage are home constructed, and those who took notice of the MIDGET SCREEN-GRID FOUR will have no trouble in dealing with them, as they are wound on old UX valve-bases. The aerial coupling coil for this first stage is wound on the top circular portion of a UX valve-base. This coil has 10 turns of No. 24 D.S.C. copper wire. The coils for the 20 and 40 metre bands consist of nine turns of the same gauge wire on a valve-base for the one, and 18 for the other. The two filament pins of the valve-bases and socket are used for the connections, but this is merely a matter of choice, as it is not of importance which pins are used; these being plain grid coils, without the complication of a reaction winding on the same former.

The valve used in this first stage is a Mullard PM14, which gives excellent results, but it must be understood that the Philips A442 may be used here, as the characteristics of these two well-known valves are similar, excepting that the PM14 is at present only available in the English type base. The base used is the Benjamin English type, obtainable from Amalgamated Wireless (A'sia), Ltd.

In the second stage is one of those excellent valves around which the ALL EMPIRE receiver was designed, the Philips A442. There is no need to further extol the virtues of the A442. It is sufficient to say that one may obtain the limit of high R.F. amplification at high frequencies with this valve if correctly used. Both the R.F. valves are supplied with a type C1 Brachstat in the positive filament leads, with a common 20 or 30 ohm variable rheostat controlling the two.

The detector and audio valves are of the six-volt type, so the brachstats are necessary to reduce the voltage at this point to four volts, with a variation up to this voltage by means of the variable rheostat. Here I must explain that the reader will probably do just as well by leaving the censor resistances out, and using a four-volt detector and audio valves, with a four-volt filament supply to the set. If this is done, however, the detector should be of the power valve type, but this is not so important when a six-volt detector follows the R.F. stages.

A most important feature about this second R.F. stage is the coil kit used. This is the new Radiokes short-wave screen-grid kit, and has proved highly successful. Readers will remember that this kit appeared on the market at the time the UNI-INTERNA VIONAL receiver was described. These coils are provided with a primary, secondary, and reaction, and the six-pin mounting is of a very smooth, positive contact type, which allows

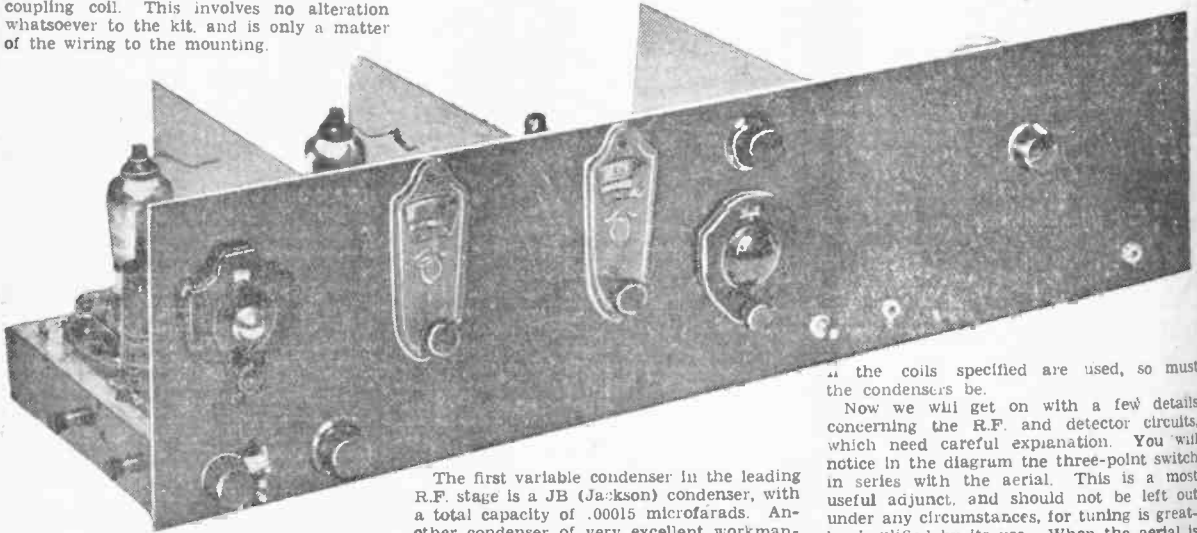


Reaction is controlled by parallel midget variable condensers.

PLEASING APPEARANCE CONSISTENT WITH PERFORMANCE

the easy insertion or withdrawal of the coils without any forcing.

The primary and secondary are used in the way intended in the design of the coils, but I have taken liberties with the reaction winding by making it do duty as an aerial coupling coil. This involves no alteration whatsoever to the kit, and is only a matter of the wiring to the mounting.



Owing to the much smaller size of these coils than the standard Radiokes short-wave coils, it is easy to make the compartment carrying this R.F. stage much smaller than in the ALL EMPIRE receiver. I do not want to give the impression that this is a small receiver. The photographs should tell the story, however, for it is one of the longest sets I ever made. That is an asset and not a fault, for cramping in a short-wave receiver, especially where screen-grid amplifiers are used, may be seriously detrimental at times. Most of the space in the AIR KING is really taken up by the audio side of the set, for it was desirable to use only the best in audio amplification.

Next we pass along beforehand to the detector circuit, in which the Phillips A615 valve is used, and in which position it behaves admirably in dealing with a heavy grid voltage swing. The coil kit used in this vital part of the AIR KING is the now well-known Pilot "Wasp." These coils have been brought before the notice of readers in the ALL WAVE receiver, suggested recently. The "Wasp" coils are wound on a vertical-ribbed former, with a five-pin mounting to fit the standard UY valve socket (made for A.C. valves), and their design is such that they are of extremely robust construction. Five in all, these coils cover a range from 17 to 500 metres, which is no joke, for they actually do it with the variable condenser specified. Instead of telling which coil is which, by looking at the turns, they are readily distinguishable by the colored ring at the top of the former, a different color being given for each wave-band.

I found when testing this receiver that the Pilot "Wasp" coils and the Radiokes screen-grid coils for each wave-band match together very well indeed with only a little difference in the dial readings of the two circuits. With a little care in screen-grid and plate voltage adjustments this may be adjusted closer still.

The first variable condenser in the leading R.F. stage is a JB (Jackson) condenser, with a total capacity of .00015 microfarads. Another condenser of very excellent workmanship which may be used in this stage is the A.W.A. Logarithmic of the same capacity. Both these condensers are quite noiseless at high frequencies, which is a most important feature; for nothing is more distracting or hopeless than a noisy variable condenser on the 40 or 20 metre bands. Not only does noise at these frequencies result in overlooking weak signals, but often an intermittent contact will cause a big change in frequency, thus making it next to impossible to tune at all at that point.

The vernier dial actuating the first variable condenser C1 is an Emmco baby Velmo, but any good dial may be used here, provided it is not too large in diameter, as the first R.F. compartment is smaller than usual, and a large dial would overlap the edge of the set. Condensers C2 and C3 tuning the second R.F. and detector circuits are Pilot .00015 S.L.F. There is a very good reason for using these variable condensers in this portion of the receiver, which is that the Pilot type 1282 back of panel vernier dials are used, and Pilot condensers are designed to mount on these dials in a unique manner, thus rendering them very suitable for short-wave work, owing to the question of future interchanging.

I am still keeping my eye on the requirements of the "ham," and this point is going to be a valuable one to the "ham" who builds the AIR KING. With these Pilot dials, which incidentally are conveniently of the illuminated type, a drilling template is provided, and the construction is such that the variable condenser does not mount on the panel itself in any way. The dial looks after that in an ingenious way. Once the dial is attached to the panel, it is only necessary to slack off a couple of screws, and take the connections off the condenser terminals, when the condenser may be removed bodily, it only being a matter of a minute to replace with a condenser of a higher or lower capacity, as may be required.

For the purpose for which this receiver is intended primarily, the .00015 mfd. condensers are correct, and care must be taken that

the coils specified are used, so must the condensers be.

Now we will get on with a few details concerning the R.F. and detector circuits, which need careful explanation. You will notice in the diagram the three-point switch in series with the aerial. This is a most useful adjunct, and should not be left out under any circumstances, for tuning is greatly simplified by its use. When the aerial is making contact with stud 1 (the aerial connected to the switch arm) this puts the aerial straight over to the detector grid circuit through a small variable condenser, C5.

This condenser is one of those three-plate midgets, and enables the use of the detector and audio alone through what is known as a "Schnell" coupling. On the "Wasp" coil kit is provided an aerial coupling coil on each former. This may be used instead of the series coupling, if desired, but a little trouble may be experienced with blind spots in oscillation, as this coupling is not variable. The series condenser method is the most useful of the two in this respect, and it is doubtful if there really is any difference in strength between the two.

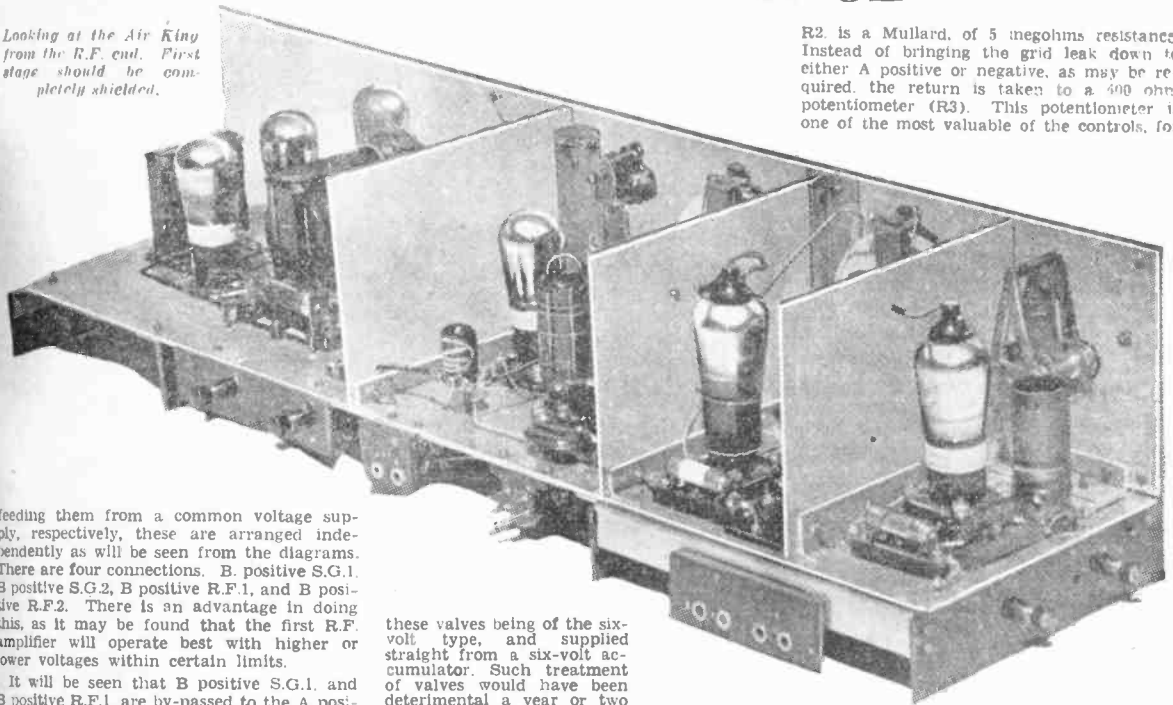
It does not matter much either way in this receiver, for the switch is only thrown over to the detector for rapid searching. When the switch is on stud 2, the aerial is connected by a magnetic coupling to the grid circuit of the second R.F. amplifier, through the coil on the Radiokes screen-grid coil kit which would normally be the reaction coil in an ordinary circuit. The terminals on the mounting for this coil are marked A. and N. N. is joined to the earth (via the metal structure), and A. to the aerial stud (2). The primary for the coupling to the plate of the first R.F. valve is space-wound in between the secondary turns in this Radiokes kit, and the terminals for this are marked P. and B. on the mounting. The remaining terminals G. and F., are for the grid coil.

If it is desired to get even more lift from the R.F. stage to the second, a straight R.F. coupling may be employed, as shown in a separate diagram. In such a case, a .001 fixed condenser is connected between the plate of the first R.F. valve and the grid of the second, and the primary coil is left unused.

There is such a thing with screen-grid valves as obtaining too much R.F. amplification, and to all intents and purposes the primary coupling supplied in the coil kit is sufficient. Instead of connecting the two R.F. valves, screen-grids, and plates together, and

TOTAL SHIELDING NOT NECESSARY BUT AN ADVANTAGE

Looking at the Air King from the R.F. end. First stage should be completely shielded.



R2 is a Mullard, of 5 megohms resistance. Instead of bringing the grid leak down to either A positive or negative, as may be required, the return is taken to a 500 ohm potentiometer (R3). This potentiometer is one of the most valuable of the controls, for

feeding them from a common voltage supply, respectively, these are arranged independently as will be seen from the diagrams. There are four connections. B. positive S.G.1. B positive S.G.2, B positive R.F.1, and B positive R.F.2. There is an advantage in doing this, as it may be found that the first R.F. amplifier will operate best with higher or lower voltages within certain limits.

It will be seen that B positive S.G.1. and B positive R.F.1, are by-passed to the A positive, B negative, and earth by two 1-mfd fixed condensers, C6 and C7. This is very important where the primary coupling is used to the next valve, otherwise there may be a tendency for the two circuits to break into violent oscillation at the resonance peak. If this should happen, owing to exclusion of these two condensers, the effect will not be the usual kind of comparatively gentle audio howl one is accustomed to at times, but a raucous screech with the intensity of a steam siren! It happened to me before I put the condensers in, and although an output transformer is used at the audio end, I had grave fears for the speaker until I recovered my presence of mind enough to switch the set off.

The B positive S.G.2 lead to the second R.F. valve is also by-passed to earth by a fixed condenser. This is a Sangamo .006 mfd. Whatever condensers are used in these positions, they must be undoubtedly good ones, for a breakdown could result in chaos to a whole series of valves. The B positive R.F.1 and R.F.2 leads have both Radiokes R.F. chokes in series as a further precaution against instability. One cannot be too careful in these details.

It is generally considered to be of advantage to give a negative bias to the control grids of screen-grid R.F. amplifiers, and this has certainly been beneficial in the case of some sets designed solely for the normal broadcast band. In every short-wave R.F. amplifier designed on my workbench, a negative bias of 13 volts has been tried, but the effect has been entirely negligible. The only result has been to cut down the amplification so that it seems that for short-wave amplification generally, the grid return is better returned straight to the A positive supply.

Now for a few points about the detector circuit. As mentioned before, the Philips A615 valve is used in this position. No filament rheostat is used here, nor do the audio amplifiers have any filament control; all

these valves being of the six-volt type, and supplied straight from a six-volt accumulator. Such treatment of valves would have been detrimental a year or two ago, but in these days we are fortunate in having valves with strong filaments, and which the full rated voltage does not harm.

Variable filament controls in audio amplifiers are in any case entirely superfluous, and have the disadvantage that one who is not fully aware of the functioning of an audio amplifier will invariably use the filament rheostat or rheostats for volume control, with the result that distortion may be encountered, with perhaps total ignorance of the cause. If one is a little afraid in running valves straight from the battery, there is always the automatic resistance of the Amperite or Brachstat class, which will pass just the required current, but it is well to remember that in a set such as this, using six valves in all, there is a little drop from the full voltage through the wiring, although it is only small.

It will be seen that the plate voltage to the second R.F. amplifier is fed through the detector grid coil. This may seem wrong to those studying this kind of circuit for the first time, but to those who have been using the ALL EMPIRE receiver, the idea will be clear. A fixed condenser (C10), .002 mfd., Sangamo, is connected between the filament end of the grid coil and the A positive. This capacity is so large in comparison to the frequencies the detector circuit is required to cover that it has very little effect on the tuning; perhaps there may be a difference of two degrees in tuning the coil with and without this fixed condenser in series.

This condenser is most important, and must be of good quality, without any chance of breakdown, otherwise the high plate voltage applied to the second R.F. amplifier will be thrown through the filament circuits, with what results you may well imagine.

This depends, however, on whether the B negative and A negative or positive are common.

The grid condenser (C9) is of the usual capacity, i.e., .00025 mfd. This is also of Sangamo manufacture, and the grid leak.

the adjustment of the receiver to telephony. By its use the operator can start on the edge of a carrier wave, and gradually reduce to positive or negative bias until the modulation is clear of the carrier without any sign of alteration in the frequency.

In the theoretical circuit diagram, the reaction condenser is shown marked C4. A separate diagram shows that C4 is really two condensers in parallel. They are both Pilot midget variables, with a capacity of .0001 mfd., and there is a great advantage to be gained by using two in parallel. The Pilot "Wasp" coils are designed to cover a range from 17 to 500 metres, which is done efficiently by the .00015 mfd. tuning condenser. At somewhere around 80 metres it becomes necessary to have more than .0001 mfd. in the capacity of the reaction condenser to obtain oscillation without playing about with the detector plate voltage.

This is where the second midget condenser comes into play. One is set at full capacity, and the other makes up the remaining capacity to the point of oscillation. There is no need to put vernier dials on both these condensers, so one which is mostly used on 20 and 40 metres is arranged on the panel with a small Kurz Kasch vernier dial, and the other immediately above with a plain knob control. It is really essential to use these midgets with the "Wasp" coils, as the reaction winding is designed for use with them.

One point that will be immediately noticed when using these coils in this circuit is that the reaction condenser may be advanced quite a long way after locating a signal without any serious change in wave-length—a point which is so often unconsidered by the constructors of short-wave receivers. Next we pass to the essentials of the audio amplifier, a part of the receiver which demands equal attention with the other. It is not the least use building a perfectly efficient R.F.

amplifier and detector, and then connecting up to this a doubtful audio amplifier of poor quality.

There are good, indifferent, and bad transformers to be had on the market, and I wish to stress particularly the necessity for using only the best and most suitable for use in the AIR KING. The receiver is in the first instance not one which every reader will make, for the reason that so much apparatus is involved, and the price of the same is above the usual run, but the AIR KING is worth the making, and to those who contemplate the work, let me suggest that they stick strictly to the components specified, or their stated alternatives. There are four transformers which are suitable for the first audio stage, namely Ferranti AF5, Pilot 3½ to 1 (moisture proof), A.W.A. Ideal, and Philips. Each of these was tried in turn, and it was really difficult to notice any difference in quality—they were all excellent—but more volume was obtained when the Ferranti AF5 was used. The choice, therefore, is at the reader's discretion.

In series with the primary of the first transformer is a Radiokes R.F. choke (R.F.C.3), another important little item. We have got a high quality amplifier to follow on after this, and it would be hopeless if, as sometimes happens, any stray R.F. current got mixed in with the audio side, hence the Radiokes choke here.

In this first stage is the actual volume control for the receiver output (R4). This is a Royalty potentiometer, with a resistance value of 0 to 500,000 ohms, and is connected

directly across the secondary of the transformer with the variable contact to the grid of the first audio valve. The B positive supply to the detector valve is by-passed by a T.C.C. 1-mfd. fixed condenser, connected between this and the A positive and earth. This is condenser C11. Two valves gave excellent results in this first stage, either a Marconi DEP610, or a Radiotron UX112A, with grid bias adjusted accordingly.

Now we come to audio amplification de luxe for a short-wave receiver, in the form of push-pull. The transformer following this first stage is a Ferranti AF5C, with two Mullard PM256's in push-pull, and a Ferranti OP6C output transformer. If, when the receiver is ready for test, the constructor has any doubt as to the superiority of a push-pull amplifier using these world-renowned Ferranti transformers, he has only to plug in his "Wasp" coil for the broadcast band, and switch his aerial on to stud number 3, to hear the acme of faithful reproduction of music with perfection in the highest and lowest notes.

It must be remembered that the usual type of audio amplifier may be quite passable on the usual broadcast band, but tells quite a different story when used for short-wave amplification. There are other factors which contribute to inherent distortion at high frequencies, one of which is the phenomenon we know as high speed fading, which curiously enough seems to be more prevalent when darkness is over the major portion of the distance covered. This high speed fading, with its accompaniment of sudden distortion, is bad enough in itself, and an un-

suitable amplifier only makes matters a thousand times worse. The reader will probably now realise why the Ferranti push-pull transformers are used.

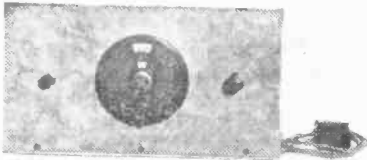
The B positive audio supply to both stages is supplied from one source, but a Mullard 100,000 ohm wire wound resistor is in series with the lead to the first stage. As a total voltage of 150 or 200 volts is used, this resistance steps down the voltage to the first stage to about 95 or 100 volts, and does away with the necessity for another battery tapping. If it is desired, a B eliminator may be used on the audio amplifier, but it is essential to feed the detector and R.F. valves from some form of battery supply.

It matters not how good an eliminator may be, there is always the bugbear of fluctuation in the power supply. This does not matter so much where the eliminator is supplying only the plate voltage to an audio amplifier, but in a short-wave receiver of this calibre the fluctuations, however small, would be sufficient to upset the R.F. amplifiers, with the result that sudden changes in frequency will occur. Both the plate voltage supplies to the audio amplifiers are by-passed by 2-mfd. T.C.C. condensers, C12 and C13. Separate grid biasing is, of course, arranged for both stages, terminals C1 and C2. Roughly nine volts negative are needed for the first, and 12 for the second, with the valves used.

[Owing to the length of the article dealing with the AIR KING, we are not able to complete it in this issue. A concluding article dealing with the practical details of construction will be published in the next issue.]

ADAPTING THE ADAPTOR

[By D. B. KNOCK.]



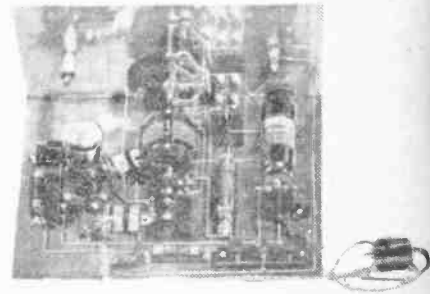
READERS will remember, in the issue of January 18, 1929, an article on a short-wave screen-grid adaptor by a well-known American radio engineer, Mr. Perry S. Graffam. Mr. Graffam naturally wrote his article around standard components available on the American market, but to enable readers to deal with the construction, I published with his article a suitable list of components obtainable in Sydney. Since the article appeared, an enthusiast has come forward with his own version, which is of such a workmanlike nature that it was immediately photographed as an example of adaptability (fitting word).

All the components are obtainable at any leading retail stores in Sydney. Further details may be obtained from our advertising columns.

Because there are now quite a few screen-grid valves on the market, it does not mean to say that the one specified with the article is the only one suitable. It may be more suitable where voltage to the receiver is concerned, but remember that all screen-grid valves of any type are highly efficient for short-wave RF amplification. In this case the constructor used the Marconi S625 screen-grid wave, and as his receiver was one using six-volt valves throughout, all he had to do was to

leave out the voltage drop resistors in Mr. Graffam's article, marked X and XI.

The detector valve is a Philips A615, and apart from these substitutions the circuit is fundamentally the same. An aluminium panel and a wooden base-board were used for the assembly with a PILOT .00025 mfd. variable condenser for the tuning. Oscillation is controlled by an Electrad VARIOHM. The coil kit is the new short-wave screen-grid coil kit I specified and introduced through the FOUR. C3, the Anode feed resistance, is one of the new 100,000 ohm anode feed resistances. This screen-grid converter is a model of workmanship, and, in contrast to some of the attempts at following constructional articles, is a thing of beauty and a joy forever. One cannot expect all readers to become full-blown radio engineers in five minutes, and this example of ingenuity is simply shown as being typical of the word "COMMONSENSE."



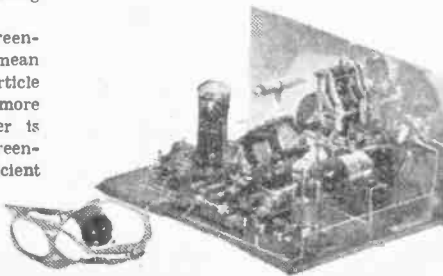
Wireless Pictures for Australia

AFTER an extensive tour of the United States and Great Britain, Mr. William Blogg, formerly managing director of Ampilon (A'sia), Ltd., has just returned from London by the R.M.S. Oronsay.

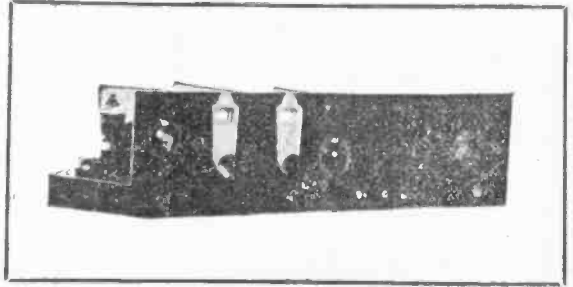
Chief amongst the interesting lines for which Mr. Blogg will act as manufacturers' representative are those of Wireless Pictures, Ltd., and Fultograph Co., Ltd. Both these concerns are advancing by rapid strides in Great Britain, and are dealing extensively with the manufacture of apparatus for the transmission and reception of pictures.

Other companies represented by Mr. Blogg are: Sterling Telephone and Electric Co., Ltd., Burndept Wireless Co., and National Adhesives. Included also in the lines which he will launch in Australia are electric light globes, electric fans, and last, but not least, aeroplanes.

His address temporarily is c/o Maxwell Walker, E.S. and A. Bank Buildings, 72B King Street, Sydney.

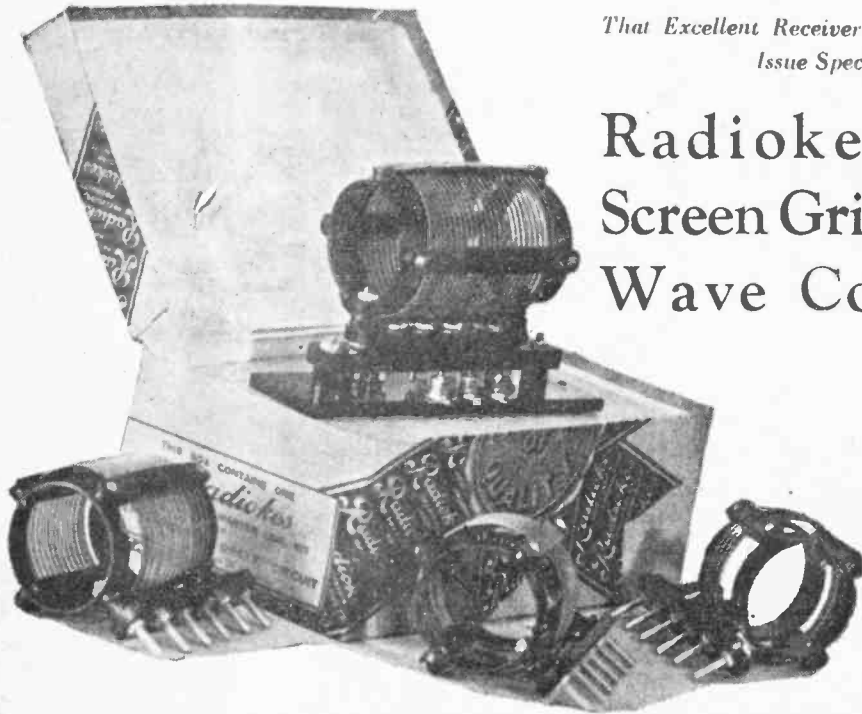


THE AIR KING



That Excellent Receiver described in this Issue Specifies

Radiokes New Screen Grid Short Wave Coil Kit



THE above kit represents the ultimate in Precision Short Wave Plug in Coil Kits. These coils have been built scientifically to meet all the exacting demands of high frequency work such as extremely low losses, rugged construction and permanency of calibration.

The skeleton pattern formers of highest grade bakelite support the windings with the least quantity of solid dielectric in the fields of the coils. The spacing between the turns makes for the lowest distributed capacity, and rigid rivetted framework tends to keep the mechanical properties and calibration as originally manufactured.

The interchangeable inductance units are fitted with six specially plated contact pins which engage in a suitable mounting base fitted with an accurate silver spring system.

This new mounting makes coil changing a pleasure because the velvety action of interchanging the coils in the base contacts is so simple, smooth and makes a positive electrical contact. This action can be repeated almost indefinitely without any risk of damaging the coil forms.

This kit, as illustrated, consists of four interchangeable R.F. transformers, mounting base and antenna coupling choke, and covers a range of 15 to 115 metres.

PRICE, 72/6 per Kit

Obtainable from all High-class Radio Dealers or direct from

METROPOLITAN ELECTRIC CO., LTD.
"RADIOES HOUSE," 126-128-130 SUSSEX ST., SYDNEY

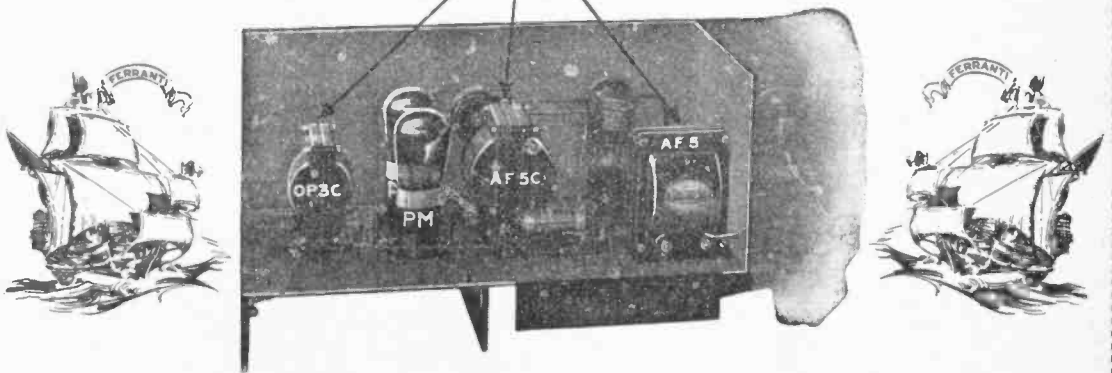


Don B. Knock selects the
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PROVING RADIO!

No. 14 *No one can fully grasp the principles of radio without an understanding of Ohm's law, which is the subject of this week's article. Also Morse Code notes.*

OHM'S LAW states:—"The current is directly proportional to the E.M.F., and inversely proportional to the resistance." This, however, is rather difficult for the novice to grasp, so we shall use our water analogy once more.

You know that the higher the pressure of water in a pipe and the greater the width of the pipe the greater will be the flow of water. On the other hand, the smaller the diameter of the pipe, and the less pressure in the water, the less will be the flow.

Thus, Ohm's Law really means the higher the E.M.F. (i.e., the voltage) the greater the current, and the higher the resistance the smaller the current.

The symbols representing these expressions may be written:— I varies as E ; I varies as 1 over R . (I represents the current, E the electro-motive force, and R the resistance.) Combining the above, I varies as E over R . Thus, if one has any two of these three things, i.e., the current in amperes, the E.M.F. in volts, or the resistance in ohms, he can find the value of the other. Current may be found by dividing the voltage by the resistance. The E.M.F. may be found by multiplying the current by the resistance. The resistance may be found by dividing the voltage by the current.

Thus, the three may be shown:— I equals E divided by R , E equals I multiplied by R , and R equals E divided by I . From now on, you will note that symbols which are to be multiplied together are merely placed close together, as in algebra, and the multiplication sign left out. That is, E equals IR .

Now, the units of current, voltage, and resistance, which, as you know, are the ampere, the volt, and the ohm, must always be used in the above quotations, because you would get an entirely different answer were you to use milliamperes (thousandths of an ampere), or megohms (thousands of ohms).

Imagine a battery whose internal resistance is 2 ohms, to be connected in series with a fixed resistance of 3 ohms. The E.M.F. of the battery is 10 volts. Now we have the voltage and the resistance here. How shall we find the current that is flowing in the circuit if it were completed as in Fig. 1? First of all, we have two resistances in series, i.e., 2 and 3 ohms. The total resistance, then, will be 5 ohms. Using our equation, I equals E divided by R , we get I equals 10 divided by 5, which equals 2. Therefore, the current will be two amperes.

In the above example, note that if the E.M.F. and the resistance remain constant, the current will remain constant, and will have the same value in all parts of the circuit. Through the four points, A, B, C, and D, on the diagram Fig. 1, the current will have a value of two amperes. There will be a fall of voltage, however, around the circuit, i.e., a "voltage drop" or "IR" drop (because IR equals voltage), of:—

E equals IR equals 2 multiplied by 3, equals 6 volts.

A voltmeter connected between A and B would read 6 volts.

Ohm's Law applies only to steady currents; therefore, it will not apply to alternating cur-

rent. A special equation must be used for A.C. We shall come to this later on. The effects of capacity and inductance (which will be treated in an early number) modify the conditions when the current is varying in strength.

We are now in a position to discuss briefly the action that takes place when a current flows through a resistance. You know that in a closed circuit the electrons may be considered to travel from the positive pole of the battery, through the battery to the negative terminal, and thence through the conducting wire back to the positive terminal. Actually, there is no great movement of the electrons from place to place. They do not complete the whole circuit.

The action is as follows:—At the negative terminal of the battery there is a superfluity of electrons. Why? Because electrons are minute particles of negative electricity.

The reason is to be found rather inside the battery than out. Chemical action in

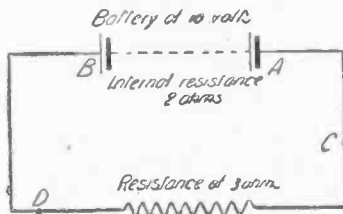


Fig. 1: Illustrating Ohm's Law.

the battery solution proceeds only when a re-distribution of electrons among the various atoms concerned can take place. The tendency for such an action to proceed (whereby one plate of the battery partially dissolves whilst the other is being built up) causes a tendency for electrons to be transferred from one plate to the other, which latter, owing to this abnormal crowding of the electrons, rises to a state of high potential, so that an electro-motive force operates when the circuit is closed externally.

Let us trace one of the electrons: It leaves its terminal (as soon as the circuit is completed, i.e., as soon as the battery is connected up), and hits a copper atom, knocking an electron out of its orbit, and taking its place. This displaced electron rushes against the next atom, driving out an electron as before, and occupying its orbit. Thus, a wave of collisions passes down the wire until the detachable electron nearest the positive terminal is driven out of its place.

When a metal conductor is not acted upon by an E.M.F. the electrons circulate around the positive nucleus of the metallic atoms in regular ordered motion, showing no tendency to leave their orbits to join a neighboring atom. When, however, the external circuit is closed the chemical action inside the cell can proceed apace, forcing electrons from within on to the external negative pole, so that the metallic atoms all along the line experience a compulsion to hand on an electron to others ahead, whilst simultaneously receiving one from behind.

Place a number of marbles touching one another in a horizontal groove. Roll another along so that it collides with the stationary line. An impulse is communicated in a flash along the line, and one marble separates and rolls away from the other end. Send down two marbles together—and two will separate from the far end, and so on. The same conductor, acted upon by an E.M.F., has the electrons all straining in the same direction.

When the current is on, this transference of electrons takes place at a rate measurable in feet per minute and governed by the slow passage of ions in the cell solutions. If the wire is of high conductivity, so that many electrons can pass a given point at one time, then the current is of high value, though the rate of progression of an individual electron along the wire is slow.

Effort is required to wrench each electron out from its orbit in an atomic system against the attraction exerted on it by the positive nucleus. Chemical energy can manifest itself as light as in a magnesium flash, or as heat under certain conditions during welding iron.

The energy of chemical action in the battery is here manifested in the effort to pass on electrons, and when the passage is achieved it is marked by a secondary evolution of heat which may melt the wire. If a piece of fuse wire is placed across the battery, the wire will become warm, hot, or even red hot, and in some cases may break altogether.

Let us prove this by connecting up a piece of fuse wire to an accumulator. In this latter type of battery the current is very high. The dry battery would only supply the current for a very short time, and would drop almost immediately. Connect the negative pole to one side, and the positive pole to the other side of the piece of fuse wire. You will see that within two or three seconds of your making the last connection the fuse wire will become hot, then will glow red, then white, and finally break.

The progress of the electrons along all conductors is hampered. In different conductors this hampering varies, and, indeed, this hampering (or, as we know it now, this resistance) is not constant. Temperature affects resistance, as we have just proved. In the case mentioned, the temperature rose so high as to break the circuit altogether. However, in some cases temperature reduces and in other cases increases the resistance, depending on the body causing the resistance.

A conductor may be regarded, as has been mentioned in a previous article, as a substance containing electrons which are loosely bound to their respective nuclei, and which, under the influence of an E.M.F. are easily made to move from one point to another. In non-conductors, or insulators, the electrons are bound tightly to their nuclei, and, under the influence of the same force, are very hard to move systematically, although they can be slightly displaced. It is for this reason that we can say that there is no perfect insulator. A straining of electrons takes place when a current is placed so as to pass through the insulator. Though no heavy flow of electrons takes place, as in a conductor, the electrons are strained, and now and again a

GUARANTEED RADIO PARTS

Country Clients Note.—Postage paid on Orders over 10/-, with the exception of Sets, Loud Speakers, Batteries, Aerial Wires, and Value Payable Parcels. All Goods sold with a Money Back Guarantee; if not satisfied and returned within ten days, money will be refunded.

“AIR KING” RECEIVER

Below is a list of parts for building this receiver:—

4 Lengths of Aluminium Angle Strip	2 0	1 Pilot 3-plate Midget Variable Condenser	4 8
1 Bakelite Panel, 34 x 8 x 1/8 inches	8 0	1 AWA Ideal 3 1/2 to 1 ratio Audio Transformer	18 0
1 Sheet Aluminium Panel (14 gauge), 34 x 6 in.	8 6	1 Ferranti AF5C Push-pull Input Transformer	3 3 0
1 Sheet Aluminium Panel (sub.), 14 gauge, 34 x 8 inches	8 0	1 Ferranti OP6C Push-pull Output Transformer	1 16 6
4 Sub Panel Brackets	7 0	1 Ferranti 100,000 ohm. Resistor, with mounting	9 3
3 Aluminium Partitions, 8 x 6 inches, 16 gauge	4 6	1 5 Megohm Grid Leak, with mounting (Detector)	3 9
2 Pilot .00015 SLF Variable Condensers	1 0	3 Radiokes RF Chokes	1 5 6
1 A.W.A. Logarithmic .00015 Variable Condenser	11 6	1 Sangamo .00025 Grid Condenser	2 3
2 Pilot .0001 Midget Variable Condensers	17 0	1 Sangamo .002 Fixed Condenser	2 9
2 Pilot Back of Panel Vernier Dials (Type 1282)	1 9 0	1 Sangamo .006 Fixed Condenser	4 6
2 Emmco Baby Velmo Vernier Dials	10 0	3 TCC 1 Microfarad By-pass Condensers	16 6
1 30 ohm. Variable Rheostat, Pilot	3 9	2 TCC 2 Microfarad By-pass Condensers	15 0
1 400 ohm. Potentiometer	4 6	1 Alpha 6 point Battery Plug, with Connector	6 0
1 C.H. Battery Switch	3 6	6 Plugs and Sockets	3 0
1 Switch Arm and 3 Contact Studs	1 3	4 Terminals	1 0
1 Double Circuit Telephone Jack	2 3	Suitable Valves to choose from:	
1 Single Circuit Jack	1 7	Philip A442	1 10 0
1 Royalty .0 to 500,000 ohm. Potentiometer	13 0	Philip B605	13 6
6 A.W.A. Anti-vibration Valve Sockets	18 0	Philip A615	15 0
1 Benjamin English Base Valve Socket	4 6	Radiotron UX112A	19 0
1 Pilot UY AC Valve Socket (for Wasp Coils)	3 6	Marconi DEP601	12 6
1 Pilot Wasp Coil Kit, 17 to 500 metres	3 0 0	Mullard PM256	15 0
1 Radiokes Screen Grid Coil Kit	3 12 6	Mullard PM14	1 10 0
6 UX Valve Bases	7 6	Busbar Wire, per dozen	0 10
2 Brachstats (Type 1C), for RF Valves	9 6	Spaghetti Covering, per yard	0 5
		1/2 Clips and Nuts, per dozen	0 7 1/2

Batteryless Radio



A radio set that surpasses everything at anywhere near its price in musical reproduction—a set that excels in general performance as well. No Batteries, Accumulators, or Trickle Charger—works right off your Power Point or Electric-Light Socket.

DEMONSTRATIONS given in your own home DAY OR NIGHT, without any obligation. Just ring B2261, and make arrangements to hear this wonderful Receiver.

The “Colmovox” AC Three is complete with Loud Speaker, Aerial Gear, etc. Sold for Cash or a Small Deposit, and the balance in twelve months.

AC Three—Cash Price £29

Terms: £5 Deposit and 10/- Weekly.

Colville-Moore Wireless Supplies Ltd.,

10 ROWE STREET (Next Hotel Australia) SYDNEY.

'Phone B2261

'Phone B2261

HITTING BELOW the BROADCAST BELT



Short-wave and Amateur Notes by
VK2NO

THIS time I am going to hit well below the belt, and say a few words to the "ham" who is working or contemplating working on the 10 metre wave-band. At the present moment the 10 metre tests with Great Britain are well under way, and when the Radio Society of Great Britain stages anything like this fruit of some kind is sure to be borne, as they are usually very thorough in their methods.

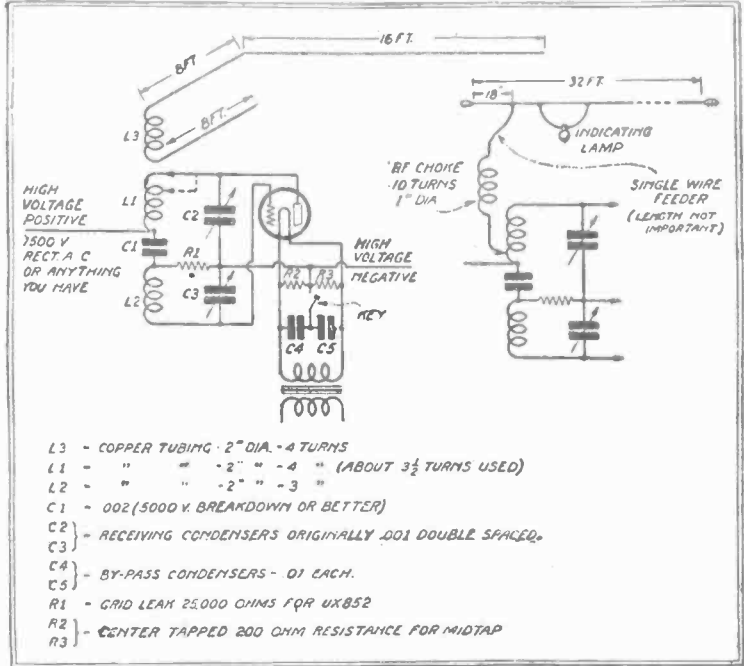
So far I have only listened myself. We have had a 10 metre receiver going intermittently at VK2NO-VK2AW, and the only thing heard during the past two days have been automobile ignition systems and sundry noises from inconceivable sources, but those 10 metre signals seem to be once again very elusive. Strangely enough, screen-grid RF amplification does not seem to behave at this frequency, although a few months back I was able to put signals on 10 metres on the speaker with the Midget Four.

The general opinion in all States is, "stick to the detector-audio arrangement," and so it is being tried out, with complete silence. It would not be fair to blame the receiver, for it is the GO-GETTER with a smaller capacity and special coil unit.

Good work has been done in various parts of the world on 10 metres, notably in America and England, which gave the lie to the assumption by prominent radio organisations that waves below 13 metres are unsuitable for long-distance communication. At 10 metres there are many troubles to be met with in reception.

Just consider this:—The band internationally allocated for this work is only 72-hundredths of a metre wide! That sounds nothing at all, but when looked at in kilocycles is a very different proposition. In terms of frequency it occupies a band 2000 kilocycles in width, which, if it were at the top end of the wave-length scale, and still occupied 2000 kilocycles, it would extend from 148 to 30,000 metres!

The B.C.L. says: "Is that so; then where is the growl with all that space available?" The "ham" says: "No growl, OM, but you just try and tune some receivers on 10, and see!" Really there is oceans of room for all the



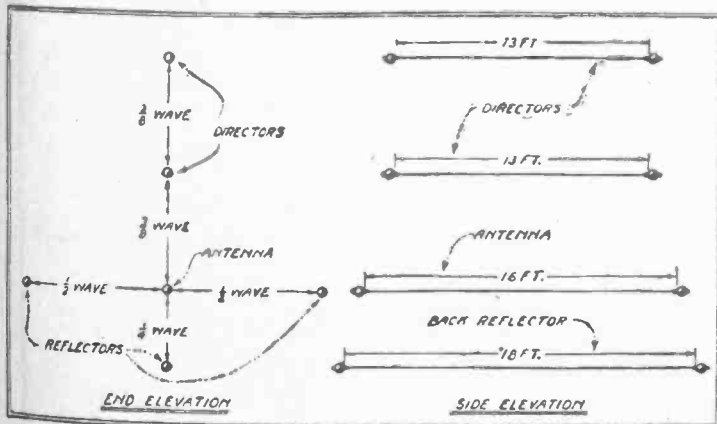
"hams" on this planet, and probably on Mars, too. Inside this 2000 kilocycles, and also oceans of room to pass right over a signal, if the receiver does not spread the whole band right over the tuning scale. Those "hams" who are of the real experimental type are trying hard to prove that there is some use to be found in this frequency band. Although it is spasmodic enough to warrant almost continuous watch for good periods, some very good work has been done from the time of the allocation. Americans started to work over their continent, Australians over

theirs, and over to New Zealand; New Zealanders to America; England to America and India, repeating world-wide amateur communication over again, but at a frequency which had been spurned by the "big fellows."

Summer came along, and with the hot, sultry weather over Australia 10 metre signals simply disappeared, and the results were for a long time very unsatisfactory, with little or no long-distance contacts. Now we are on the edge of winter, and England's winter has not by any means gone (ask anyone who knows what March and April are like there), so now is apparently the ideal time, and the only time for 10 metre contact with England.

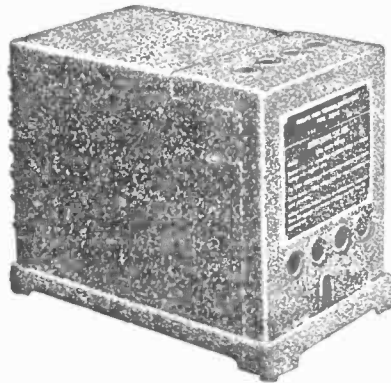
Little is apparently being done in New South Wales, but in view of the previous good work in Victoria and the south, it is suspected that the pioneers are busy on the job, combing the dial for those five-word codes, which it is known are definitely being pounded out by members of the R.S.G.B.

From here I am going to quote the writing of an American 10 metre enthusiast, on his impressions of the work in hand. He says: "One of the greatest troubles in receiving 10 metre signals is the terrible interference caused in the receivers by the electrical discharges of automobile ignition systems, and by electric railways. The old-time 'tin Lizzie' is the worst offender, and the new gas-electric buses coming in a mean second with the tram cars finishing third in the horrible din. As most 10 metre work must be done over the week-end, particularly on Sunday, when most pleasure cars take to the road, it is a



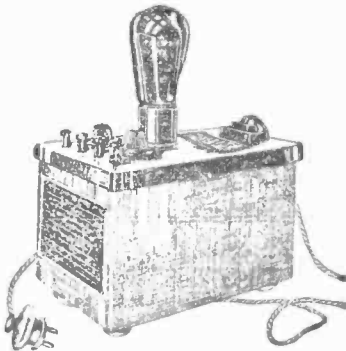
Install these Accessories and have perfect Radio reception

Everything for the Radio Enthusiast



The following Philips lines are also stocked.

- Philips Trickle Charger
- „ A & B Charger
- „ B & C Eliminator
- „ Valves



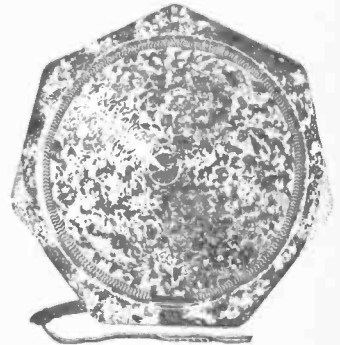
PHILIPS STANDARD 1 "B" ELIMINATOR. 372.

Here is the most popular power unit in Australia, which, owing to a price reduction, is now actually a cheaper proposition than "E" Batteries. At its new price of £7/15/- there are none who need suffer the inconvenience of the dry battery.

Price £7/15/-

The Philips Eliminator does away completely with your "B" Battery, and is used by simply plugging into the ordinary electric light socket.

PRICE £9/15/-



PHILIPS BABY GRAND LOUD SPEAKER.

This is a particularly fine baby model with an exceptionally clear tone and pleasing appearance. Splendid value at

£3/15/-

Easy Terms can be arranged if preferred.

OPEN UNTIL 9 p.m. FRIDAY

Home Recreations (Australia) Ltd.

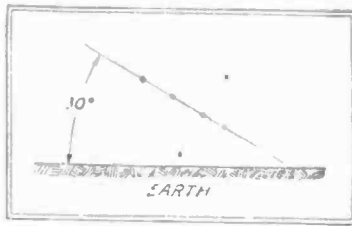
388 George Street, Opp. Beard, Watson's, SYDNEY



terrible job if you are situated anywhere near a highway. (Bad enough on 20 OM, VK2NO).

"Receivers and transmitters used at 10 metres are not very much different from those we have been used to at 40 and 20 metres; it has only been a matter of changing coils and condensers to enable one to get down the scale. The popular detector and two audio three circuit tune, is used by most 'hams,' although a few are taking advantage of the screen-grid RF valve for the purpose. All the standard circuits for transmitting seem to function equally well, and the radiating systems, although varied, all seem to work well at 10 metres.

"So far 10 metres has proved to be a daylight wave, signals disappearing suddenly and



completely at dusk, and the experiences of long Sunday afternoons with only the ground wave coming through seems to indicate that the frequency will not be of much use during the warm weather. Professor Taylor, of

the U.S. Bureau of Standards, believes that the remarkable success of the amateur with 10 metre transmission is due to an abnormally low layer of ionised air, which is reflecting these short waves back to earth, and cheerfully states that when this layer returns to its normal location nothing at all will be possible with long distance 10 metre work."

In the meantime the work goes on, and those amateurs throughout the world who are interested are having a glorious time pioneering the new band. One never knows, an ionised air layer may decide to settle in an advantageous position for a long time, and these self-same air layers, with their reflective properties, provide us with real radio thrills below the broadcast belt.

PROVING RADIO (continued) AND CLUB NOTES

loose electron will rush off the insulator.

Note that in some cases one might see current (to which we have referred as I in this case) represented by the letter C, which also represents capacity. It will be well for the student to make use of both symbols from time to time, as the rest of the equation will show whether or no C represents capacity or current.

As there are now several clubs who have commenced Morse classes, the following notes on learning the code will be appreciated.

The usual speed of sending by an amateur is only about eight words per minute. Twelve words per minute is the test imposed. You have already been given the Morse code.

Every radio fan who is in possession of a radio receiver has at some time or another heard signalling in Morse which is constantly going on between ships and coastal stations. Concord Hills, in particular, will be known to N.S.W. listeners. They are right at the end of the dial. Most readers are not interested in these signals, because they do not understand them. When they are understood they are very fascinating to read. A dot and a dash have no definite length, owing to the varying speeds of transmission. The dash should, however, be made twice as long as the dot. If you are sending quickly, naturally your dots and dashes will both be shorter.

When sending a complete word, a larger space should be left between each group of dots and dashes, and a larger pause still takes place between words than individual letters, so that one will readily know when a new word is commencing. One should cultivate the habit of distinguishing individual letters by their collective sound, and instead of having to work out each time in dots and dashes what letter is intended, he should soon know what letter is being transmitted as plainly as if the message were telephony. Also, he should learn to distinguish small words by their collective sound, such as the, and, it, to, by, was, so, in, from, of, will, on, and so on. (Note the last three words in the latter sentence—which are proof of the statement that certain words repeat often.)

Remember that whenever you hear Morse signals from a commercial station the traffic is private, and must be treated as such.

As a final word of advice, remember this: The learning of the code primarily requires the exercise of two things—patience and practice. At first you will find the memorising of the various Morse signals a trifle difficult, but the moment you learn to recognise the general sound of each letter, not so much by the dots and dashes individually, but as one complete group, you will be surprised how easily and quickly you can read them. And now: ARE THERE ANY AMATEURS WHO WOULD BE WILLING TO FORM A BEE FOR THE PURPOSE OF TRANSMITTING

MORSE TESTS AND LESSONS? Please get in touch with the author of this article, at "Wireless Weekly" offices.

EASTERN SUBURBS GROUP.—Three new members were present at the last meeting of this group. Welcome, Mr. J. Hall (Moore Park), Mr. B. Hallett (Woollahra), and Mr. P. Anderson (Bellevue Hill). This club has decided to alter its day of meeting from Sunday (which was found inconvenient) to Thursday evening at 8 o'clock, at the same address. The experiments consisted of those dealing with static electricity. The frictional electricity generated on rubbing sealing-wax and a fountain pen were a great success, as was the Electrophorus. Eight members present at this meeting.

CONCORD WEST GROUP.—Four new members were present. Welcome, Mr. E. Worswick (Concord West), Mr. A. Fry (Concord West), Mr. T. Fitzpatrick (Ryde), Mr. A. Williams (Ryde). The rules of the club (which will be published next week) were read, and they met with the approval of members. The sealing-wax experiment was a complete success, but it was decided to abandon static experiments owing to rain. These will be continued at the next meeting, weather permitting. The construction of the Leyden jar, the Electrophorus, and the Electrostatic were then described, and their function noted. The next experiments conducted were on magnetism. These were successful. At this stage we had exhausted all our apparatus on hand, so the connection of cells in series, parallel, and series-parallel was described.

CITY GROUP.—The electro-magnet was tested by applying power to it (without the jumping spring); found that iron filings were attracted to the core of the electro-magnet. The power being disconnected, the filings were released immediately, thus demonstrating its efficiency. (Note: The jumping spring was placed in the experiment to make and break the circuit, and its place could be taken by a Morse key or bell-push. See also below.)

DULWICH HILL GROUP.—Two new members. Welcome, Mr. J. H. Burrows (Dulwich Hill) and Mr. A. G. Simmonds (Arncliffe). The electro-magnet experiment was proceeded with, and the iron filings were attracted to the core when the battery was connected to either end of the coil. The filings fell from the core immediately the current was broken. It was then decided to carry out experiment Fig. 4 of issue 11, replacing the jumping spring with a Morse key, with good results.

SUMMER HILL GROUP.—No meeting was held this week, owing to inability of members to attend on the date arranged at the last moment, viz., Sunday. The meeting

night has now, however, been altered to Thursday, and members desiring further particulars should ring their group leader, Mr. Beeby, at U7880.

NEWCASTLE GROUP.—The following letter needs no explanation: "I am very pleased with your articles, 'Proving Radio,' and note there are quite a number of clubs springing up in Sydney and suburbs. I think it a great idea, and wish there was a club in Newcastle. I would join (and I have a friend who is just as keen on it), with a view of gaining the A.O.P.C. We should like some kind amateurs to help us with the experiments each week. I have no doubt that if a 'Proving Radio Club' was formed here it would grow, as was the case in Sydney. Perhaps if you would be kind enough to publish this in your most valuable paper someone may respond. Get in touch with F. Meredith, Main Road, Cardiff Heights, Newcastle."

WILLOUGHBY GROUP.—Three new members made welcome at last meeting, viz., J. S. Long (Lane Cove), J. H. Cooper (Wollstonecraft), and R. P. Truman (Wollstonecraft).

EXECUTIVE MEETING.—The executive meeting was held at Mr. Meadows' residence at 61 Crystal Street, Petersham, at 8 p.m. on Monday, March 18. The minutes of the last meeting were read by the secretary, Mr. Hook. A resolution, moved by Mr. Beeby, seconded by Mr. Barker, that all group representatives be responsible to the secretary for names and addresses of group members, was carried. A resolution, moved by Mr. Hook, seconded by Mr. Tregilgas, that group representatives should be empowered to give a clearance from one group to another, providing the member is financial on the books of the group he is leaving, was also carried. A meeting called for Ashbury Park last Sunday is now convened to the home of Mr. H. Walker, "Vesper," Croydon Avenue, Croydon Park. Members are required.

A resolution re petty cash, which was moved by Mr. Beeby, and provided that £1 cash be supplied to the hon. general secretary from club funds as petty cash, was seconded by Mr. Barker, and carried. The meeting was then adjourned (10.15 p.m.) till Monday, March 25, at 7.30 p.m.

Several club reports, which have not yet come to hand, are necessarily held over.

In the next issue will be published the rules of the club adopted at this meeting.

Easter and the World

A REAL Easter programme will be broadcast by 3LO from the Pleasant Sunday Afternoon, at Wesley Church, on March 31, when Rev. Alfred Masden will give an address on "What Easter Means to the World." Solos will be contributed by that very fine artist, Miss Muriel Cheek, and appropriate anthems and selections will be rendered by the choir and orchestra.



PERHAPS you did not know before by combing the Philips Trickle Charger and "B" and "C" Power Unit ALL current for your receiver could be obtained from the light socket. This is not the advantage, for the ingenious switch of the Philips Trickle Charger, will connect the power to your receiver.

In position "A" the switch—

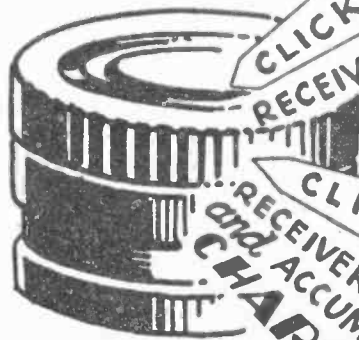
- Connects the Trickle Charger.
- Disconnects the "B" Power Unit.
- Disconnects the "A" Battery from the receiver.

And in position "B"—

- Disconnects the Trickle Charger.
- Connects the Power Unit.
- Lights the filaments of the valves.

POWER FOR YOUR RADIO

INGENIOUS SWITCH!



Philips 3003 "B & C" Power Unit

This is the unit which supplies both "B" and "C" voltages with maximum values well above what is actually required. Once the correct values have been found the plugs may always be left in the sockets of the unit—voltages on the 3003 DO NOT VARY AS WITH "B" BATTERIES.

PRICE £11/15/-

**CLICK!
RECEIVER "ON"**

**CLICK!
RECEIVER "OFF"
and ACCUMULATOR
CHARGING!**

Philips 1017 Trickle Charger

For use with the Philips Trickle Charger only a very small accumulator is necessary as it is always on charge when the set is inactive, and only requires a sufficient capacity to provide current for one listening-in period.

The unique two-way switch mounted on the unit is the only control required to supply or cut off power to the receiver.

PRICE £3/10/-

PHILIPS

RADIO APPARATUS

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

AUSTRALIA		Metres Watts		Metres Watts		Metres Watts	
New South Wales		hours	hours	2103	Silent	day	day
2FC	N.S.W. Broadcasting Co. Ltd. Market St. Sydney. 0700-2730	442	3000				
2BL	N.S.W. Broadcasting Co. Ltd. Market St. Sydney. 0400-2330	583	6000				
2GB	Theosophical Broadcasting Station. 79 High St. Sydney. 1000-2200	316	3000				
2KV	Trade and Labour Council. Goulburn St. Sydney. 0900-2200	288	1500				
2UW	Radio Beesting Ltd. Pallings Building. Ash St. Sydney. 1200-2230	227	600				
2UE	Electrical Utilites. Ltd. 619 George St. Sydney. 0730-2330	793	250				
2MK	Monkies Bros. Ltd. Hawick St. Bathurst	275	250				
2HS	H. A. Douglas King St. Newcastle	288	100				
2HE	Burton Electric Co. 240 Kent St. Sydney. At present off the air	518	100				
2LO	Dominions Broadcasting Co. 120A Russell St. Melbourne. 0715-2340	371	6000				
2AR	Dominions Broadcasting Co. 120A Russell St. Melbourne. 1000-2200	484	5000				
2VZ	J. J. Nilson and Co. Bourke St. Melbourne	319	100				
2DH	Deutsche Radio						
Queensland							
4QU	Queensland Govt. Radio Service. Brisbane. 0900-2200	585	5000				
CR	Gold Radio Service. Margaret St. Townsville	294	100				
South Australia							
8CI	Central Broadcasters. Ltd. 55 Franklin St. Adelaide. 1100-2210	409	5000				
5DN	5DN Pty. Ltd. 2-4 Montpelier St. Parkside	313	600				
5RA	Sport Radio. Ltd. 51 Kintore Av. Prospect	250	1000				
West Australia							
6VW	Commonwealth Government Broadcasting Station Perth. 1230-2320	1250	6000				
Tasmania							
2ZL	Tasmania Broadcasters Pty. 95 Elizabeth St. Hobart. 1130-2200	635	3070				
NEW ZEALAND							
1YX	Radio Broadcasting Co. of New Zealand. 419 Queen St. Auckland. 1500-2200. Silent day Mon	833	600				
2YX	Radio Broadcasting Co. of New Zealand. Wellington. 1500-2200. Silent day Wed	420	5000				
3YA	Radio Broadcasting Co. of New Zealand. Christchurch. 1500						

JAPAN		Metres Watts	
Station	Time	Metres	Watts
JOAK	Tokyo Central Broadcasting Co. Tokyo. Japan. Stations received best about midnight on Sunday	275	1000
JOBK	Osaka Central Broadcasting Co. Osaka	385	1000
JOCK	Nagoya Central Broadcasting Co. Nagoya	360	1000
IODK	Keljo Broadcasting Co. Keljo Japan	345	1000
DUTCH EAST INDIES			
JFC	Batavia Radio. Batavia. Surabaja	220	40
PHILIPPINE ISLANDS			
KZRM	Radio Corp. of the Philippines. Manila	418	1000
KZKZ	Radio Corp. of the Philippines. Manila	870	600
KZIR	Radio Corp. of the Philippines. Manila	860	500
INDIA			
ICA	Indian Broadcasting Co. Calcutta. India. Stations received best about 1.30 a.m. Monday	870.4	3000
IRY	Indian Broadcasting Co. Bombay	357.1	3000
SOUTH AFRICA			
WAMG	African Broadcasting Assn. Cape Town	875	1500
IFAF	African Broadcasting Assn. Johannesburg	450	800

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

Station	Metres	Time	Station	Metres	Time
AUSTRALIA			EUROPE		
MF	A.W.A. (Syd.) relays 2FC times. Usually Mon. from 0430-0800	31.28	WAZ	Springfield Relays. WBK	70
YFG	Ray Allison (Syd.) relays 2FL times various	32.5	2XAP	Scheneledy Tues. 0900-1500. Wed. 0900-1430. Fri. 0900-1500. Sun. 0900-1500	22.4
MF	A.W.A. (Melb.) relays 3LO times various. Usually heard about 0430-0820	32	WVW	Ohio 0900. except Sat and Mon	52.02
2AQ	W.E. Coxon (Perth) relays G.F. Times various. Usually 2130-0230 daily	32.9	KDKA	East Pittsburgh Daily from 0400	13.35. 12
GREAT BRITAIN			WVZ	New Brunswick Irregular. usually after 0900	42.35. 41.00
2SW	Marconi Co. (London) relays 2LO, 0400-0800 daily except Sun. and Mon. From 0330 on alternate Saturdays, and 2100-2230 daily	25	IXAO	Portland, Oregon Daily from 0900-2200	53.34
2VT	Marconi Radio. Portland Times various 25.32	32.94	2XK	Rocky Point. from 2400 Mon and Fri	16.02
2NM	Gerald Marcase. Caterham. Surrey. 1700-0400. 0600 (Sun). 1000. Thurs. and Sat.	32.5. 25	2NE	Richmond Hill Relays. WABC daily. from 0800	22.1
GLW	Beam Station. All times (Dorchester)	15.7	WOWO	Fort Wayne, Indiana. Relays Columbia stations daily 0800	22.8
GLQ	Beam Station. All times throughout day (Ongar)	24.5	8NK	E. Pittsburgh Relays. KDKA 0900-0900 Tues and Wed	26.8
GBH	Beam Station Grimsby (Beam Station) All times	25.9	2XAG	New York Telephone. Irregular	26.22
UNITED STATES			2XAI	New York Relays WNY 0900-1400 Tues. 1100-1200 Wed. 1500-1300 Sat	30.91
2XAD	G.E.C. Scheneledy Relays WGY, 0830-1300 Mon. 0400-0600 Tues. and Fri. 0800-1300 Thurs and Sat	21.36	2XAO	Des Moines, Mich Relays WRB daily	82
2XZAR	San Francisco. 1000. daily	33	WVCG	Brooklyn Daily. 0800	64
2XLI	Boundbrook Relays WJZ	59.36	2XPE	New York Relays WARC and WBOQ daily. 0800	58.5
2XVI	Council Bluffs Relays Columbia Broadcasting Station	61.08	2XAA	Houlton Transatlantic telephony	22.39
2XRA	Newark N.J. Relays WAA. 1000-1500 Wed. Fri. and Sun.	65.18	INDO-CHINA		
2XCV	Cleveland. daily from 1500	68.04	HVA	Hanoi. Daily 1900-2000 and 2200-2300	30.50
2XVI	Ingleswood. daily		HOLLAND		
JAPAN			PCL	Kootwijk. 2240-2400 Wed. and from 0200 Thurs	21.30
EUROPE			PCJ	The Hague. Irregular	25
WAZ	Springfield Relays. WBK	70	PCM	Elindhoven. 0300-0400. Wed and Fri. 0800-2400 Sat. 0100-0400 Tues.	31.4
2XAP	Scheneledy Tues. 0900-1500. Wed. 0900-1430. Fri. 0900-1500. Sun. 0900-1500	22.4	PCT	Kootwijk. 0300-0800 Wed and Fri. 0900	
WVW	Ohio 0900. except Sat and Mon	52.02	NORWAY		
KDKA	East Pittsburgh Daily from 0400	13.35. 12	LGN	Bergen. 0900. Irregular	30. 31.25
WVZ	New Brunswick Irregular. usually after 0900	42.35. 41.00	POX	Nauen. News bulletins	12.14
IXAO	Portland, Oregon Daily from 0900-2200	53.34	DENMARK		
2XK	Rocky Point. from 2400 Mon and Fri	16.02	7MK	Copenhagen. Irregular	32.8
2NE	Richmond Hill Relays. WABC daily. from 0800	22.1	IRL	Copenhagen	42.12
WOWO	Fort Wayne, Indiana. Relays Columbia stations daily 0800	22.8		Motala Tests Irregularly after midnight	41
8NK	E. Pittsburgh Relays. KDKA 0900-0900 Tues and Wed	26.8	EDTRL	Copenhagen. 2130-	
2XAG	New York Telephone. Irregular	26.22	SOUTH AFRICA		
2XAI	New York Relays WNY 0900-1400 Tues. 1100-1200 Wed. 1500-1300 Sat	30.91	RFN	U.S.S.R. Moscow	29. 40. 30
2XAO	Des Moines, Mich Relays WRB daily	82	RFM	U.S.S.R. Siberia	40. 30
WVCG	Brooklyn Daily. 0800	64	ITALY		
2XPE	New York Relays WARC and WBOQ daily. 0800	58.5	IMI	Milan	45
2XAA	Houlton Transatlantic telephony	22.39	IPD	Rome	33.5
INDO-CHINA			IRN	Rome	45
HVA	Hanoi. Daily 1900-2000 and 2200-2300	30.50	IMA	Rome 0700 Sun. 0200-0830 Mon	34.5
HOLLAND			SOUTH AFRICA		
PCL	Kootwijk. 2240-2400 Wed. and from 0200 Thurs	21.30	JB	Johannesburg	20. 25
PCJ	The Hague. Irregular	25	JAPAN		
PCM	Elindhoven. 0300-0400. Wed and Fri. 0800-2400 Sat. 0100-0400 Tues.	31.4	IRRR	Harakiken. nightly	37.5
PCT	Kootwijk. 0300-0800 Wed and Fri. 0900		IRP	Tokyo	20
NORWAY			IJA	Iwakuroki	20
LGN	Bergen. 0900. Irregular	30. 31.25	IKZR	Tokyo	20
POX	Nauen. News bulletins	12.14	GERMANY		
DENMARK			AGJ	Nauen Daily. 0500	56.7
7MK	Copenhagen. Irregular	32.8	POX	Nauen Press and news reports to ships 19.00	28.4
IRL	Copenhagen	42.12	ACC	Nauen. Press and news. daily	25.3
	Motala Tests Irregularly after midnight	41	ACC	Nauen. Throughout day	17.2
EDTRL	Copenhagen. 2130-		APK	Doeberitz. Tues. Thurs. Sat. 0500-0600 (Call sounds like "Arr-Err-Car")	37.65. 07.65
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DENMARK			AGJ		

Local Programmes, Good Friday, March 29

2FC

MIDDAY SESSION

Announcer: Eric Bessemer.
 10.45: "Big Ben"; Divine Service from Pitt Street Congregational Church, conducted by N.S.W. Council of Churches. 12.0: Studio music. 12.30: Close.

AFTERNOON SESSION

Announcer: Laurence Halbert.
 3.0: "Big Ben"; recital of selected records.
 3.30: From Pitt Street Congregational Church, organ recital, arranged by Lillian Frost. 4.0: From the studio, a reading. 4.10: From Pitt Street Congregational Church, organ recital, arranged by Lillian Frost. 4.40: From the studio, recital of selected records.
 5.0: "Big Ben"; close.

EVENING SESSION

Announcer: Laurence Halbert.
 6.0: "Big Ben"; recital of records, specially recorded at the Bayreuth Wagnerian Festival.
 6.30: "A Cross in a Garden," by The Story-teller.
 6.50: Easter music.
 7.10: A play by R. D. Maunsell.
 7.40: Studio music.

8.0: "Big Ben." From the Lyceum Hall—Concert programme arranged by the New South Wales Broadcasting Co., Ltd., in association with the Central Methodist Mission. The Metropolitan Band—
 (a) March, "Knellar Hall" (Greenwood).
 (b) Fantasia "Jupiter" (Frost).
 8.15: Nora Hill, soprano—
 "With Verdure Clad" (Haydn).
 8.22: Jules van der Klei, 'cellist—
 "Hungarian Rhapsody" (Popper).
 8.32: Oliver King, basso—
 (a) "Le Rameaux" (Faure).
 (b) "Life's Recompense" (Del Riego).
 8.39: The Metropolitan Band—
 March, "Naworth Castle" (Hume).
 8.44: William Greene, tenor.
 8.51: Bessie Cooke, contralto.
 8.58: From the Studio—Announcements.

Musical Items.
 9.5: From the Lyceum Hall—Second half of concert programme arranged by the New South Wales Broadcasting Co., Ltd., in association with the Central Methodist Mission. Oliver King, basso—
 (a) "My Abode" (Schubert).
 (b) "Who is Sylvia?"
 9.12: The Metropolitan Band—
 Selection, "Lucia" (Donizetti).
 9.27: Nora Hill, soprano—
 "Caro Nome" (Verdi).
 9.34: Jules van der Klei, 'cellist—
 "Ave Maria" (Schubert).
 9.41: William Greene, tenor.
 9.48: Bessie Cooke, contralto.
 9.55: From the Studio—To-morrow's programme.
 10.0: National Anthem; close down.

2BL

MIDDAY SESSION.

Announcer: Basil Kirke.
 11.0: G.P.O. chimes; Easter festival music.
 11.30: News. 11.45: Easter music. 12.15: A reading. 12.30: Recital of selected records. 2.0: G.P.O. chimes. Close down.

AFTERNOON SESSION.

Announcer: A. C. C. Stevens.
 Accompanist: Kathleen Roe.
 3.0: G.P.O. chimes; recital of selected records. A recital of Easter music. Basil Kirke will speak on "The Day." 5.0: "Big Ben"; close.

EVENING SESSION.

Announcer: Basil Kirke.
 Accompanist: G. Vern Barnett.
 6.0: G.P.O. chimes. Recital of specially selected records.
 6.30: Concert programme arranged by Mr. Arthur Summons.
 7.30: Studio music.
 8.0: From the Arcadia Theatre, Chatswood—Nicholas Robins at the Wurlitzer organ.
 8.20: Camille Alder, soprano.
 8.27: Clement Q. Williams, baritone—
 (a) "The May Night" (Brahms).
 (b) "Devotion" (Schumann).
 8.34: From the Arcadia Theatre, Chatswood—Nicholas Robins at the Wurlitzer organ.
 8.44: From the Studio—Fosse Brakell, contralto—

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(a) "Eleanore" (Mallinson).
 (b) "Over the Western Sea" (Mallinson).
 (c) "Four by the Clock" (Mallinson).
 9.1: Lloyd Davies, violinist—
 "Slow Movement from Concerto" (Vieuxtemps).
 9.8: From the Arcadia Theatre, Chatswood—Nicholas Robins at the Wurlitzer organ.
 9.28: From the Studio—Camille Alder, soprano.
 9.35: Clement Q. Williams, baritone—
 (a) "Shepherd See Thy Horses Foaming Mane" (arr. Korbay).
 (b) "Duna" (McGill).
 9.42: Lloyd Davies, violinist—
 (a) "Midnight Bells" (Kreisler).
 (b) "Gavotte" (Bayer).
 9.50: Fosse Brakell, contralto—
 (a) "A Blood Red Ring" (Mallinson).
 (b) "Beloved Sleep" (Slater).
 (c) "Requiem" (Homer).
 9.57: Features of to-morrow's programme.
 10.0: National Anthem. Close.

2GB

10.0 a.m.: Music. 10.10: Happiness talk by A. E. Bennett. 10.20: Music. 10.30: Women's session by Miss Helen J. Beegling. 11.30: Close down. 2.0 p.m.: Music. 2.5: Women's Radio Service, by Mrs. Dorothy Jordan. 2.50: Music. 3.15: Close down. 5.30: Children's session by Uncle George. 7.0: Music. 7.30: Feature story. 8.0: Mr. Cecil Houghton, tenor. 8.7: Mr. Cedric Ashton, 'cellist. 8.15: Miss Gwen Selva, soprano. 8.25: Instrumental music. 8.35: A humorous interlude by Mr. Jack Win and Mr. Heath Burdock. 8.40: Mr. Edward Barry, baritone. 8.50: Mr. Gregory Valentine, violinist. 9.0: Weather report. 9.3: Address. 9.15: Miss Gwen Selva, soprano. 9.25: Mr. Cedric Ashton, 'cellist. 9.35: Mr. Cecil Houghton, tenor. 9.45: A



James A'Auley, 11, a clever young pianist, who is heard sometimes during "C.A." R.B.C. Children's Hour from 2UW.

humorous interlude by Mr. Jack Win and Mr. Heath Burdock. 9.50: Mr. Gregory Valentine, violinist. 10.0: Mr. Edward Barry, tenor. 10.10: Dance music. 10.30: Close down.

2UW

EVENING SESSION.

5.30: Children's hour, conducted by Uncle Jack. 6.30: Close down. 7.0: G.P.O. clock and chimes. Music. 8.0: To-day's anniversary. 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.



Jules Van der Klei, who will render several numbers to-night from 2FC.

GREATER EMISSION



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Interstate Programmes, Good Friday

3LO

MORNING SESSION.

Announcer: John Stuart. 10.30 Express train information. 10.45: Morning service from St. Paul's Cathedral, Melbourne. Sermon, Rev. Robert Hamilton. 12.0: Close down.

AFTERNOON SESSION

Announcer: John Stuart. 3.0: The Station String Quartet, "Emperor" Quartette (Haydn). 3.10: J. Alexander Browne, baritone, "The Lord is My Light" (Allitsen), "Babylon" (Adams). 3.17: Tasma Tierman, cello, "Sonata E Minor" (Brahms). 3.24: Miss Frances Fraser will speak on "The Songs of the Brides," by Mrs. Kennedy Fraser. These will be illustrated by Miss Ella Riddell, contralto, who will sing the following:—"The Seagull-of-the-Land-Under-Waves," "Heart of Fire-love," "A Fairy's Love Song," "A Benbecula Bridal Procession," "A Hebridean Sea Ruler's Song." 3.34: The Station Trio, "Trio" (Berens). 4.0: Dawn Harding, mezzo-soprano, "Carol of Jesus Child" (Hughes), "Easter Carol" (Shaw). 4.7: Bertha Jorgensen, violin, "Slow Movement Concerto" (Tschaiakowsky). 4.15: The Station Quartette, "Quartette in A Minor" (Schumann). 4.25: J. Alexander Browne, baritone, "How Lovely Are Thy Dwellings" (Liddle), "Gallies" (Adams). 4.32: Agnes Fortune, "Nocturne in G Minor" (Chopin). 4.42: Dawn Harding, mezzo-soprano, "The Living God" (O'Hara). "Lullaby—Maria Wiegand" (Reger). 4.49: The Station Quartette, "The Lent Chord" (Sullivan). "New Spirituals"—Selected (Pochon). 5.0: Close down.

EVENING SESSION.

6.0: Answers to letters and birthday greetings by "Billy Bunny." 6.20: Captain Donald Maclean will tell the children a special Easter story. 6.35: Musical interlude. 6.40: "Billy Bunny" will entertain the kiddies.

NIGHT SESSION.

8.0: A special programme of Easter music has been arranged. 10.30: God Save the King.

3AR

MORNING SESSION.

11.0: Morning service from Scots Church, Melbourne. Sermon, "Good Friday Joy," St. John 15-13. Rev. Dr. W. Herland, M.A. 12.10: News service. 12.15: Close down.

AFTERNOON SESSION.

Announcer: Maurice Dudley. 3.0: A special gramophone recital, the B.B.C. Wireless Symphony Orchestra—"The Jewels of Madonna" (Volf-Ferrari). Regal Mixed Quartette, "The Lent Chord" (Sullivan). "The Holy City" (Stephen Adams). Liberal Jewish Synagogue organ (organist, G. T. Pattman), "Andantino," song of the soul (Lomare), "In a Monastery Garden" (Ketelby). Trinity Chimes of New York, "Lead, Kindly Light" (Dvies), "Nearer, My God, to Thee" (Mason). W. G. Webber on Christ Church organ, Westminster Bridge, London, "At Anne Fugue" (Bach), "Andante and Allegro" (Bach). Sistine Choir, "Ave Maria" (Vittoria), "Exultate Deo" (Palestrina), Marie Gossens, harp solo, "Prayer" (Hasselmanns). Violin, flute, and harp trio, "Angel's Serenade" (Braga). J. Edgar Humphries organ, St. Mary le Bow Church, Cheapside, London, "Litany" (Schubert). Reginald Goss-Custard, grand organ, Kingsway Hall, London, "The Question" (Wolstenholme). "The Answer." 4.30: Close down.

EVENING SESSION.

5.0: "Burr Rabbit," "A Good Friday Story." 5.30: Close down.

NIGHT SESSION.

Announcer: Frank Hatherley. 7.30: Transmission from St. Paul's Cathedral, Melbourne. The Crucifixion. A meditation on the Sacred Passion of the Holy Redeemer, written by Rev. W. J. Sparrow-Himpson, M.A. The music by J. Stainer. 9.0: The Royal Albert Hall Orchestra (conductor, Eugene Goossens), "La Boutique Fantasque" (Rossini), parts 1 and 2. Herbert Walton, organ, "Ave Maria" (Schubert), "Fugue Alla Gighe" (Bach). 9.15: The Sistine Choir, "Laudeate Dominum." "Tebeque Factae Sunt." 9.22: G. T. Pattman, organ solo, "Piece Heroique," parts 1 and 2 (Franck). W. G. Webber, organ solo, "Fantasia" (The Great G Minor) (Bach). "Toccata in G" (Bach). Band of His Majesty's Guards, "Sleep On, Beloved" (Wodehouse). "Abide With Me" (Monk). 9.41: Associated Glee Clubs of America, "Prayer of Franksgiving." The Sheffield Choir (conductor, Sir Henry Coward), "As Pants the Heart" (Bohn). "Break Forth Into Joy" (Barby). 9.48: Johann Strauss and Symphony Orchestra, "The Singer's Joy" (Johann Strauss), "The Spirit of Fire" (Johann Strauss). Ketelby's Concert Orchestra, "Bells Across the Meadow." 9.56: "Age" new service; announcements: God Save the King.

4QG

MID-DAY SESSION.

St. Barnabas Church of England, 12 (noon): The service will be relayed from St. Barnabas Church, Ipswich, from 12 noon to 2 p.m. The address on the "Seven Last Words from the Cross" will be given by his Grace, the Archbishop of Brisbane (Dr. Sharp). Between the addresses hymns will be sung: Nos. 114, "O Come and Mourn With Me Awhile"; 115, "Forgive them O My Father"; 116, "Lord, When Thy Kingdom Comes, Remember Me"; 117, "At the Cross Her Station Keeping"; 184, "Rock of Ages"; 255, "Just as I am Without One Plea"; 108, "When I Survey the Wondrous Cross." (Hymn Book, Ancient and Modern). 2.0: Close down.

AFTERNOON SESSION

3.30: A recital of sacred organ music from St. John's Cathedral by Mr. George Sampson, F.R.C.O. (City Organist). 4.30: Close down.

EARLY EVENING SESSION.

6.30: Bedtime stories by "The Sandman."

NIGHT SESSION.

7.30: The complete evening service will be relayed from St. Barnabas Church of England, Red Hill, Church services from the Book of Common Prayer; Hymn 94. "Lord, is This Thy Mercy's Day"; Psalm 31, verses 1 to 6; Scripture, Prophecies of the Entombment; Hosea, chap. 6, verses 1 to 4, Zachariah, chap. 9, from verse 11; Gospel narrative of the Entombment. St. Matthew 27, from verse 55; St. Mark, chap. 15, from verse 40 to chap. 16 verse 2; St. Luke, chap. 23 from verse 48; St. John, chap. 19 from verse 38; 1st Peter, chap. 3 from verse 17. Hymn, "By My Saviour Lifted;" sermon by Canon Garland, after sermon, hymn (124), "Resting from His Work to-day."

8.30: Conclusion. At the conclusion of the service a short sacred concert will be relayed.

8.30: From St. Barnabas—Will G. Ashlin (Tenor) "Thy Rebuke Hath Broken His Heart" (from "The Messiah"). Gladys Moore (Organist)—"Mendelssohn's Songs With Words" Nos. 2 and 4. H. Honnibal (Soprano)—"There is a Green Hill" (Gounod), "Come Unto Him All Ye That Labor" (from "The Messiah"). John Steele (Tenor)—"If With All Your Hearts," selected. Gladys Moore (Organist)—"Large" (Handel). Phyllis Verner (Soprano)—Selected. Will Ashlin (Tenor)—"He was Cut Out of the Land of the Living" (from "The Messiah"). "Thou Shalt Not Leave His Soul in Hell" (from "The Messiah). Vera Parker (Contralto)—Selected; "Abide With Me" (Liddell). 9.30: Close down.

5CL

MORNING SESSION.

11.0: Service from Pirlie Street Methodist Church. 12.0: G.P.O. chimes and close down.

AFTERNOON SESSION.

Announcer: J. L. Norris.

3 to 5 p.m.: Musical programme, including Station Quartet, Mrs. Olive Barrie (contralto), Syd. Hollister, Walter Wood (tenor), Lietzette Foglia (violinist). A Lecture with illustrative recordings by Horace Perkins, Mus.Bac., A.M.U.A.

EVENING SESSION.

Announcer: C. J. O'Connor.

Accompanist: Jean Finlay.

6.30: Birthday Greetings, Correspondence, Songs and Stories. Aileen Newlyn, Soprano: "Ave Maria" (Gounod), "Evening" (Schumann). 7.0: G.P.O. Chimes.

7.1: Solomon Sisters, Instrumentalists—"Cavalleria Rusticana" (Mascagni), "Barcarolle" (Wolfgang).

7.10: Eric Wickens, Bass—"Life" (Blumenthal), "A Prayer Perfect" (Stenson).

7.16: Tom Dorring, Banjoist—"In Delightful Melodies." 7.22: Aileen Newlyn, Soprano—"Entreat Me Not to Leave Thee" (Gounod), "Trees" (Rasbach).

7.28: Solomon Sisters, Instrumentalists—"Romance" (Reissiger), "Meditation" (Gounod).

7.36: Eric Wickens, Bass—"Though Faithless Men" (Halevy), "The Trumpeter" (Dix).

7.42: Tom Dorring, Banjoist—"In pleasing Harmonies." 7.48: Aileen Newlyn, Soprano—"Slumber Song" (Schubert), "The King of Kings" (Stott).

7.54: Solomon Sisters, Instrumentalists—"Spring Song" (Mendelssohn), "Chanson Triste" (Tschalkowsky).

8.0: G.P.O. Chimes.

In response to numerous requests we have pleasure in announcing a Special Easter Performance of "The Messiah" (Handel). Performed by the Choir and Orchestra of the British Broadcasting Corporation. Soloists: Hubert Eisdell (Tenor), Harold Williams (Baritone), Muriel Brunkell (Contralto), Dora Fabbette (Soprano). Conducted by Sir Thomas Beecham.

10.0: Close down.

6WF

10.45: Tune in. 11.0: Morning service relayed from St. George's Cathedral. 12.15: Close down. 3.30: Tune in. 3.35: Musical programme relayed from the studio, including pianoforte solo by Miss Audrey Dean, station pianist. Vocal numbers, 4.30: Close down. 7.0: Tune in. 7.8: Bedtime stories for the kiddies. 7.30: Music. 7.45: Talk. 8.0: Time signal. 8.1: First weather bulletin. Sacred concert relayed from Queen's Hall. 10.5: Close down. 104.5-metre transmission! Simultaneous broadcast on 104.6 metres of programme given on 1250 metres, commencing at 7 p.m.

7ZL

MORNING SESSION.

11.0: Transmission from the Melville Street Methodist Church. 12.30: Close down.

AFTERNOON SESSION.

Announcer: Jack Broadbent. 3.30: A sacred and classical programme. 4.30: Close down.

EARLY EVENING SESSION.

6.15 to 6.45: Children's session.

EVENING SESSION.

Announcer: David Broadbent. 7.0: Transmission from St. John's Cathedral, Murray Street, Hobart. 8.30: Transmission from St. David's Park: A band concert by the Hobart Municipal Band. 9.45: News service, British official wireless news, ships within wireless range, mail notices. 9.50: Close down.

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Local Programmes, Saturday, March 30

2FC

MORNING SESSION

Announcer: Eric Bessemer.

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. 10.45: 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.

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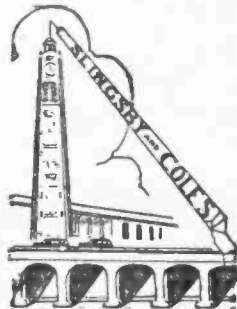
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MIDDAY AND AFTERNOON SESSIONS

Announcers: Laurence Halbert.

Accompanist: Ewart Chapple.

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. 12.45: Popular music. 1.0: Description of the A.J.C. meeting at Randwick by the N.S.W. Broadcasting Company's Racing Commissioner; during intervals, from the studio musical items by the "Spanish Serenaders" and the Studio Dance Band. 4.45: Complete sporting resume. 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. 6.30: Daigety's market reports (wool, wheat, and stock). 6.40: Fruit and vegetable markets. 6.43: Stock Exchange information. 6.45: Weather and shipping news. 6.48: Rugby wireless news. 6.50: Late sporting news. 7.0: "Big Ben"; late news service. 7.10: The 2FC Dinner Quartette, conducted by Horace Keats, (a) "Spring Thoughts" (Salzer), (b) "Two Eastern Songs" (Lang), (c) "Serenade" (Toselli), (d) "Gipsy" (Signorelli), (e) "Two Syncopated Pieces" (Coates), (f) "Still as the Night" (Bohm), (g) "High Up on a Hill Top" (Whiting).

EVENING SESSION

Announcer: Laurence Halbert.

Accompanist: Ewart Chapple.

7.40: Popular music.
7.45: Programme announcements.
7.48: Popular music.
8.0: "Big Ben"; the Light Music Four.
8.12: The Blue and Gold Dandies, winners of the Radio Revue section in the recent esteddfof conducted by the N.S.W. Broadcasting Co., Ltd.
9.12: Weather report and announcements.
9.15: Studio Dance Band.
9.30: Dorothy Dewar, popular vocalist.
9.37: Studio Dance Band, conducted by Cec. Morrison.
9.52: Dorothy Dewar, popular vocalist.
9.59: Weather report.
10.0: Announcements.
10.6: Studio Dance Band, conducted by 11.3: From the studio, late weather and announcements.
11.6: Studio Dance Band, conducted by Cec. Morrison.
11.27: To-morrow's programme.
11.30: National Anthem. Close.

2BL

MIDDAY SESSION.

Announcer: A. C. C. Stevens.

11.0: G.P.O. chimes. News. 11.10: A talk on "Gardening," by Mr. Cooper, Park Superintendent, City Council. 11.30: News. 11.40: Studio music. 12.0: G.P.O. chimes; special ocean forecast and weather report. 12.3: Pianoforte reproduction. 12.30: "Sun" news service. 12.40: Studio music. 12.45: "Sun" news service. 12.50: Studio music. 1.0: From Randwick—Description of the A.J.C. meeting in the running. During intervals from the Studio a musical programme by the "Happy Trio," and dance music from Romano's. 5.40: Close.

EARLY EVENING SESSION.

Announcer: Basil Kirke.

5.41: Children's session; music and entertainment; letters and stories. 6.30: "Sun" news and late sporting. 6.40: 2BL Dinner Quartette—(a) "Tender Heart" (Baga), (b) "Somewhere, Someday" (Rapee), (c) "Schaffer's Klage" (Weber), (d) "Three Dances," Tom Jones (German), (e) "Scherzo," Trio, Op. 50 (Russsger), (f) "Traumerel" (Schumann), (g) "Sun Flakes" (Phillips). 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. 7.55: Programme and other announcements.



Australia's Peter Pan statue in Alexandra Gardens, Melbourne, about which Mr. G. Cooper will speak during his talk on Gardening from 2BL this morning.

EVENING SESSION.

Announcer: Basil Kirke.

Accompanist: G. Vern Barnett.

8.0: G.P.O. chimes. Topical chorus.
8.2: Fun and frivolity by "The Troubadors."
8.17: Graham and Manning, entertainers—"The Kipling Walk," duet (Ayer). "She's Proud and She's Beautiful" (Bastow), Harry Graham. "Liza's Lovers," duet (Gibson).
8.30: Popular studio programme.
9.30: "The Troubadors" in song and story.
9.45: Romano's Dance Orchestra, conducted by Bennie Abrahams.
9.55: From the Studio—Graham and Manning, entertainers—"M'yes, M'no," duet (Gideon). "Impressions of Daily Life," duet (Cardow).
10.5: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
10.20: From the Studio—Late weather report and announcements; news.
10.30: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
10.57: From the Studio—To-morrow's programme.
10.59: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
11.30: National Anthem. Close.

2GB

5.30 p.m. Children's session by Uncle George. 7.0: Dance music from the studio. 8.0: Request music. 9.0: Dance music from studio. 10.0: Close down.

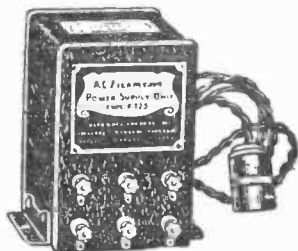
2UW

5.30: Children's hour, conducted by Uncle Jack. 6.30: Close down. 7.0: Musical programme. 10.30: Close down.

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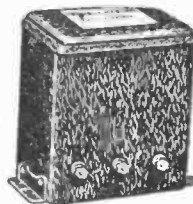
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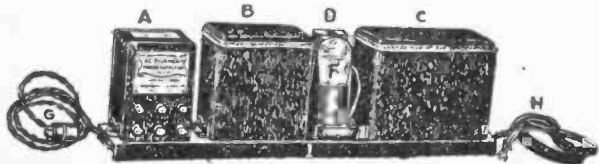
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Interstate Programmes, Saturday, March 30

3LO

EARLY MORNING SESSION.

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

MORNING SESSION.

Announcer: *Eric Welch*. Accompanist: *Agnes Fortune*. 10.50: *Eric Welch* will speak on to-day's races at Epsom. 11.0: *Two Town Artillery* (Garibon), "Ready for the River" (Morel), "Dawning" (Sliver), soprano, "April Morn" (Batten), "They Say" (Evans). 11.15: *The Radio Revellers*, "Plantsdoss", "Colombo" (Nichols), selection. *Signor Torre*, tenor, *Two Neapolitan Folk Songs*. 11.32: *The Radio Revellers*, "Under the Burma Moon" (Davis), "Sonny Boy" (Brown), "Saw a wif Dreams" (Kernell). 11.41: *Diana Belmont*, contralto, "A Blackbird Singing" (Heed), "When Song is Sweet" (Sans Souci). 11.48: *The Radio Revellers*, "You're a Real Sweetheart" (Friend), "Tokio" (Gardner). 11.51: *John D. Fraser*, baritone, "The Dime" (Inghy-Clarke), "Yellow Slippers" (Coningsby-Clarke).

MIDDAY SESSION.

12.0: Melbourne Observatory time signal, express train information, Stock Exchange information. 12.1: Metal prices received by the Australian Mines and Metals Association from the London Stock Exchange this day. Official wireless news from Rugby, Reuters and the Australian Press Association cables. "Argus" news service. 12.20: *The Radio Revellers*, "Where the Cot-Cot-Cotton" (Growth), (Klien), "Cinnamon Cakes" (Bernard), "Paradise" (Zamenick). 12.29: *Molly Mackay*, soprano, "The Ships of Arcady" (Heed), "Happy Songs" (Rel Riego). 12.36: Stock Exchange information. 12.40: *The Radio Revellers*, "Avalon Town" (Brown), "Glad Rag Doll" (Ager), "You Are Wonderful" (Growth), (Klien), "Cinnamon Cakes" (Bernard), "Paradise" (Zamenick). 12.49: *Molly Mackay*, soprano, "The Ships of Arcady" (Heed), "Happy Songs" (Rel Riego). 12.56: *The Radio Revellers*, "Honeycomb Waltz" (Renault), "There Ought to be a Law Against That" (Friend), "Little Mother" (Rupee). 1.5: *Diana Belmont*, contralto, "Forethought" (Lambert), "Gapple" (Furrell). 1.12: Meteorological information, weather forecast for Victoria, New South Wales, South Australia, and Tasmania. Ocean forecasts. River reports. Rainfall. 1.19: *The Radio Revellers*, "Oh, Ya Ya" (Frich), "Stars are the Windows of Heaven" (Malle), "That's Her Now" (Ager), 1.28: *John D. Fraser*, baritone, "The Last Song" (Rogers), "I Be Hopin' You Remember" (Clarke). 1.35: *The Radio Revellers*, "One Alone" (Romberg), "The Desert Song" (Romberg), "It Goes Like This" (Caesar), "Rosetime" (Hall). 1.45: Close down.

AFTERNOON SESSION.

2.13: Description of Trial Hurdle Race, two miles. Epsom races, by *Eric Welch*. 2.20: Brunswick City Band, operatic overture. 2.25: Description of semi-final pennant cricket match at M.C.C., by *Rod McGraw*. 2.38: Brunswick City Band, popular marches. 2.43: Description of Two-Year-Old Handicap, four furlongs 200 yards, at Epsom races. 2.50: Brunswick City Band, modern melodies. 2.55: Description of semi-final pennant cricket match at M.C.C. 3.10: Brunswick City Band, selections from musical comedy, one med. relayed from *Rainwick Racecourse, Sydney*. 3.25: Result of Brush Steeplechase at Epsom races, run at 3.15. 3.28: Brunswick City Band, selections from opera. 3.30: Description of semi-final of pennant cricket match at M.C.C. 3.38: Brunswick City Band, fox-trot, at Epsom races. 3.50: Brunswick City Band, selected and request items. 3.55: Description of semi-final pennant cricket match at M.C.C. 4.0: Brunswick City Band, waltz. 4.13: Description of Epsom Plate, six furlongs, at Epsom races. 4.20: Brunswick City Band, latest and brightest. 4.25: Description of semi-final pennant cricket match at M.C.C. 4.38: Brunswick City Band, selections from musical comedy. 4.43: Description of Epsom Purse, 1/4 miles, Epsom races. 4.50: Brunswick City Band, numbers. 4.55: Description of semi-final pennant cricket match at M.C.C. 5.0: News service. During the afternoon results of the Renalla, Kerang, Mortlake, and Rosedale races will be broadcast as they come to hand. 5.10: Description of semi-final pennant cricket match at M.C.C. 5.30: Close down.

EVENING SESSION.

5.50: Sporting results. 6.0: Answers to letters and birthday greetings by "Little Miss Kookaburra". 6.25: Musical Interlude. 6.30: "Little Miss Kookaburra" wants to know if her Little Kookaburrites found a dear weeny abba in their hearts, Bourry! She will tell you a tale about one, and also an Easter story for the bigger ones.

NIGHT SESSION.

Announcer: *Renn Mullar*. Accompanist: *Agnes Fortune*. 7.3: Stock Exchange information. 7.15: New-market stock sales. Official report by the Associated Stock and Share Agents, Bourry! She will tell you a tale about one, and also an Easter story for the bigger ones. 7.30: News service. 7.43: Birthday greetings. 7.45: Out of the Park. 7.46: E. A. Prescott will Brown on "Wales and Waburbs". 8.0: The Station Orchestra, overture, "A May Day" (Hadyn Wood), "Romance sans Paroles" (Rebikov). 8.10: James

Hay, tenor, selections from his repertoire. 8.17: The Imperial Russian Trio (Arved Norrit, Violin; Ivan Berzinsky, cello; Vassili Ilster, piano). "Trio in E Flat Major" (Beethoven), op. Allegro. (b) Adagio Cantabile. "Duetto" (Mendelssohn). 8.21: *Mary Mack*, contralto, "The Robin Sings in the Apple Tree" (MacDowell), "Polk Song" (MacDowell). 8.34: The Station Orchestra, "In Fairyland" (Homer). 8.39: *James Hay*, tenor, selections from his repertoire. 8.46: The Station Orchestra, "Voice of the Belis" (Thurband). 8.50: "We Four" Male Quartette, *Edwin E. Hooke*, tenor, "Daybreak" (MacFadyen). The Quartette, "Dixieland" (Brewer), *Walter D. Burchell*, bass, "A Hundred Fathoms Deep" (Schatuck). 9.0: *Eric Welch* will speak on to-night's events at the Stadium. 9.15: The Station Orchestra, selection, "Icelandhe" (Sullivan). 9.25: *Mary Mack*, contralto, "Robin Dale" (Johnson), "Requiem" (Homer). 9.32: *Joseph Barrie*, flute, selected. 9.37: "We Four" Male Quartette, *Claude Schilling*, baritone, "Castilian Lament" (Riego). The Quartette, "Neapolitan Nights". *Fred. J. Watford*, tenor, "The Old Refrain" (Kreiser). 9.47: The Station Orchestra, "First Movement of Pathetic Symphony" (Tschaiowsky). 10.0: *Eric Welch* will again describe to-night's events at the Stadium. 10.18: The Station Orchestra, selection, "Oh Kay" (Gershwin). 10.25: French Bros., banjoists, modern melodies. 10.35: "We Four" Male Quartette, *Edwin Hooke* and *Claude Schilling*, tenor and baritone, duet, "The Fishermen" (Gabus). The Quartette, "Lindy Lou" (Brewer). 10.45: Late sporting. 10.46: The Radio Revellers, "Nebraska" (Sells), "Little Irish Rose" (Zamenick), "Glad Rag Doll" (Ager), "All By Yourself in the Moonlight" (Wallis), "Counting the Milestones" (Tilsley), "Daybreak" (Evans), selected and request items. 11.30: God Save the King.

"Heart Throbs" (Bendel). "Tamo ancora" (Pirpo). 10.0: Collingwood Citizens' Band, march, "Locarno" (fox-trot). "Rosary" (Victor Stephenson). Piano, "Rondo" (Schumann). "Study, Op. 25 No. 7" (Chopin). "Scherzo in B Minor" (Chopin), selected. 9.30: Collingwood Citizens' Band, trombone solo, "Lead Me Your Aid" march, "Allandale". 9.30: *Leah Batchelor*, contralto, "A May Morning" (Denys), "I West a-Roaming". 9.31: One-Act Play, "Just Like a Woman" (Gewel Collins). Produced by *Maunice Dudley*. Mrs. Frederick Van Rypen, Mrs. Maunice Dudley, Mr. Frederick Van Rypen, Mr. Maurice Dudley. 9.53: Collingwood Citizens' Band, waltz, "Juliana". 10.0: *Rinaldo Torre*, operatic tenor, "March Chant" (Tosti), "Remigata" (Matti). 10.7: Collingwood Citizens' Band, cornet solo, "Easter Flowers". 10.14: *Jessie Batchelor*, contralto, "In My Garden" (Liddie), "A Summer Night" (Thomas). 10.21: News service. Announcements. Results of final pennant cricket match. God Save the King.

4QG

EARLY MORNING SESSION.

Announcer: *G. Tyson*. 7.42: Time signal. 7.50: News service. 8.0: Some electric records. 8.15: News service. 8.30: Close down.

AFTERNOON SESSION.

The Q.T.C. race meeting will be described direct from the Ascot course. Transmission will commence with the start of the first race. Between races music will be relayed from the studio. 5.0: Close down.

EARLY EVENING SESSION.

8.30: Bedtime stories conducted by "Uncle Ben". 7.15: To-day's race results in brief. 7.20: General sporting notes. 7.30: Sailing notes by Mr. Fred. Smith.

NIGHT SESSION.

8.0: From Rockhampton: 40th Queensland Entertainment. 10.0: From the Studio: "The Sunday Mail" news, "Queenslander" bi-weekly news service for distant listeners. weather news. Close down.

5CL

MORNING SESSION.

12.0 to 1.0: General programme, including late selections for Epsom races by Mr. Eric Welch at 3.0 Melbourne; Midday Melodies; General News Service; S.A. railway information; S. C. Ward and Co.'s Stock Exchange information, and meteorological information.

AFTERNOON SESSION.

2.0: G.P.O. chimes. 2.1: Result of Trial Hurdle Race at Epsom, and resume of previous race results. 2.3: Kadina racing results will be announced as they come to hand. 2.18: Result of Two-Year-Old Handicap at Epsom. 2.19: Dance numbers. Instrumental Result of Steeplechase at Epsom. 2.45: Instrumental include. 3.0: G.P.O. chimes. 3.1: Resume of previous race results. 3.3: Orchestral numbers. 3.10: Result of Epsom Handicap at Epsom. 3.19: Miscellaneous numbers. 3.48: Result of Epsom Plate at Epsom. 3.49: Musical Interlude. 4.0: G.P.O. chimes. 4.1: Resume of previous race results. 4.3: Dance numbers. 4.18: Result of the Epsom Purse, at Epsom. 4.19: Opera Interlude. 4.58: Resume of racing. 5.0: G.P.O. chimes: close down.

EVENING SESSION.

Announcer: *C. J. O'Connor*. 6.0: G.P.O. Chimes and late sporting results. 6.2: Birthday Greetings, Correspondence, Songs, and Stories. 6.30: Story of Steeplechase at Epsom. 6.45: "Home, Sweet Home." "Way Down upon the Swane River". 6.53: Miss Phyllis Bicknell—"If no one ever marries me," and a humorous number entitled "At Breakfast Time." 6.42: Interlude of Music. 7.0: G.P.O. chimes. 7.1: S. C. Ward and Co.'s Stock Exchange information. 7.10: Rev. G. Hale, B.A. on "Keeping Young". 7.25: "Willow" will speak on "Cricket." 7.35: G. G. Riley, a talk on "Items of Interest." 7.45: 5CL's Sporting service by "Silvius," including Epsom and Kadina race results, Royal yacht Squadron Gulf Race result, and a special late review of Monday's racing at Oakbank and Williamstown.

NIGHT SESSION.

Announcer: *C. J. O'Connor*. Accompanist: *John Finlay*. 8.0: G.P.O. chimes. 8.1: Hindmarsh Municipal Band. Conductor: *Mr. J. Radcliffe*. March, "Dominion of Canada" (Hill). Overture, "Pique Dame" (Von Suppe). 8.2: *Leonora*, Mrs. Soprano—"Mah Lindy Lou" (Stickleland), "Ole Golden Moon" (Allison). 8.17: Miss Pat McLean, in a burlesque lecture, "Mary Had a Little Lamb." 8.23: Hindmarsh Municipal Band. Conductor, *Mr. J. Radcliffe*. Selection, "Our Miss Gibbs" (Douglas). 8.35: *Eric Wickens*, Bass—"Captain Mac" (Sanderson). "Young Tom O'Devon" (Russell). 8.41: *Harry Hutchins*, Violinist—"Le Sol" (Gounod). "Twilight Dreams" (Maurin). 8.47: Syd. Hollister, a comedian. In six minutes (fun). 8.53: Hindmarsh Municipal Band. Conductor, *Mr. J. Radcliffe*. Dance, "The Coster's Woollie". 9.0: G.P.O. chimes. 9.1: Meteorological information, including Semaphore Tides. 9.2: Overseas grain report. 9.3: Hindmarsh Municipal Band. Conductor, *Mr. J. Radcliffe*. Fox trot, "Chloe" (Morel).

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THURSDAY, April 4—	
3LO, 3AR, 4QG, 7ZL	53

3AR

MORNING NEWS SESSION.

Announcer: *Maurice Dudley*. 10.0: G.P.O. clock says "Ten." 10.1: Stock Exchange reports. London metal market. 10.10: "Age" market reports. Farm and station produce, fruit, fish, vegetables, etc. 10.25: "Age" shipping and Ocean forecasts. 10.30: Mail notices. Express train information. 10.35: "Age" news service. 10.50: Weather forecast.

MORNING MUSICAL SESSION.

11.0: Gramophone recital. 12.20: British official wireless news. Announcements. 12.30: Close down.

AFTERNOON SESSION.

Announcer: *Maurice Dudley*. Accompanist: *Reg. Brown*. 3.0: The Station Orchestra, "An Ethiopian Rhapsody" (Hosmer). "Scenes Pittoresques" (Massenet). 3.15: *James Hay*, tenor, selected. 3.22: The Russian Imperial Trio, Trio, "Ghasson Frise" (Rebonoff), "Caucasienne Danse" (Schumann), "Traumerel" (Schumann), "Extase" (Ganne), "Spanish Danse" (Moszkowsky). 3.42: *James Hay*, tenor, selected. 3.49: The Russian Imperial Trio, request item. 3.59: *Olive Painter*, mezzo-soprano, "My Lullaby" (Thayer), "Caller out" (Scott). 4.6: The Station Orchestra, selection, "Eugent Onegin" (Tschai-kowsky). 4.15: *Diana Belmont*, contralto, "The Curtain Falls" (d'Harleot), "Roseleaves" (Lehmann). 4.23: The Station Orchestra, selection, "Queen High" (Gensel). 4.33: *Olive Painter*, mezzo-soprano, "Be You a-Comin'?" (Sanderson), "Pirate Dreams" (Hueter). 4.40: The Station Orchestra, "Seremondo" (Scerwinsky), "March of the Dwarfs" (Moszkowsky). 4.45: *Diana Belmont*, contralto, "There's a Land" (Alliston), "Beloved" (Gretschinnoff). 4.52: The Station Orchestra, suite, "Atonement of Pan" (Hadley). 5.0: Close down.

EVENING SESSION.

Announcer: *Frank Hetherley*. 6.0: Sweet Solace on the Seraphims. 7.10: News service. Announcements. 7.20: S'more solace.

NIGHT SESSION.

Announcer: *Frank Hetherley*. Accompanist: *Reg. Brown*. 8.0: All sporting results. 8.30: Collingwood Citizens' Band, march, "Floretta", petite selection, "Maritana". 8.40: *Rinaldo Torre*, operatic tenor,

- 9.8: A One-Act Play entitled. "The Wreck." Characters: Barbara, Beryl Alford; Lillie, Lillian Pritchard; Cecil, Herbert Frederick; Finnicum, Harold Harford. Scene: Barbara's Sitting Room.
- 9.28: Hindmarsh Municipal Band. Conductor, Mr. J. Radcliffe. Song waltz, "Jeanine" (SHIKRE).
- 9.33: Leonora Mira, Soprano—"Love's Garden of Roses" (Haydn Wood), "Lady April" (Gayne).
- 9.39: Miss Pat McLean in a child impersonation. "I couldn't help it could I?" A monologue. "And Yet I don't know."
- 9.46: Hindmarsh Municipal Band. Conductor, Mr. J. Radcliffe. Waltz, "Les Fleurs D'Australie" (Laski).
- 9.51: Eric Wickens, Bass—"The Ragged Vagabond" (Randolph). "The Monarch of the Storm" (Mullen).
- 9.57: Harry Hutchins, Violinist—"Mazurka" (Jenkinson), "Serenade" (Drigo).
- 10.3: Syd. Hollister, Comedian—In Merry Moments.
- 10.9: Hindmarsh Municipal Band. Conductor, Mr. J. Radcliffe. Fox trot, "You're a Real Sweetheart (Friend) march, "Viscount Nelson" (Zehle).
- 10.15: General news service, Meteorological information. 5CL's sporting service by "Silvius." Including Epsom and Kadina race results, Royal Yacht Squadron Gulf race result, and selections for Monday's racing at Oakbank and Willimstown.
- 10.30: Modern dance numbers by the Radio Revellers.
- 11.0: Close down.

6WF

12.0 Tune in, 12.5: Racing anticipations, 12.7: Musical programme, including pianoforte solos by Miss Audrey Dean. Vocal items, 12.44: Markets, news, etc. 1.0: Time signal. 1.1: Weather bulletin supplied by the Meteorological Bureau of West Australia. 1.2: Close down. 2.30: Sporting season: Racing, cricket, and other sporting results will be broadcast each 15 minutes during the afternoon. 5.30: Approx. close down. 6.45: Tune in. 6.48: Bedtime stories for the kiddies by Uncle Duffy. 7.12: Sports results. 7.30: News. 7.45: Music. 8.0: Time signal. 8.1: First weather bulletin. 8.3: Vocal and instrumental items from the studio. 9.0: Late news items by courtesy of the "Daily News" Newspaper Co., Ltd., station announcements, ships withina range announcements, 12.15: weather bulletin. 9.15: Programme continued from the studio. 10.30: Close down. 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: General programme. 2.15: Running description of Trial Hurdle Race, two miles, run at Epsom Racecourse, Victoria. 2.20: Close down. 2.45: Running description of Two-year-old Handicap, four furlongs 200 yards, Epsom. 2.50: Close down.

AFTERNOON SESSION.

Announcer, Jack Broadbent. 3.0: G.P.O. chimes. 3.15: Description of Brush Steeplechase, Epsom, Victoria. 3.30: Transmission from the North Hobart Oval, description of athletic championships. 3.45: Description of Epsom Handicap, 1 1/4 m. 3.50: Description of the athletic championships. 4.15: Description of Epsom Plate, 6f. 4.20: Description of the athletic championships. 4.30: Close down. 4.45: Description of Epsom Purse, 1m. 4.50: All sporting results to hand. 5.0: Close down.

EARLY EVENING SESSION.

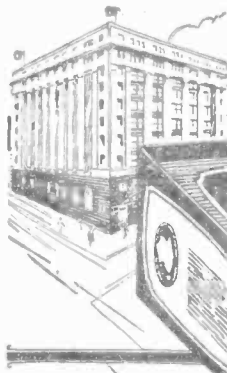
Announcer: Jack Broadbent. 6.10: All sporting results to hand. 6.15 to 7.15: General programme.

EVENING SESSION.

Announcer, Jack Broadbent. 7.30: Roy Johnson will speak on "Manual Training." 7.45: J. M. Counsel will speak on "European Affairs." 8.0: G.P.O. clock chimes the hour. 8.15: Transmission from the City Hall, Macquarie Street, Hobart, the Pavilion Dance Band. 10.50: God Save the King.

Successful Student

A NEW-COMER to 3AR is Miss Rosina Downs, who, judging from her performances in the Conservatorium productions, bids fair to be a coming star for comic opera. She has studied singing with Miss Jessie McMichael, dancing and gesture with Miss Jennie Brennan, and made very successful appearances with the Conservatorium Operatic Society in "Cosi-fan-Tutti" and "The Magic Flute," under the direction of Fritz Hart. The goal of her ambition is the comic opera stage, and there is every indication that she will score heavily in this direction. She has some tuneful and refreshing numbers in her repertoire, and her clear diction and pleasing interpretation, should make her a great favorite with listeners.



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Local Programmes, Sun., March 31

2FC

MORNING SESSION

Announcer: A. S. Cochrane.

- 10.0: "Big Ben" and announcements.
 10.2: News service.
 10.15: "The Captain to His Comrades."
 10.30: The Comrades' bookshelf.
 10.35: Studio music.
 11.0: From Paddington Methodist Church, Oxford Street, morning service, conducted by Rev. Thomas Jenkin.
 Hymn.
 Prayer, followed by Lord's Prayer.
 Solo.
 Psalm (congregation recites with minister alternate verses).
 Hymn.
 Scripture Lesson.
 Solo by a little girl.
 Children's portion.
 Notices, Anthem, Offering.
 Hymn.
 Discourse.
 Hymn.
 Benediction.
 12.15: Approx. close.

AFTERNOON SESSION

- Announcers: A. S. Cochrane and C. R. Hall.
 2.30: Programme announcements.
 2.32: Children's session, conducted by the "Hello Man."
 3.0: Studio music.
 3.15: "Life on the Early Goldfields," by W. F. Kay.
 3.30: From the band rotunda, Manly Beach, the Manly Municipal Band, conducted by James Pheloung.
 5.0: "Big Ben"; close.

EVENING SESSION

Announcer: C. R. Hall.

- 6.0: "Big Ben" and programme announcements.
 6.2: "Scraps from the Log of a Wayfarer."
 6.20: Kathleen Roe and Raymond Varenco, instrumentalists.
 6.32: Richard Parry, basso, (a) "I Will Not Grieve" (Schumann), (b) "The Asra" (Rubinstein).
 6.30: Kathleen Roe and Raymond Varenco, instrumentalists.
 6.54: Richard Parry, basso, (a) "Si La Riguer" from "La Juine" (Halsey), (b) "The Wanderer" (Schumann).
 7.0: Divine Service, from St. James' Church of England, conducted by Rev. Micklethorn. Organ voluntary, "Suite Ancienne" (Holloway).
 Chorale—Courante, Duo, Finale alla Fuga. Psalms: 113, 114, 118.
 Magnificat: Smart, in F.
 Anthem, "Hallelujah," for the Lord God Omnipotent Feligeth" (Handel).
 Hymns: 6.25: English Hymnal (A. and M. 135), 133, English Hymnal (A. and M. 134), 137, English Hymnal (A. and M. 127).
 Processional Hymns: 626 and 627, English Hymnal.
 8.30: From the band rotunda, Manly Beach, the Manly Municipal Band, conducted by James Pheloung.
 9.30: From the studio, Miriam Pope, soprano.

- 9.37: Cyril Monk, violinist.
 (a) "Folles d'Espagne" (Corelli, arr. David).
 (b) "Impromptu in C" (Schubert, arr. Monk).
 9.47: Miriam Pope, soprano.
 9.54: Cyril Monk, violinist.
 (a) "Dusk."
 (b) "The Dancing Doll" (Poldini).
 10.0: National Anthem. Close.

2UW

- 10.30 p.m.: Music. 1.0 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.

2BL

MORNING SESSION.

Announcer: A. C. C. Stevens.

- 11.0: G.P.O. chimes.
 From Burton Street Baptist—Morning service, conducted by Rev. H. G. Hercus.
 12.15: From the Studio—"Sun" news service.
 12.30: Studio music.
 2.0: G.P.O. chimes. Close down.
AFTERNOON SESSION.
 Announcer A. C. C. Stevens.
 3.0: G.P.O. chimes.
 From the City Temple, Campbell Street—The Vawter Evangelistic Party, with marimba, organ chimes and piano.
 5.0: G.P.O. chimes. Close.

EVENING SESSION.

Announcers: Jack Barnett, G. Vern Barnett; Announcers: Frank Grose, J. Knight Barnett.

- 6.0: G.P.O. chimes. A chat about the Cheer-up Society, by Uncle Frank.
 6.30: Children's session, conducted by Uncle Bas.
 7.0: Studio music.
 7.15: From Chalmers Street Presbyterian Church—The evening service, conducted by Rev. D. F. Brandt.
 8.30: From the King's Cross Theatre—Joseph Wayne at the Wurlitzer organ.
 8.50: From the Studio—Dulcie Starkey, soprano—
 (a) "The May Night" (Brahms).
 (b) "Lullaby" (Brahms).
 (c) "Beyond the Stars" (Day).
 8.57: From the King's Cross Theatre—Joseph Wayne at the Wurlitzer organ.
 9.17: From the Studio—Amy Ostinga, contralto.
 9.24: From the King's Cross Theatre—Joseph Wayne at the Wurlitzer organ.
 9.44: From the Studio—Dulcie Starkey, soprano—
 (a) "The Lotus Flower" (Schumann).
 (b) "Evening Song" (Schumann).
 9.51: Amy Ostinga, contralto.
 10.0: National Anthem. Close.

2GB

- 10.15 a.m.: Organ music from St. Alban's Church, Redfern. 10.30: Morning service from St. Alban's Church. 12 noon: Close down. 5.30: Children's session by Uncle George. 7.0: Lecture from Adyar Hall. 8.0: Music from studio. 8.15: Rosenkranz piano solos. 8.23: Miss Elsie Brown, soprano. 8.30: Miss Leila Waddell, violinist. 8.38: Mr. William Green, tenor. 8.45: Miss Mary Neal, contralto. 8.52: Rosenkranz piano solos. 9.0: Weather report. 9.3: Miss Elsie Brown, soprano. 9.9: Miss Leila Waddell, violinist. 9.17: Mr. William Green, tenor. 9.24: Miss Mary Neal, contralto. 9.31: Rosenkranz piano solos. 9.40: Close down.

Easter Day

THE Easter Day services, from Collins Street Baptist Church, will be broadcast by 3AR. The Easter sermon will be given by Rev. W. D. Jackson, B.A., and the choir, under the direction of Madame Ella Kingston, will render special anthems.

Back to Benalla

AN excellent concert has been arranged by the Benalla Musical Society, and will be broadcast by 3AR, on April 1. Among other good things may be mentioned, some fine choral numbers by the society, violin solos by Miss M. Rahilly, and vocal quartettes, "Doan Yer Cry My Honey" and "Massa's in de Cold, Cold Ground," by The Four Black Crows. The choir is under the direction of Mr. R. Senior; Miss M. Rahilly is the leader of the orchestra; and Mr. S. F. Machin, a very efficient secretary.

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Inter-State Programmes, Sun., Mar. 31

3LO

MORNING SESSION.

Announcer: Maurice Dudley. 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 Wesley Church, Melbourne, conducted by Rev. J. H. Cain. 12.15: Close down.

AFTERNOON SESSION.

Announcer: Maurice Dudley. 2.0: Sonora recital of the world's famous records. 3.0: Pleasant Sunday afternoon. Transmitted from Wesley Church, Central Mission, Lonsdale Street, Melbourne. Chairman: Rev. J. H. Cain. 4.50: Close down. 5.45: Snipping information. 5.47: Answers to letters and birthday greetings by "Billy Bunny." 6.25: "Brother Bill" will tell the children: "The Message of Easter." 6.45: Adult birthday greetings. 6.47: Bells from St. Paul's Cathedral, Melbourne.

NIGHT SESSION.

7.0: Evening service from St. Paul's Cathedral, Melbourne, Easter Day. 8.30: Malvern Tramways Band; conductor, T. Campbell. Overture, "Don Quixote" (Rouss). 9.40: James Hay (tenor): An Easter song recital. 8.55: Malvern Tramways Band. Selection, "Hymn to Music" (Buck). 9.5: Alfred Arkland (violin): First movement concerto, E Minor (Mendelssohn). 9.18: Mary Mack (contralto): "Joy to Thee, My God, This Night" (Gounod). "Our Prayer" (Goodhart). 9.25: Malvern Tramways Band: Incidental music: "Merchant of Venice" (Rohse). 9.35: Alfred Ackland (violin): "Pastorale" (Rheinberg). 9.40: Mary Mack (contralto): "Life's Epitome" (Kenneth Rae). "Omra Mai Pu" (Handel). 9.47: Malvern Tramways Band: "Marche Militaire" (Schubert). "Ave Maria" (Gounod). 9.53: News service; announcements. 10.0: God Save the King.

3AR

11.0: Morning service from Collins Street Baptist Church. Preacher: Rev. W. D. Jackson. B.A. Choir director: Mme. Ella Kingston. 12.15: Express train information: British official wireless news. 12.20: Close down.

AFTERNOON SESSION.

Announcer: Maurice Dudley. 3.0: A special recital of famous recordings. The world-famous recordings, including Clara Butt, Enrico Caruso, Chas. Minn, Julia Culp, Geraldine Farrar, Galli-Curci, Alma Gluck, Kirkby Lunn, Emmy Destinn. Interspersed with items by the world's violinists. 4.30: Close down.

EVENING SESSION.

5.0: "Brer Rabbit" Stories for the children. 5.30: Close down.

NIGHT SESSION.

Grand charity concert, Palais Pictures, St. Kilda. Musician: Renn Mullar. Accompanist: Vera Howe. 7.0: Matchless music: Felix Weingartner and the London Symphony Orchestra: "Choral Symphony No. 9" (Beethoven). In 16 parts. Choral work by Miriam Ulliet, Muriel Brunsell, Hubert Eisdell, Harold Williams, and chorus. 8.15: Transmission from the Palais Pictures, St. Kilda. Organised by Cr. Unsworth, Mayor of St. Kilda. 9.50: "Age" news service; announcements. God Save the King.

4QG

MORNING SESSION.

10.0: The complete morning service will be relayed from St. Stephen's Roman Catholic Cathedral; 12.15 9 a.m. Close down.

AFTERNOON SESSION.

3.15: The concert by the Brisbane Excelsior Band will be relayed from the Botanic Gardens. 4.30: Close down.

EARLY EVENING SESSION.

6.30: Greetings from little listeners, and replies to letters.

NIGHT SESSION.

7.30: The complete evening service will be relayed from St. Stephen's R.C. Cathedral. At the conclusion of the church service the concert by the Brisbane Municipal Concert Band will be relayed from Wickham Park. 9.30: Close down.

5CL

MORNING SESSION.

Announcer: J. L. Norris. 10.45: Cavillon of Bells from Adelaide Town Hall. 11.0: G.P.O. chimes. 11.1: Divine Service from Pirie Street Methodist Church. Minister, Rev. J. O. Jenkins. Organist: Harold Parsons. 12.15: British Official Wireless News. 12.20: Close down.

AFTERNOON SESSION.

3.0: G.P.O. chimes. 3.1: A pleasant Sunday afternoon service from Maughan Church. Minister: Rev. W. H. Cann. 4.0: G.P.O. chimes; close down.

EVENING SESSION

Announcer: J. L. Norris. 6.0: G.P.O. chimes. 6.1: S.A. Railway information. 6.2: Birthday Greetings, Correspondence, Songs and Stories by "Miss Wireless." 6.30: "The Bird Lady" and "The Sunshine Songsters" will entertain the children. 7.0: G.P.O. chimes. 7.1: A Religious Service from St. Bartholomew's Church of England. Preacher: Ven. Archdeacon Moyes.

NIGHT SESSION.

Announcer: J. L. Norris. 8.20: Studio Orchestra—Overture, "La Burlesque" (Suppe). 8.25: Fred. Williamson, Tenor—"Fly Away Nightingale" (Mendelssohn). "Boat Song" (Ware). 8.31: Vera Jurs, Violinist—"Preislied" from "Die Meistersinger" (Wagner). "Mazurka de Concerti" (Musin). 8.38: Edna Lawrence, Contralto—"Day Break" (Breville Smith). "The Star" (Rogers). 8.44: Studio Orchestra—"Rustle of Spring" (Hawkes). 8.50: Ruth Naylor, Soprano—"A Spirit Flower" (Tipton). "Where the Bee Sucks" (Arthur Sullivan). 8.56: A Piano-forte Recital by Irene Kemp, L.A.B. 9.11: Fred. Williamson, Tenor—"A Dream" "Crying Waters" (Rubinstein). 9.17: Vera Jurs, Violinist—"The Spinning Song" (Carl Bohm). "Hungarian Dance No. 5" (Brahms). 9.23: Edna Lawrence, Contralto—"Over the Steppe" (Grepchannoff). "Oh, that it were So" (Bridge). 9.29: Studio Orchestra—Oriental, "The Sun Dance" (Friedman). 9.34: Ruth Naylor, Soprano—"Two Songs" (Edward McDowell). "To one who passed Whistling" (Gibbes). 9.40: Mr. P. H. Nicholls in another of his interesting talks, "Resurgam." 9.52: "The Advertiser" general news service. 10.0: G.P.O. chimes; close down.

6WF

10.25: Tune in. 10.30: Special half-hour for the enthusiastic listener-in. 11.0: Morning service relayed from the Salvation Army Fortress. 12.15: Close down. 3.30: Tune in. 3.35: Musical programme from the studio. 4.30: Close down. 7.0: Tune in. 7.5: Bedtime stories for the kiddies. 7.30: Evening concert relayed from the Wesley Church, Perth. 8.45: Band concert relayed from Government Gardens, Perth. Perth City Band, conducted by Mr. Les Price. 10.5: Close down. 104.5-metre transmission: Simultaneous broadcast on 104.5 metres of programme given on 1250 metres, commencing at 6.45 p.m.

7ZL

MORNING SESSION.

11.0: Transmission from the Memorial Congregational Church. 12.30: Close down. 1/4 1/4

AFTERNOON SESSION.

3.30: An Easter programme. 4.30: Close down.

EARLY EVENING SESSION.

6.15: Chorus singing. 6.45: Bertha Southey Brammall.

EVENING SESSION.

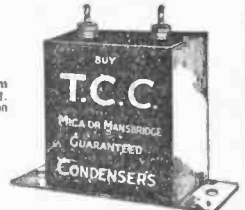
Announcer, J. M. Counsel. 7.0: Transmission from the Melville Street Methodist Church. 8.25: A programme of sacred and classical music arranged by J. M. Counsel. 9.45: News service; British official wireless news; ships within wireless range; mail notices; English affairs and news. 9.50: God Save the King.

From Out the Blue

FROM far Tanna (New Hebrides) comes a request for a church service! Mr. T. Macmillan, clerk of the Presbyterian Synod, writes to the New South Wales Broadcasting Company, asking if it would be possible to arrange to broadcast a Presbyterian service through 2BL on the evening of June 9. "On that evening we expect to be assembled at Anetlyum," says Mr. Macmillan, "and the members of the Synod will, I know, be very grateful to you if you can arrange a Presbyterian service for us on that date." Rev. W. J. Grant was immediately communicated with, and it is hoped nothing will happen to prevent the transmission from the well-known Randwick Church.



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Local Programmes, Monday, April 1

2FC

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: Studio music. 11.0: "Big Ben"; A.P.A. and Reuter's cable services. 11.5: Close.

MIDDAY AND AFTERNOON SESSIONS

Announcer: Laurence Halbert.
Ewart Chapple.

12.0: "Big Ben" and announcements. 12.2: Stock Exchange, first call. 12.3: Official weather forecast; rainfall. 12.5: Musical items. 12.10: Summary of news, "Sydney Morning Herald." 12.15: Rugby wireless news. 12.18: A reading. 12.30: Studio music. 1.0: From Randwick, description of the A.J.C. meeting in the running; during intervals, musical items from the studio by "The Gleeful Trio." 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. 6.30: Dalgety's market reports (wool, wheat, and stock). 6.40: Fruit and vegetable markets. 6.43: Stock Exchange information. 6.45: Weather and shipping news. 6.48: Rugby wireless news. 6.50: Late sporting

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news. 7.0: "Big Ben"; late news service. 7.10: The 2FC Dinner Quartette, conducted by Horace Keats, (a) "In a Hongkong Street" (Humphries), (b) "A Day in Venice" (Nevin), (c) "Gumnuts' Dance" (Railton), (d) "In the Twilight" (Felix), (e) "Up With the Lark" (Gee), (f) "In the Garden of My Heart" (Ball), (g) "My Inspiration" (Nicholls).

EVENING SESSION

Announcer and Accompanist: Ewart Chapple.

7.40: Popular music.
7.45: Programme announcements
7.48: Popular music.
8.0: "Big Ben." The Light Music Four.
8.20: From the studio, Colin Ferret's Vocal Quartet.

- (a) "Langly Fair" (Martin).
- (b) "Lovely Night" (Chwatal).
- (c) "Simple Simon" (Mary).

8.30: Donald M'Beath, a noted violinist, who has been engaged to tour with Evelyn Scotney.

(a) "Ave Maria" (Schubert-Wilhelm).

(b) "Rondino" (Beethoven)

8.37: Ethel Friend, contralto.

8.44: "Tales of a Traveller," told by Rev.

F. H. Raward.

9.0: The Spanish Serenaders, instrumentalists

9.10: Light Music Four.

9.20: From the studio, Freda Treweek, mezzo.

9.27: Donald M'Beath, violinist.

(a) "Meditation" (Massenet).

(b) "Spanish Serenade" (Chaminade-Kreisler)

9.34: Ethel Friend, contralto.

9.41: The Spanish Serenaders, instrumentalists.

9.51: Colin Ferret's Vocal Quartet.

(a) "Tom Bowling" (Dibdin).

(b) "Torpedo and the Whale" (Audran).

(c) "My Old Kentucky Home" (Branscombe).

10.0: Freda Treweek, mezzo.

10.7: Light Music Four.

10.27: From the studio, to-morrow's programme.

10.30: National Anthem; close.

2BL

MIDDAY SESSION.

Announcer: A. C. C. Stevens.

11.0: G.P.O. chimes. News. 11.10: Studio music. 11.30: News. 11.40: Studio music. 12.0: G.P.O. chimes; special ocean forecast and weather report. 12.3: Pianoforte reproduction. 12.30: "Sun" news service. 12.40: Studio music. 12.45: "Sun" news service. 12.50: From Randwick—Description of the A.J.C. meeting in the running. During intervals from the Studio musical items by "Yp Idlers." 5.40: Close.

EARLY EVENING SESSION.

Announcer: A. C. C. Stevens.

5.41: Children's session—Music and entertainment; letters and stories. 6.30: "Sun" news and late sporting. 6.40: 2BL Dinner Quartette—(a) "El Tango de Amor" (Fillipucci), (b) "Die Hydropaten (Gungl), (c) "The Fiddler of June" (Elliott), (d) "Dance Revels" (Phillips), (e) "Funeral March of a Marionette" (Gounod), (f) "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. 7.55: Programme and other announcements.

EVENING SESSION.

Announcer: Eric Bessemer.

Accompanist: G. Vern Barnett.

8.0: G.P.O. chimes. Topical chorus.

8.2: From the Hyde Park Band Rotunda—By courtesy of the Civic Commissioners, a concert programme, arranged by the New South Wales Broadcasting Company, Limited, in association with Standard Telephones



Donald M'Beath, violinist, in to-night's programme at 2FC.



Leslie V. Harvey, who plays the "Christie" organ at the Victory Theatre, Kogarah.

(Australasia), Limited, and the "Daily Telegraph Pictorial."

The New South Wales Tramway Band—Selection, "A Souvenir of the Opera" (Rimmer).

8.22: Foster and Needham.

(a) "Live For All You're Worth" (Darew-ski).

(b) "Providing" (Lawrence).

8.32: Luci and Tonic, Gipsy melodists.

8.42: Leo Stirling, entertainer.

8.54: The New South Wales Tramway Band

(a) Dance Humoresque, "The Merry Men" (Rimmer).

(b) Fantasia, "O'er Hill and Dale" (Duc).

9.11: From the Studio—Weather report; announcements and studio items.

9.21: From the Hyde Park Band Rotunda—

The New South Wales Tramway Band—

(a) March, "Viscount Nelson" (Zehle).

(b) Fox trot, "Hearts and Hands" (O'Leary).

(c) One step, "Broncho Bill" (Carolan).

9.36: R. A. Bartleman.

9.43: Foster and Needham.

9.53: Luci and Tonic, Gipsy melodists.

10.3: Charles Lawrence, entertainer.

10.15: From the Hotel Australia—Cec Morrison's Dance Band.

10.30: From the Studio—Late weather.

10.35: 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.

2GB

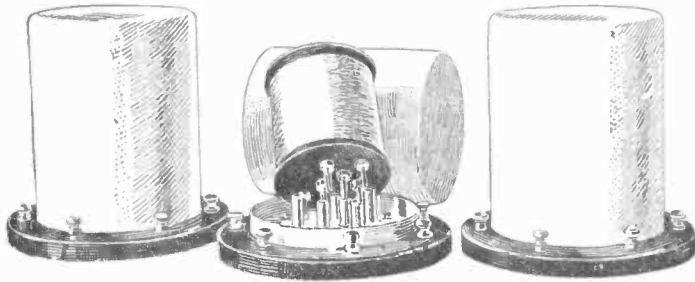
10.0 a.m.: Music. 10.10: Happiness talk by A. E. Bennett. 10.20: Music. 10.30: Women's session by Miss Helen J. Beegling. 11.30: Close down. 2.0 p.m.: Music. 2.5: Women's Radio Service, by Mrs. Dorothy Jordan. 2.50: Music. 3.15: Close down. 5.30: Children's session by Uncle George. 7.0: Music. 8.0: Miss Marjorie Allomes, contralto. 8.7: Miss Ada Brook, pianist. 8.15: Mr. Eric Cansdell, baritone. 8.22: Instrumental music. 8.30: A humorous interlude by Mr. Jack Win and Mr. Heath Burdock. 8.35: Miss Gladys Aubin, soprano. 8.45: Mr. Cedric Ashton, cellist. 8.55: Instrumental music. 9.0: Weather report. 9.3: Address. 9.15: Miss Marjorie Allomes, soprano. 9.25: A humorous interlude by Mr. Jack Win and Mr. Heath Burdock. 9.30: Mr. Cedric Ashton, cellist. 9.40: Mr. Eric Cansdell, baritone. 9.50: Instrumental music. 10.0: Miss Gladys Aubin, soprano. 10.10: Dance music. 10.30: Close down.

2UW

EVENING SESSION.

5.30: Children's hour, conducted by Uncle Jack. 6.30: Close down. 7.0: G.P.O. clock and chimes. Music. 7.45: Wireless talk; hints and advice by Mr. E. Homfray. 8.0: To-day's anniversary. 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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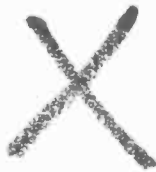
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Interstate Programmes, Monday, April 1

3LO

EARLY MORNING SESSION.

7.15 to 8.15: See Friday.

MORNING SESSION.

Announcer: Frank Hatherley. 11.45: Eric Welch will speak on to-day's races at Williamstown. 12.0: Melbourne Observatory time signal. 12.1: British official wireless news from Rugby; Reuters's and the Australian Press Association cables. "Argus" news service. 12.20: Community Singing, transmitted from the King's Theatre, Russell Street, Melbourne, conducted by G. J. Mackay; Agnes Fortune, accompanist; E. N. Hall, Radio Revellers. 1.45: Meteorological information; weather forecast for Victoria, Eastern and Central New South Wales, and Tasmania; ocean forecasts; river reports; rainfall. 1.50: Close down.

AFTERNOON SESSION.

Announcer: Frank Hatherley. 1.58: Description of Special Hurdle Race, 2 miles, at Williamstown races, by Eric Welch. 2.55: Description of semi-final Pennant cricket competition, M.C.C. by Rod McGregor. 2.33: Description of Juvenile Handicap, 6 furlongs, at Williamstown races. 2.40: Description of semi-final Pennant cricket competition, at M.C.C. 3.7: Description of Easter Cup, 1 1/2 miles, at Williamstown races. 3.13: Description of Sydney Cup, 2 miles, from Randwick racecourse, Sydney. 3.20: Description of semi-final Pennant cricket competition, at M.C.C. 3.45: Description of Steeplechase, 2 miles, Williamstown races. 3.50: Description of semi-final Pennant cricket competition, at M.C.C. 4.13: Description of Federal Handicap, 6 furlongs, Williamstown races. 4.20: Description of semi-final Pennant cricket competition, at M.C.C. 4.43: Description of Werribee Welter, 1 mile, Williamstown races. 4.49: The All-Weather forecast for benefit of listeners-in. Red Cliffs district. 4.50: Description of semi-final Pennant cricket competition, M.C.C. 5.0: "Herald" news session. During the afternoon results of the Mildura and Penshurst races will be broadcast as they come to hand; also results of the Stawell Athletic Carnival will be broadcast as they come to hand. 6.0: Stumps scores.

CHILDREN'S HOUR.

6.3: Answers to letters and birthday greetings by "Billy Bunny" 6.25: Musical Interlude. 6.30: "William Croys" will tell the children some more about "Singing Sing"—a New Guinea holiday. 6.50: "Kerry Kerry" entertainer: "I Want to Go With Daddy." "Mary Had a Little Lamb." 6.57: "Billy Bunny" has a little more to say.

EVENING SESSION.

Announcer: John Stuart. 7.30: Market reports by the Victorian Producers' Co-operative Company, Ltd. Poultry, grain, hay, straw, fat, dairy produce, potatoes, and onions. Market reports of fruit by the Victorian Fruiters Association; Retail prices, wholesale prices of fruit by the Wholesale Fruit Merchants Association; citrus fruits. 7.30: News session; announcements; 7.45: Adult birthday greetings. 7.46: Charles Nuttall: "A Sense of Humor."

NIGHT SESSION.

Announcer: John Stuart. Accompanist: Agnes Fortune. 8.0: Prahran Citizens' Band: "Indomitable" (Rimmer). "Cinderella" (Wayne). 8.10: Dawn Harding (mezzo-soprano): "The Fairy Lullaby" (Gaultieri). "This is the Island of Gardens" (Coleridge-Taylor). 8.17: Band: Selection, "Bocaccio" (Suppe). "You're a Real Sweetheart" (Donaldson). 8.27: Lysie Davey (soprano): "Bird Call." "Berney, Take Me Home Again." 8.34: The Imperial Russian Trio (Arved Norrit-Violin, Ivan Berzinsky-cello, Vassili Ester-piano): "Trio in E Flat Major." "Allegro." "Marche on moto (Schubert). 8.54: Betty Ross Clarke (entertainer). In "Colored Cameos." "The Duke of Windsor" (mezzo-soprano). "The Vain Sultan" (Brahms). "Among the Willows" (Brahms). 9.1: Prahran Citizens' Band: Valse, "Will o' the Wren" (Bourne); march, "Europe United" (Zehle). 9.13: James Ray (tenor): Ten minutes with Schubert. 9.28: Sylvia Lister (soprano): "The Prince of Wales's Own Entertainers." 9.43: Cantata: "Gaultheri." "I'll speak on 'The Conquest of Peru.'" 9.58: Prahran Citizens' Band: "Modern Melodies." 10.8: "Arenis" news service; meteorological information; British official wireless news from Rugby; announcements. 10.17: Lysie Davey (whistler): "Gardies." "Last Rose of Summer." 10.24: Radio Revellers: "Gay Town Artillery" (Carlton). "Promise Me" (Von Cooth). "The Rag Doll" (Ager). "All by Yourself in the Moonlight" (Walls). 10.35: Betty Ross Clarke (entertainer): "The Out of Doors." 10.42: The Radio Revellers: "Ready for the River" (Mason). "My Stormy Weather Pal" (Plantadosi). "Downing" (Silver). "Do You" (Plantadosi). "Columbo" (Niel). "Under the Burma Moon" (Davis). "Sunny Boy" (Brown). "Gally of My Dreams" (Kashnell). "You're a Real Sweetheart" (Friend). "Tokio" (Conder). Selected. 12.0: God Save the King.

3AR

Announcer: Maurice Dudley. 10.0: G.P.O. clock says "Ten." 10.1: "Age" shipping reports; ocean forecast. 10.6: Mail notices; express train information. 10.11: "Age" news service, exclusive to 3AR; announcements. 10.40: Gramophone records. 10.59: Weather forecast. 11.0: The Imperial Russian Trio (Arved Norrit-Violin, Ivan Berzinsky-cello, and Vassili Ester piano)—Ivan Berzinsky, cello; "Ada-

gio" (Haydn). Vassili Ester, piano: "Gavotte" (Gluck-Brahms). Arved Norrit, violin: "Prelude" (Bach). Trio: "Sarabande" (Bach), "Bourre" (Bach). 11.30: Transmission from the M.C.C. Description of final cricket match. 1.15: Close down.

AFTERNOON SESSION.

Announcer: Maurice Dudley. Accompanist: Reg Brown. 2.15: The Station Orchestra: A half-hour of military music. Overture. "Private Ortheris" (Ansell). "Comrade in Arms" (Greenwald). 2.30: Victor Harding (bass baritone): "The Emperor's Charlotter" (Mornement). "One of the Guards" (Fishert). 2.37: The Station Orchestra: "Selected." 2.47: Betty Ross Clarke (entertainer) in Colored Cameos. Negro life as seen by Paul Lawrence Dunbar. "Howdy, Honey, Howdy!" "Little Brown Baby." "Angeline." "Along Told's Night." 2.54: The Station Orchestra: Selection, "Primrose" (Gershwin). 3.4: Rosina Down (soprano): "A Persian Song of Spring" (McBurney). "Mother o' Mine" (Tours). 3.11: Syd Roy's Lyrics: "The Prince of Wales's Own Entertainers." 3.35: Victor Harding (bass baritone): "The Trumpeter" (Dix). "A Bandit's Life" (Harper). 3.42: The Station Orchestra: Overture. "The Soldier's Return." 3.55: Betty Ross Clarke (entertainer): "Selections from Lord Byron." Frederick Friel, piano solo with string accompaniment: "Ralf's Caprice." 4.0: The Station Orchestra: "Incidental Music to Faust" (C. Taylor). 4.25: Announcements. 4.30: Rosina Down (soprano): "If There Were Dreams to Sell" (Ireland). "Open Thy Blue Eyes" (Ashdown). 4.37: The Station Orchestra: Suite "On Jhelum's River." A Kashmiri love story story by Frederick John Fraser. Set to music by Amy Woodfoote Finden. 5.0: Close down.

EVENING SESSION.

Announcer: Frank Hatherley. 6.0: Gramophone recital. 7.10: News service; announcements; results of final match of cricket competition. 7.20: Gramophone recital continued.

NIGHT SESSION.

Announcer: Reg Miller. 8.0: C. H. Taylor: "School Life and School Sport." 8.10: Late sporting results. 8.15: Transmission from Shiraz Hall, Benalla. Popular concert by the Benalla Musical Society. In connection with the "Back to Benalla" Week. Conductor: Mrs. E. Senior, leader of orchestra, Miss M. Raitilly, Orchestra. Selection: "Morning, Noon, and Night" (Cappet). Musical Society: Chorus A: "Hunting Chorus" from "Don Giovanni." B: "Angels That Around Us Hover" from "Mozartiana" (Wallace). D: "Les Barbares" "O Pure and Tender Star of Eve" (Wagner). "Gris T. Gallin." K. Senior (duet): "Hunting Tower" (Old Scotch). Miss M. Raitilly (violin): "Selected." Marianne Male Choir: Chorus: "Moon Man" (Mancy). "The Sultan's Musketeers." Miss E. Beale (soprano): "The Nightingale and the Rose" (Thomson). Orchestra: Selection: "Nuita Grand" (Kronberg). The Four Black Crows male quartettes: A—"Massa's in the Cold Ground" (Poster). B—"Don't You Cry My Honey" (Curwen). Mrs. T. Smith (soprano): "Parsifal" (Penna). Musical Society: Chorus: "Bright Dawns Our Wedding Day" (Gilbert). Messrs. C. Penrose and K. Fraser: Brass duet: "Nocturne" (Denzel).

NEWS SERVICE.

10.30: From the studio. "Age" news service; announcements; results of final match of cricket competition. God Save the King.

4QG

EARLY MORNING SESSION.

Announcer: J. Tyson. 7.43: Time signals. 7.45: News service. 8.0: Some electric records. 8.15: News service. 8.30: Close down.

AFTERNOON SESSION.

3.0: A programme of electrically-reproduced records. 3.30: Mail train running times. 4.15: This afternoon's news. 4.30: Close down.

EARLY EVENING SESSION.

Announcers: A. V. James and H. Humphreys. Dinner Music. 6.0: Mail train running times; mail information; shipping news. 6.5: Wurltzer organ. 6.25: Commercial announcements. 6.30: Bedtime stories conducted by "The Sandman." 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: Lecture: "Pork Products on the Breakfast Menu" by Mr. L. A. Downie (Instructor in Pig Raising).

NIGHT SESSION.

8.0 40th Queensland Elstiddod—relay from Rockhampton. 10.0: The "Daily Mail" news; the "Courier" news; weather news. Close down.

5CL

MIDDAY SESSION.

Announcer: C. J. O'Connor. 12.0: G.P.O. chimes. 12.1: Selections and probable starters for to-day's races at Oakbank, supplied by "Silvius." 12.30: General news service. 12.35: British Official Wireless news. 12.40: Musical interlude. 12.57: Meteorological information. 1.0: G.P.O. chimes and close down.

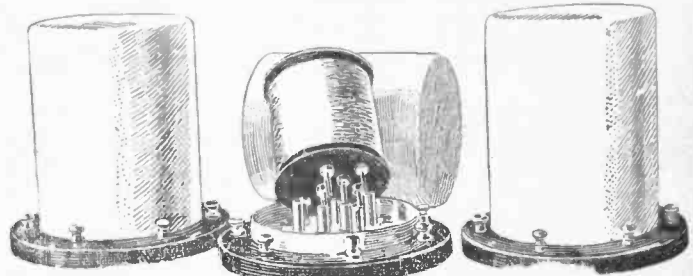
AFTERNOON SESSION.

Announcer: C. J. O'Connor. 2.0: G.P.O. chimes. 2.1: Resume of race results at Oakbank, Williamstown, and Laura. 2.3: Musical interlude. 2.15: Oakbank race result. 2.16: Musical interlude. 2.44: Oakbank race result and Williamstown race result. Easter Cup. 2.46: Musical interlude. 3.0: G.P.O. chimes and resume of previous race results. 3.3: Musical interlude. 3.20: Oakbank and Williamstown race results. 3.22: Sonora. 3.40: Oakbank race result. 3.41: Musical interlude. 3.50: Williamstown race result. Federal Handicap. 3.51: Musical interlude. 4.0: G.P.O. chimes and resume of previous race results. 4.2: Musical interlude. 4.20: Oakbank and Williamstown race result. Werribee Welter. 4.22: Musical interlude. 4.40: Oakbank race result. 4.41: Musical interlude. 5.0: G.P.O. chimes and racing resume. 5.5: Close down.

EVENING SESSION.

Announcer: J. L. Norris. 6.0: G.P.O. chimes. 6.1: Racing resume. 6.4: Birthday Greetings, Correspondence. Songs and Stories by "Aunty Peggy." 6.25: Louise Hakendorff's Children's Orchestra of 25 performers. All these children are 12 years of age and under. Children's Orchestra—(a) March, "True Blue" (Read). (b) Waltz, "Monte Cristo" (Read). (c) "Cradle Song" (Schubert). (d) "Merry Imps" (Read). Piano solo, "Briese D'ele" (Sanderson). Barbara Walker. Violin solo, "Hilarity" (Quarrier). Phyllis Short, Mandolin solo, "Serenate Braga" (Braga). Irene Laphorne, Violin duet, "Serenade d'Amour" (Von Blon). Harry Wales and Roy Cropler. Piano solo, "Tarentelle" (Harris). Phyllis Guyer. Violin solo, "Concerto" (Seltz). Lynnall Hendrickson. 8.45: Musical interlude. 8.55: S. C. Ward and Co.'s Stock Exchange information. 7.0: G.P.O. chimes. 7.1: General market reports. 7.10: Musical interlude. 7.20: 5CL's sporting ser-

CORRECTION



Due to a typographical error in THE LIVERPOOL ELECTRIC CARLE CO.'S advertisement which appeared in "Wireless Weekly," issue March 15th, THE "LEWCOX" 1929 SOLODYNE KIT, as illustrated, was priced at £40, instead of £4. This Wonder Circuit was developed in the "Lewcox" Laboratories, and was specified for use in the original Elstree Set. Full particulars will be found in the above Company's advertisement elsewhere in this issue.

vice by "Sylvius." including Oakbank, Laura, and Williamstown race results. 7.30: The 5CL Twinkler Boys' Club entertainment by "The Twinkler" (Mr. F. J. Mills).

NIGHT SESSION.

Announcer: J. L. Norris. 8.0: G.P.O. chimes. 8.1: Studio Orchestra—Overture, "Coriolanus" (Beethoven), "Supplication Passione" (Elliott). 8.10: Richard Watson, Tenor—"I'll Sing Thee Songs of Araby" (Clay), "A Sprig of Boronia" (Hull). 8.16: Pat McLean Entertainer—in two child impersonations, "Boy's Essay on the Cow" and "Seein' flings at night." 8.22: Studio Orchestra—"Malaguena" (Moszkowski), "Indian Lullaby" (Herbert). 8.30: Beryl Counter, Mezzo-Soprano—"Abstinence" (Fontenailles), "A Tol" (Lebrun). 8.36: Syd. Hollister, Comedian—More Hollisterisms. 8.41: Eric Wickens, Bass—"Bells of the Sea" (Solman), "Glorious Devon" (German). 8.47: Studio Orchestra—Selection, "Golden Moth" (Novello). 8.54: Windarra Male Quartet—"The Viking's Song" (Colledge-Tyler), "Pussy's in the Well" (Rutemeyer). 9.0: G.P.O. chimes. 9.1: Meteorological information, including Semaphore tides. 9.2: Overseas grain report. 9.3: Studio Orchestra—Suite, "Sunshine and Shadow Sketches" (Tours). 9.10: A Comedy, entitled "Granny." Characters: Oscar Morris, a young artist, Lloyd Taylor, Col. Hammersley, his guardian, Jack Burgess; Maud Hammersley, the Colonel's daughter, Mirlam Ralph; Benjamin Rattenshaw, a middle-aged countryman, Tom O'Dea. Scene: The parlor of Rattenshaw's cottage on the Moors. Ensembles, scenes, paint-boxes etc., being lying about. Rattenshaw is discovered idling up. 9.27: Studio Orchestra—Waltz, "A Kiss Before the Dawn" (Perkins). 9.32: Richard Watson, tenor—"If I Might Come to You" (Squire); "Mother o' Mine" (Tours). 9.38: Pat McLean, entertainer, in two child impersonations—"I've Got the Mumps," "Touchin' Fines." 9.43: Windarra Male Quartette—"Jim" (Knoll), "Please won't You be my Him" (Dan Dore). 9.49: Studio Orchestra—"In a Persian Market" (Ketyby). 9.54: Beryl Counter, mezzo-soprano—"Coming Home" (Wilby), "In Liac Times" (d'Hardelot). 10.0: Syd. Hollister, comedian, will entertain you. 10.4: Eric Wickens, bass—"Shipmates o' Mine" (Sanderson), "The Old Black Mare" (Squire). 10.10: Studio Orchestra—"Hungarian Dance" (Brahms). 10.15: General news service. Meteorological information. 10.30: Modern dance numbers by the Radio Revellers. 11.0: God Save the King. Close down.

6WF

12.0: Tune in. 12.5: Musical programme from the studio. 12.50: News. 1.0: Time signal. 1.1: Weather bulletin supplied by the Meteorological Bureau of West Australia. 1.2: Close down. 3.30: Tune in. 3.35: Musical programme from the studio. 4.30: Close down. 5.45: Tune in. 6.48: Bed-time stories for the kiddies. 7.5: Trios and solos by the Perth Piano Trio, comprising Mr. A. Lynch (violin), Mr. R. Brearley (cello), Mr. H. Shirley (piano). 7.30: Commercial and general information. 7.45: Talk by Lieut. Colonel Le Souer. 8.0: Time signal. 8.1: Weather bulletin. 8.3: Relay of dance music from the Y.A.L. ballroom: Ron Moyle's orchestra. Vocal items from the studio. 9.0: Late news announcements, ships with in range announcements, late weather bulletin. 9.15: Programme continued from the Y.A.L. ballroom and the studio. 10.30: Close down. 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: General programme. 2.0: Description of Seaford Handicap, 2 miles, run at Williamstown racecourse, Victoria. 2.10: Description of Sydney Cup, 3 miles, Randwick, Sydney. 2.35: Description of Juvenile Handicap, 3 furlongs, Williamstown, Victoria. 2.40: Close down.

AFTERNOON SESSION.
3.0: G.P.O. chimes. 3.4: Weather information. 3.10: Description of V.R.C. Easter Cup, 1 1/4 miles, Williamstown, Victoria. 3.45: Description of Steeplechase, 2 miles, Williamstown, Victoria. 4.15: Description of Federal Handicap, 6 furlongs, Williamstown, Victoria. 4.45: Running description of Werribee Velter, 1 mile, Williamstown, Victoria. 4.50: All sporting results to hand. 5.0: Close down. During the afternoon progress results will be given on the Deloraine Cup and Brown's River Show.

EARLY EVENING SESSION.
6.0: All sporting results to hand. 6.30: Meg Viney will recite. 7.0: Answers to letters and birthday greetings by "Uncle David." 7.5: W. E. Masters will talk on "Animal Life on Our Beaches." 7.15: News service, Tasmanian district weather report, railway auction produce sales held at railway, Hobart Stock Exchange quotations.

EVENING SESSION.
Announcer: Jack Broadbent. 7.30: Geo. Collis, Tasmania's champion wrestler, will speak on "Physical Culture." 7.45: Under the auspices of the Tasmanian University, J. Scott-Power will speak on "Music and the Boy." 8.0: G.P.O. clock chimes the hour. 8.8: Transmission from the Memorial Congregational Church, Hobart: A concert programme. 9.50: From the studio. News service. British official wireless G.P.O. clock chimes the hour. 10.1: Close down.

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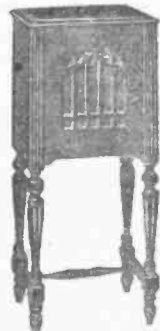
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FARMER'S

PITT, MARKET AND GEORGE STREETS

Local Programmes, Tuesday, April 2

2FC

EARLY MORNING SESSION

Announcer: A. S. Cochrane.

7.0: "Big Ben" and announcements. 7.2: Official weather forecast; rainfall; river report; 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 down.

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.

12.0: "Big Ben" and announcements. 12.2: Stock Exchange, first call. 12.3: Official weather forecast; rainfall. 12.5: Musical items. 12.10: Summary of news, "Sydney Morning Herald." 12.15: Rugby wireless news. 12.18: 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: Studio music. 2.0: "Big Ben", close down.

AFTERNOON SESSION

Announcer: Laurence Halbert.

Accompanist: Ewart Chapple.

2.30: Programme announcements. 2.32: A reading; a short musical recital. 3.0: From the Conservatorium of Music, the second annual conference of the Music Teachers of New South Wales, "The First Violin Session," lecturer, Lionel Lawson. 3.45: From the studio, a reading. 4.0: Iris Kidd, soprano. (a) "Big Lady Moon" (Taylor), (b) "Sometimes in Summer" (Teschemacher). 4.7: Studio music. 4.20: Iris Kidd, soprano, (a) "I Hid My Love" (d'Hardelot), (b) "Here's to Love" (Rubens). 4.27: Popular items. 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," 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. 6.45: Weather and shipping news. 6.48: Rugby wireless news. 6.50: Late sporting news. 7.0: "Big Ben", late news service. 7.10: The 2FC Dinner Quartette, conducted by Horace Keats. (a) "The elephants' Parade" (de Basque), (b) "Artists' Life" (Strauss), (c) "Cairo" (Fletcher), (d) "Badinage" (Herbert), (e) "A la Bien Aimee" (Schutt), (f) "Country Dance" (Beethoven).

EVENING SESSION

Announcer: Laurence Halbert.

Accompanist: Ewart Chapple.

7.40: Popular music. 7.45: Programme announcements. 7.48: Studio items. 8.0: "Big Ben." From Pitt Street Congregational Church, organ and pianoforte recital, arranged by Lillian Frost and Esther Kahn. 8.15: From the studio, Miriam Pipe, soprano. (a) "Love, the Jester" (Phillips). (b) "Fair Laundry" (Phillips). 8.22: Australian bush sketches, by Will Carter. 8.29: Gladstone Bell, cellist. (a) "Berceuse Slave" (Meruda). (b) "Serenade" (Godard). 8.36: Theodore Atkinson, winner of the baritone section of the Radio Eisteddfod, held by the New South Wales Broadcasting Company, Limited.

8.43: From Pitt Street Congregational Church, organ and pianoforte recital, arranged by Lillian Frost and Esther Kahn. 8.58: From the studio, weather report. 9.0: Miriam Pope, soprano. (a) "A Summer Night" (Thomas). (b) "A Birthday" (Cowen). 9.7: Cameos of the bush, by Will Carter. 9.14: Gladstone Bell, cellist. "Rondo" (Dvorak). 9.21: Theodore Atkinson, winner in the Radio Eisteddfod. 9.28: From Pitt Street Congregational Church, organ and pianoforte recital, arranged by Lillian Forst and Esther Kahn. 9.45: From the studio, popular items, by Nea Hallett. 9.52: From the Hotel Australia, Cec. Morrison's Dance Band. 10.7: Nea Hallett, in popular items. 10.14: From the Hotel Australia, Cec. Morrison's Dance Band. 10.28: From the studio, late weather report. 10.30: 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 a.m.: G.P.O. chimes; metropolitan weather report. 8.1: State weather report. 8.2: Studio music. 8.15: G.P.O. chimes; news from the "Daily Telegraph Pictorial." 8.30: G.P.O. chimes; news service continued. 8.40: Information; mails; shipping, arrivals, departures, and sailings. 8.45: Studio music. 9.15: Half an hour with silent friends. 9.45: Studio music. 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; Sister Parry will speak on the work of the "St. John Ambulance Association." 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. 2.0: G.P.O. chimes. Close down.

AFTERNOON SESSION

Announcer: A. C. C. Stevens.

Accompanist: Kathleen Roe.

3.45: G.P.O. chimes; programme announcements and popular music. 3.50: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 4.0: From the studio, Dorothy Charleston, contralto. (a) "The Lover's Curse" (Hughes), (b) "At the Mid Hour of Night" (Cowen). 4.7: Talk by Captain Fred Aarons, "William of Wykeham." 4.22: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 4.30: From the studio, Christopher Faulkner, cornetist. (a) "Give My Back My Heart Again" (Hartmann). (b) "Buy a Broom" (Round). 4.37: "Sun" news. 4.46: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 4.50: From the studio, Dorothy Charleston, contralto. (a) "Amber and Amethyst" (Carse), (b) "Rat Song" (Ware). 4.57: "Sun" news. 5.0: Christopher Faulkner, cornetist. (a) "The Meekie Bird" (Cox). (b) "Thou Liv'st in My Heart" (Durham). 5.7: "Sun" news. 5.12: Popular music. 5.22: Producers' Distributing Society's noultr report. 5.27: Studio music. 5.37: Features of the evening's programme.

EARLY EVENING SESSION

Announcer: Basil Kirke.

5.40: Children's session: music and entertainment; letters and stories. 6.15: Mr. Norman talks to the "Biceer Boys." 6.30: "Sun" news and late sporting. 6.40: 2BL Dinner Quartette, (a) "In Bagdad" (Leigh), (b) "I Can't Do Without You" (Berlin), (c) "Chin Chow" (Norton). (d) "Minuet" (Pade-

rewski), (e) "I Just Roll Along" (de Rose), (f) "Hymn to the Sun" (Rimsky-Korsakov). 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"). 7.25: Mr. Pim and Miss Pam in advertising talks and nonsense. 7.55: Programme and other announcements.

EVENING SESSION

Announcer: Basil Kirke.

Accompanist: G. Vern Barnett.

8.0: G.P.O. chimes. From the Conservatorium of Music—Chamber Music Recital, in connection with the 2nd Annual Conference of Music Teachers—

- "String Quartet in B Flat" (Mozart). "Allegro Vivace Assai." "Menuetto and Trio." "Adagio." "Allegro Assai." British Music Society's String Quartet—Pianoforte solos—Beatrice Tange—(a) "Contrabandists" (Schumann-Tausig). (b) "Rhapsody in G Minor, Op. 79" (Brahms). Excerpts from "Turandot" (Puccini)—(a) "Tu che di sei cinta." (b) "Signore Alcolta." Molly de Gunst. Sonata for Violin and Pianoforte, D Minor, Op. 108 (Brahms).

Minor, Op. 108 (Brahms).

- (a) "Allegro." (b) "Adagio." (c) "Un poco presto e con sentimento." (d) "Presto Agitato." Florent Hoogstoel and Wilfred Arlom. Songs—(a) "La Cloche" (St. Saens). (b) "Yearning" (Tschaiakowsky). (c) "Serenade" (Strauss). Molly de Gunst. Quintet for Pianoforte and Strings—"E Flat Major, Opus 44" (Schumann). (a) "Allegro Brillante." (b) "In modo d'un marcia." (c) "Scherzo molto vivace." (d) "Allegro ma non troppo." Beatrice Tange and the British Music Society's Quartet.

10.27: From the Studio—To-morrow's programme.

10.30: National Anthem. Close.

2GB

10.0 a.m.: Music. 10.10: Happiness talk by A. E. Bennett. 10.20: Music. 10.30: Women's session by Miss Helen J. Beegling. 11.30: Close down. 2.0 p.m.: Music. 2.5: Women's Radio Service, by Mrs. Dorothy Jordan. 2.50: Music. 3.15: Close down. 5.30: Children's session by Uncle George. 7.0: Music. 7.30: Feature story. 7.40: Talk from the Radio Service Department by Mr. Stan Crittenden. 8.0: Mr. Edward Barry, baritone. 8.7: Mr. Gregory Valentine, violinist. 8.16: Miss Elsie Peerless, soprano. 8.22: Instrumental music. 8.30: Humorous interlude by Mr. Jack Win and Mr. Heath Burdock. 8.35: Mr. Robert Scott, tenor. 8.45: Miss Mildred Hill, pianiste. 8.55: A humorous interlude. 9.0: Weather report. 9.3: Address. 9.15: Mr. Edward Barry, baritone. 9.25: Mr. Gregory Valentine, violinist. 9.35: Humorous interlude by Mr. Jack Win and Mr. Heath Burdock. 9.40: Miss Elsie Peerless, soprano. 9.50: Miss Mildred Hill, pianiste. 10.0: Mr. Robert Scott, tenor. 10.10: Dance music. 10.30: Close down.

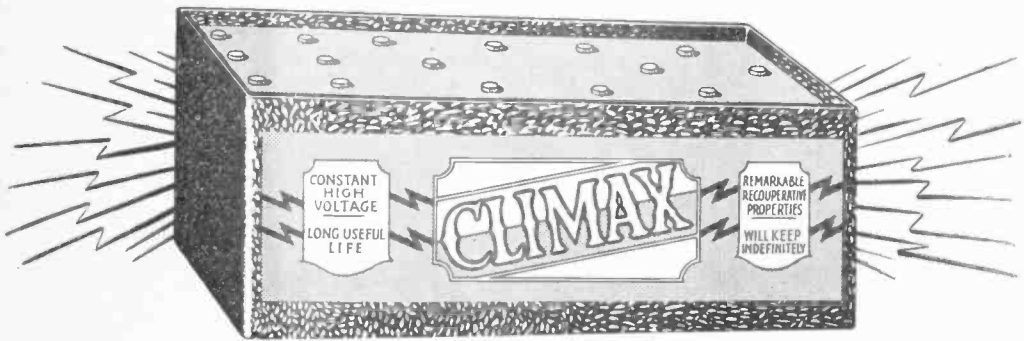
2UW

MIDDAY SESSION

12.30: Music. 1.0: G.P.O. clock and chimes. Music. 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. Music. 8.0: To-day's anniversary. 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, Tuesday, April 2

3LO

EARLY MORNING SESSION

7.15 to 8.1: See Saturday.

MORNING SESSION

11.30: Description of final pennant cricket competition at M.C.G. by Rod McGregor. 12.10: British Official Wireless news from Rugby. Reuter's and the Australian Press Association cables. "Argus" news service. 12.30: Description of final pennant cricket competition at M.C.G. by Rod McGregor. 1.15: Meteorological information. Weather forecast for Victoria, New South Wales, South Australia, and Tasmania. Ocean forecast. River reports. Rainfall. 1.25: Syd. Roy's Lyrics—"The Prince of Wales" Own Entertainers. 1.50: Close down.

AFTERNOON SESSION

2.0: Description of final pennant cricket competition at M.C.G. by Rod McGregor. The Strad Trio—Artists: Cecil Parkes, violin; Frank Johnstone, cello; Myra Montague, piano. 4.0: The Strad Trio—"Adagio" (Schubert). "Melody" (Gluck). "Bourree" (Bach). "Andante Cantabile" (Tartini). "Menuet" (Mozart). 4.15: Further description of the final pennant cricket competition by Rod McGregor. 4.44: Special weather report for the benefit of listeners in the Redcliffs district. 4.45: "Herald" news service. During the afternoon results of the Stawell races will be broadcast as they come to hand. 4.55: Further description of final pennant cricket competition at M.C.G. by Rod McGregor. 6.0: Stumps scores. 6.3: Answers to letters and birthday greetings by Bobby Bluegun. 6.25: Musical interlude. 6.30: "Little Miss Kookburra" will tell the tiny Kookburrettes a fairy tale, and the bigger ones will tell an exciting Scout story, "The Cruise of the Lazy Jane." The "Wallaby Patrol" like camp and have plenty of adventure—especially "Lazy Jane" and "Patty." Just you listen! 8.50: "Bobby Bluegun" hasn't finished.

EVENING SESSION

7.15: Market reports. 7.30: News session. Stumps scores. final pennant cricket competition. 7.43: Birthday greetings. 7.45: Out of the Past. 7.46: Under the auspices of the University Extension Board Associate-Professor A. Lodeyckx, M.A., LL.D., lecturer in German at the University, will speak on "World Languages." 8.0: A Maker of History.

NIGHT SESSION

Announcer: John Stuart. Accompanist: Agnes Fortune. 8.0: Ern. Hall's Radio Revellers—"Toy Town Artillery" (Carlton). "Promise Me" (Vau-Bach). "Ready for the River" (Morel). 8.9: J. Harcourt Bailey, entertainer—"A Burlesque Lecture on Australia" (Harcourt-Bailey). 8.16: The Radio Revellers—"By Stormy Weather" (Piatados). "Dawning" (Silver). "Do You" (Piatados). 8.25: J. Harcourt Bailey, entertainer—"A Little American Humor. 8.28: The Radio Revellers—"Colombo" (Nichols). "Under the Burma Moon" (Davis). "Sonny Boy" (Brown). 8.37: J. Harcourt Bailey, entertainer—"A Racing Story. 8.40: Ern. Hall's Radio Revellers—"Glad Rag Doll" (Ager). "All by Yourself in the Moonlight" (Wallis). Old time dance programme. "He played an ancient ditty, long since mute" (Keats). 8.45: Hoffman's Dance Band—"Waltz, "Choristers." 8.53: Graham Burgin, baritone—"In Old Madrid" (Terra). 8.5: Hoffman's Dance Band—"Barn Dance" (Horsey). 9.3: Lysie Davey, natural whistler—Trills. "Believe me, if all those Endering Young Charms." 9.6: Hoffman's Dance Band—Quadrille. "Our Miss Gibbs." 9.24: Old time Choruses—Graham Burgin and the Boys of the Village, introduced by John Stuart. Mrs. Campbell at the piano. 9.30: Hoffman's Dance Band—"Valetta." "Golden Shadows." 9.37: Violet Jackson, soprano—"With Courty Grace" (gavotte from "Old World Dance Songs." 9.44: Hoffman's Dance Band—"Schottische." "Flowers." 9.48: Announcements and greetings to all "Old Times." 8.53: Hoffman's Dance Band—Lancers. "Night of Opera." 10.10: Lysie Davey, natural whistler—"Morning Song." "Ye Banks and Braes." 10.14: Hoffman's Dance Band—"Waltz. "Druid's Prayer." 10.21: Old Time Choruses—Graham Burgin and the Boys of the Village. 10.27: "Argus" news service. Meteorological information. British Official Wireless news from Rugby. 10.38: Hoffman's Dance Band—Alberts. Modern Melodies. 10.55: Old Time Choruses—Graham Burgin and the Boys of the Village. 11.1: Violet Jackson, soprano—"Powder and Perfume" Minuet from "Old World Dance Songs" (Phillips). 11.5: Hoffman's Dance Band—"Schiedn Schottische." 11.11: Graham Burgin, baritone—"The Bandleiro" (Stuart). 11.15: Hoffman's Dance Band—"Royal Irish." 11.30: God Save the King.

3AR

Announcer: Maurice Dudley. 10.0 to 10.59: See Monday.

MORNING MUSICAL SESSION.

Announcer: Maurice Dudley. Accompanist: Agnes Fortune. 11.0: The Station Orchestra—overture, "Comedy of Errors" (Sarony). 11.10: Rita Hilton, soubrette, "Mummy's Mammy." "Whistle Away Your Blues" (Myers). 11.17: The Station Orchestra, selection, "Iolanthe" (Tchaikovsky). 11.27: Gwen Hart, soprano—"The Old Foggod Path" (Arundell). "The Lavender Room" (Arundell). 11.34: The Station Orchestra—selection, "Lohengrin" (Wagner). 11.44: "Ladies, Beware" (Fragon). "I Fell Head Over Heels in Love" (Thayer). 11.51: The Station Orchestra—selection, "The Street Singer" (Simson). 12.1: Gwen Hart, soprano, "See Sarah Rose" (Ardity). "Thou'rt Like a Lovely

Flower" (Schumann). 12.8: Announcements. 12.12: The Station Orchestra—"Fantasia" (Brahm). "Longing" (Wood). 12.30: British official wireless news, announcements. 12.30: Gertrude Hutton, contralto—"Queen Mary's Song" (Elgar). "The Old Stone House" (Brahe). 12.37: Kerry Kelly (by permission Messrs. J. C. Williamson, Ltd.)—"The Enchanted Shirt." "Nobody Knows What I Know." 12.44: The Station Orchestra—"Just Her Way." "Salome Dance" (Tobani). 12.50: James Hay, tenor, selections from his repertoire. 12.57: Agnes Fortune, piano, "Musical Box" (Rebikov). 1.2: The Station Orchestra, selection, "Musical Comedy." 1.12: James Hay, tenor, selections from his repertoire. 1.15: Bertha Jorgensen, violin, "Waltz in A" (Brahms). "Poem" (Fibrick). 1.24: Gertrude Hutton, Contralto—"Ici-Bas" (D'Hardelot). "Yonder" (Olliver). 1.31: The Station Orchestra, selection, "William Tell" (Rossini). 1.45: Close down.

AFTERNOON SESSION

Announcer: Maurice Dudley. Accompanist: Reg. Brown. 2.15: The Radio Revellers—"Oh, is She Mad at Me?" (Friend). "Mississippi Mud" (Harris). "There's a Rainbow Road My Shoulder" (Joison). 2.25: Stanley Allen, tenor—"I Hear a Thrush at Eye" (Cadman). "Youth" (Allitsen). 2.32: The Radio Revellers—"That Lady of Love" (Donaldson). "Glad Rag Doll" (Ager). "Constantinople" (Carlton). 2.42: Lysie Davey, whistler, selected. 2.48: The Radio Revellers—"Maybe I'm Wrong" (Harris). "Hum and Strum" (Meyers). "All by Yourself in the Moonlight" (Wallis). 2.58: Lysie Davey, piano. "Egyptian Love Song" (Go to Sea) (Trotter). 3.5: The Radio Revellers—"Lady of Love" (Nausbaum). "Mexican Serenade" (Terese). "Memories" (Lewjs). 3.15: Betty Ross Clarke, selected. 3.22: The Imperial Russian Trio (Arved Norrit, violin; Ivan Berzinsky, cello; and Vassil Hister, piano. Trios. "Serenade" (Schubert). "Cantabile" (Gull). "Song of the Mountains" (Grieg). "Once Upon a Time" (Lind). "Dance Characteristique" (Rebikov). 3.42: Stanley J. Allen, tenor—"Mother of Mine" (Tours). "Mopsa" (Stanford). 3.49: The Radio Revellers—"Pansy" (Nichols). "Sweet Forget-me-not" (Lorenzo). "Oh, Isabella." (Schuster). 3.59: Lysie Davey, whistler—"Come, Birdie, Come." "Home, Sweet Home." 4.8: The Radio Revellers—"Casabianca" (Evans). "My Blackbirds are Bluebirds Now" (Friend). "I'm Sorry Sally" (Kahn). 4.15: WIT Davies, bass—"The Jute Play" (Allitsen). "Dreams of the Dusk" (D'Hardelot). 4.23: The Radio Revellers—"When You Know Me" (Baden). "Give Your Baby Lots of Lovin'" (Burke). "My Heart Stood Still" (Rodgers). 4.33: Betty Ross Clarke—"An Old Beechheart" (Gull). "Riley." "The Little Girl Don't Cry" (Riley). 4.41: The Radio Revellers—"Back in Your Own Backyard" (Joison). "A Bungalow, a Radio, and You" (Dempey). "You Ought to Hear Olaf Laaf" (Baeer). "Forty-seven Ginger-headed Sailors" (Sarony). "Tea Leaves" (Nichols). "I Want to be Alone with Mary Brown" (Leslie). 5.0: Close down.

EVENING SESSION.

Announcer: Frank Hatherley. 6.0: Moments merry and musical. 7.10: News service. Announcements 7.30: Gramophone selection.

NIGHT SESSION.

Announcer: Renn Millar. Accompanist: Reg. Brown. 8.0: Alured Kelly will speak under the auspices of the Royal Automobile Club of Victoria. 8.15: R. H. Owen, farewell message of the Welsh Delegation leaving tomorrow by the steamer Orford from Princess Pier, Melbourne. 8.25: The Station Orchestra—selection of Welsh melodies, "The Leek" (arranged by Myddleton). 8.35: The De Reske Four—"Sylvia" (Speakes). "Mosquitos" (Bliss). 8.42: The Imperial Russian Trio (Arved Norrit, violin; Ivan Berzinsky, cello; and Vassil Hister, piano). Trios. "Tempo di Menuetto" (Beethoven). "Swiss Waltz" (Garse). "Berceuse" (Oull). "Waltz" (Coleridge-Taylor). "Melodie" (Moszkowsky). 9.10: Betty Ross Clarke, "Five Love Sonnets." 9.17: The Station Orchestra, suite, "Joyous Youth" (Coates). 9.27: James Hay, tenor, selections from his repertoire. 9.34: The De Reske Four—"Pleasanties" Lullaby" (Macy). "Return, Soft, Gentle Evening" (Emerson). 9.41: The Station Orchestra—"Battling Butler." 9.50: Betty Ross Clarke, "Five More Love Sonnets." 9.57: James Hay, tenor, selections from his repertoire. 10.4: Syd Roy's Lyrics—"The Prince of Wales" Own Entertainers. 10.20: "Age" news service. Announcements. Eric Welch's selections for the first day of the Albany Cup meeting and for the Mornington races on Wednesday. 10.30: God Save the King.

4QG

EARLY MORNING SESSION.

Announcer: J. Tyson. 7.43: Time signals. 7.45: News service. 8.0: Some electric records. 8.15: News service. 8.30: Close down.

MORNING SESSION.

Announcer: Rita Mould. 11.0: Music. 11.5: Social news. 11.15: Talk on "The Fringe of Wales," by Mrs. R. L. Reid. 11.30: Music. 11.35: More social news. 11.45: Music. 12.0 (noon): Close down.

MIDDAY SESSION.

Announcer: R. Wight. 1.0: Market reports and weather information. 1.20: Wurlitzer organ. 2.0: Close down.

AFTERNOON SESSION.

Announcer: E. Humphreys. 3.0: A programme of electrically-reproduced records. 3.30: Mail train running times. 4.15: This afternoon's news. 4.30: Close down.

EARLY EVENING SESSION.

Announcers: R. Wight and E. Humphreys. 6.0:

Mail train running times; mail information; shipping news. 6.5: A Law Fair—"Evidence" (No. 1, by Barrister-at-Law. 6.15: Some electrically-reproduced records. 6.25: Commercial announcements. 6.30: Bedtime stories conducted by "Uncle Ben." 7.0: News in brief. 7.5: Stock Exchange news. 7.8: 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: Lecture—"Paper Munch for Pineapple Growing," by Mr. W. J. Baird.

NIGHT SESSION.

Announcer: H. Humphreys. 8.0: Grand Opera—Instrumental Quartette—"Barcarolle" (from "Tales of Hoffman"—Offenbach). Double Quartette—"Choral of the Cross" (from "Faust"—Gounod). Mildred Bell (contralto); "Habenera" (from "Carmen"—Bizet). Double Quartette—"See the Moonlight Beam" (from "Lucia di Borga"—Donizetti). Instrumental Quartette—"Berceuse" (from "Jocelyne"—Godard). Group 2—Songs of the Isle of Man; 8.20: Mildred and Audrey Bell (contraltos); Vocal duet, "Cradle Song." Jack Lord (tenor); "A Manx Wedding." Double Quartette—"Happy as a King" (from "The Merry Widow"—Lehar). "A Bunch of Laburnum." Group 3—"Sacred"—8.40: Double Quartette—"Soul, With All Thine Anguish" (arr. Erich John). Muriel M'Hugh (soprano); "Sighing and Weeping" (Bach). Stanley Tamblin (bass-baritone); "Open the Gates of Heaven" (Knapp). Instrumental Quartette—"Andante in C" (Baldini). Group 4—Classical—9.0: Double Quartette—"Contenuto" (Beethoven). W. W. Crisp (tenor); "Serenade" (Schubert). Mrs. R. Bell (soprano); "A Sprig of Flower" (Tipton). Double Quartette—"Mutual Love" (Beethoven). Instrumental Quartette—"Song Without Words" (Tschakovsky). Group 5—Songs of Fairydom—9.20: Double Quartette—"The Fairy Piper" (Brewer). W. W. Crisp (tenor) and Stanley Tamblin (bass-baritone); Duet, "From Oberon in Fairyland" (Newell). Mildred Bell (contralto); "Fairy Love Song." W. W. Crisp (tenor); (a) "Fairies Have Never a Penny to Spend." (b) "The Fairy Laundry." Stanley Tamblin (bass-baritone); "The Fairy Shoemaker" (Hewitt). Double Quartette—"Follow the Fairies" (Baumer). Instrumental Quartette—"Serenade" (Pelle). Group 6—Light Opera—9.40: Mrs. R. Bell (soprano); "My Toreador" (from "The Toreador"—Rubens). Mildred Bell (contralto) and Stanley Tamblin (bass-baritone); Duet, "Boy and Girl" (from "A Country Girl"—Monckton). Double Quartette—"Opening Chorus" (from "San Toy"—Jones). Instrumental Quartette—"Fizicali" (from the Ballet "Sylvia"—Delibes). 10.0: The "Daily Mail" news; the "Courier" news; weather news; "Queenslander" bi-weekly news service for distant listeners. Close down.

5CL

MORNING SESSION.

Announcer: J. L. Norris. 11.0: G.P.O. chimes. 11.1: Morning Melodies. 11.15: Kitchen craft and menu talk. 11.30: More Morning Melodies. 11.45: Miss Margie Fullivo on "Bans Andersen and his Fairy Tales." 12.0: G.P.O. chimes. 12.1: Middy Melodies. 12.15: General news service. 12.35: British Official Wireless news. 12.40: More Middy Melodies. 12.54: S.A. railway information. S. O. Ward and Co.'s Stock Exchange information. Meteorological information. 1.0: G.P.O. chimes. 1.1: Lunch-hour Recital. 2.0: G.P.O. chimes. Close down.

AFTERNOON SESSION

Announcer: J. L. Norris. 3.0: G.P.O. chimes. 3.1: Station Quartette—"Scar! Dance" (Chaminade). 3.2: Stan. Sobel, soprano—"Passing Breeze" (Percival). "A Moonlight Song" (Cadman). 3.11: Rev. G. E. Hale. B.A. will speak on "The Power of Charity." 3.28: Station Quartette—Suite—"The Rebel Maid" (Phillips). 3.31: Syd. Hollister in comicities. 3.35: Frank M'Cube, baritone—"Sincerity" (Clarke). "To a Miniature" (Grahe). 4.1: Arthur Fry and his One-man Band will entertain you. 3.48: Mrs. Leslie Matthews, contralto—"Waltz Song of Spring" (Cottell). "The Silver Ring" (Chaminade). 3.52: Station Quartette—"Carnation Induce" (Korsan). 4.0: Stan. Sobel, soprano—"The Power of Charity." "It's Just Her Way." 4.3: Stella Sobel, soprano—"Where is the Man" (Stanford). "The Cuckoo" (Lehmann). 4.9: Station Quartette—Selection, "Rigoleto" (Verdi). 4.14: Frank M'Cube, baritone—"A Song Remembered" (Coates). Red Devon by the Sea. 4.20: Stan. Sobel, contralto, in Radio-osties. 4.25: Station Quartette—"Moonlight Silhouettes" (Lodge). "Romance Mon Amour" (Baron). 4.33: Mrs. Leslie Matthews contralto—"Only Tired" (White). "The Arrow and the Song" (Baile). 4.39: Arthur Fry and his One-man Band will entertain you for six minutes. 4.45: Pat M'Lean, soprano, in a child impersonation "Has Anybody got a Little Yaller Dawg?" 4.50: Station Quartette—"Cradle Song" (Schubert). 4.55: B. O. Ward and Co.'s Stock Exchange information. 5.0: G.P.O. chimes. Close down.

EVENING SESSION.

Announcer: C. J. O'Connor. 8.0: G.P.O. chimes. 6.1: Children's Happy Moments—Birthday greetings, correspondence, songs and stories by "The Wattle Lady." 6.30: An interlude. 7.0: G.P.O. chimes. 7.1: S. O. Ward and Co.'s Stock Exchange information. 7.8: General market report. 7.10: S.O.'s Sporting Service, by "Sylvius," including Tattersall's acceptances. 7.20: Miss Laurie M'Leod will speak on "The Art of Dancing." 7.40: Dr. Herbert Basedow, in another interesting Australian talk.

NIGHT SESSION.

Announcer: C. J. O'Connor. 8.0: G.P.O. chimes.

41: Trio de Salon, instrumentalists—"Mary Ann" (Silver), "Dew-Dew-Dewy Day" (Johnson), "I'm Sorry, Sally" (Piorito), 8.8: Jack Gillilan, tenor—"Evening Song" (Blumenthal), "Absent" (Metcalf), 11.4: Pat McLean, entertainer, in a child impersonation, "Because I'm Only Seven," 8.20: An Organ Recital by Frank Bowden from St. Bartholomew's Church, Norwood—"Prelude in C Minor" (Chopin), "Choral Song" (Samuel Wesley), "Selections of Old Favorite Melodies" (by special request), "Fantasia" from "Hymn of Praise" (Mendelssohn), 8.33: Jack Gillilan, tenor, "Mother Machree" (Ball), "My Queen" (Blumenthal), 8.44: Trio de Salon, instrumentalists—"Dream Kisses" (Jerome), M. Ferencz, diere, banjoist—"Melody in F" (Rubenstein), Trio de Salon, instrumentalists—"Good Night" (Conrad), 8.52: Syd. Hollister comedian—More Hollisterisms, 8.58: Meteorological information, including Semaphore titles, 8.59: Overseas grain report, 9.0: Old Time Dance Night from OLO Melbourne, Hoffman's Dance Band—"Violetta," "Golden Shadows," 9.7: Violet Jackson, soprano—"With Courty Grace" (Gavotte from "Old World Dance Songs"), 9.11: Hoffman's Dance Band Schottische, "Fiorente," 9.18: Announcements and greetings to all "Old Timers," 9.23: Hoffman's Dance Band—"Lancers," "Night of Opera," 9.40: Lysie Davey, natural whistler—"Morning Song," "Ye Ban's and Braes," 9.44: Hoffman's Dance Band—"Wal's "Druid's Prayer," 9.51: Old Time Choruses—Graham Burgin and the Boys of the Village, 9.57: General news service, Meteorological information, including Semaphore titles, Announcements, 10.8: Hoffman's Dance Band—Albert's Modern Melodies, 10.25: Old Time Choruses—Graham Burgin and the Boys of the Village, 10.31: Violet Jackson, soprano—"Powder and Patchet" (Minuet), from "Old World Dance Songs" (Phillips), 10.35: Hoffman's Dance Band—"Highland Schottische," 10.41: Graham Burgin, baritone—"The Bandelero" (Stuart), 10.45: Hoffman's Dance Band—"Royal Irish," 11.0: God Save the King. Close down.

7ZL

MIDDAY SESSION.

11.30 to 1.30: General programme.
AFTERNOON SESSION.
 3.0: G.P.O. clock chimes the hour. 3.1: Musical selections. 3.4: Weather information. 3.5: Musical selections. 3.15: An hour with the Discus Ensemble and Patti. Pianola. 4.15: An educational talk on "Agency in United Kingdom for general lines." 4.30: Close down.

EARLY EVENING SESSION.

6.15: Musical selections. 6.30: Bazil Sproule, pianist, will play for the children, "Le Cygne" (Saint Saens), "Ripples" (Elkin), 6.45: Musical selections. 7.0: Answers to letters and birthday greetings by "Uncle David" and "The Storey Lady." 7.10: "The Flare Leds," 7.15: News service. Railway auction produce sales, held at Railway. Announcements. Weather information. Hobart Stock Exchange quotations.

EVENING SESSION.

7.30: W. E. Fuller will speak on "Literary Lapses and Library Lists." 7.45: Sportive gossip from near and far, by "Olympus." 8.0: G.P.O. clock chimes the hour. 8.6: Musical selections. 8.15: A dance programme by the Ritz Band and Monsieur Sonora. Ritz Band, "I can't give you anything but love" (Wald), fox-trot, "I still love you" (Yellen), waltz, "Desert song" (Romberg), 8.24: Robert Radford, bass, "Our Jolly Sailormen" (German), 8.27: Ritz Band, "If you don't love me" (Yellen), Yale, "High upon the hill top" (Ranz), fox-trot, "Happy days and lovely nights" (Rose), 8.36: Edna Thornton, contralto, "Flower Song"—Faust (Gounod), "Fierce Finches"—Stride la vampa (Verdi), 8.42: Ritz Band, waltz, "Jeannine I dream of lilac time" (Shikret), fox-trot, "Don't be like that" (Gottler), fox-trot, "One hundred years from now" (Silver), 8.52: Graham Smeers, "O Peaceful Night" (German), "What Hol What Hol" (Raele), 8.59: Ritz Band, Yale, "Shout Hallelujah 'Cos I'm Home" (Dixon), fox-trot, "Pinchmon Cakes" (Zwilling), fox-trot, "Lombardo", 9.3: Edna Thornton, contralto, "For every day" (Russell), "Vale"—Farewell (Russell), 9.15: Ritz Band, "It goes like this" (Caeser), fox-trot, "Lucky in love" (De Silva), waltz, "Pardons" (Kahn), 9.24: Evan Williams, tenor, "A New Morning" (Denza), "Ahi Love but a day" (Parron), 9.30: Ritz Band, Yale, "Melody from the (Donaldson), fox-trot, "In the evening" (Hank), waltz, "Mexican Serenade" (Pamela), 9.40: Sydney Colburn, tenor, "Ahi Monon of my delight" (Leonard), Ernest Pike, tenor, "Beautiful garden of Roses" (Rehmid), 9.45: News service, British official wireless news, Mail notices, Tasmanian district weather report, 10.0: G.P.O. clock chimes the hour. 10.1: Close down.

6WF

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. 1.2: Music by the studio String Trio, comprising Miss Audrey Dean (piano), Miss E. Waterman (cello), Miss V. Waterman (violin). 2.0: Close down.
 3.30: Tune in. 3.35: Matinee programme from the studio, including pianoforte solos by Miss Audrey Dean, violin solos by Mr. Frank Romaine.
 4.30: Close down. 6.45: Tune in. 6.48: Bad time stories for the kiddies by Uncle Duffy. 7.5: Light news by the Perth Piano Trio. 7.30: Markets. 7.45: Talk by Dr. J. S. Battye, B.A., M.L.B. on "Some Difficulties of the Early Colonists." 8.0: Time signal. 8.1: First weather bulletin. 8.3: Concert by 6WF's station orchestra, conducted by Mr. W. A. Wilkins. 9.0: Late news Co. Ltd. station announcements, ships within range announcements, late weather bulletin. 9.15: Programme continued from the studio. 10.30: Close down. 10.4.5-metre transmission: Simultaneous broadcast on 104.5 metres of programme given on 1356 metres, commencing at 6.45 p.m.

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Local Programmes, Wednesday, April 3

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 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. 10.45: A talk on "Home Cooking and Recipes," by Miss Ruth Furst. 11.0: From the Conservatorium of Music, second annual conference of Music Teachers of New South Wales, "The Second of Three Pianoforte Lessons"; lecturers, Frank Hutchens and Laurence Godfrey Smith. 11.30: Close.

MIDDAY AND AFTERNOON SESSIONS

Announcers: A. S. Cochrane.

Laurence Halbert.

12.0: "Big Ben" and announcements. 12.1: Stock Exchange, first call. 12.3: Official weather forecast; rainfall. 12.5: Studio music. 12.50: From Randwick, description of the A.J.C. meeting in the running; musical items by Les Busse and his piano-accordeon. 4.45: Stock Exchange, third call; complete sporting resume. 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. 6.45: Weather and shipping news. 6.48: Rugby wireless news. 6.50: Late sporting news. 7.0: "Big Ben"; late news service. 7.10: The 2FC Dinner Quartette, conducted by Horace Keats, (a) "Souvenir Discrete" (Fauchey), (b) "Two Salon Pieces" (Ireland), (c) "In a Chinese Temple Garden" (Ketilby), (d) "Softly Awakes My Heart" (Saint-Saens), (e) "Intermezzo" (Scott), (f) "Tesono Mio" (Beucucci), (g) "By the Fireside" (Van Phillips).

EVENING SESSION

Announcer: Laurence Halbert.

Accompanist: Fwart Chapple.

7.40: Popular music.
7.45: Programme announcements.
7.48: Studio items.
8.0: "Big Ben"; Horace Keats' classical programme. To-night's classical programme is arranged by Horace Keats.
9.0: Weather report; "Vignettes of Humanity," by the "Storyteller."
9.15: The second half of Carlton Fay's classical programme.
10.15: Recital of Celebrity records.
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; metropolitan weather report. 8.1: State weather report. 8.2: Studio music. 8.15: G.P.O. chimes; news from the "Daily Telegraph Pictorial." 8.30: G.P.O. chimes; news service continued. 8.40: Information; mails; shipping, arrivals, departures, and sailings. 8.45: Studio music. 9.15: Half an hour with silent friends. 9.45: Studio music. 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: Studio

music. 12.30: Shipping and mails. 12.35: Market reports. 12.50: From Randwick, description of the A.J.C. meeting in running; from the studio, during intervals between races, popular music will be played and vocal items by Esther Gunton, soprano. 5.40: Close.

EARLY EVENING SESSION

Announcer: Basil Kirke.

5.40: Children's session; music and entertainment; letters and stories. 6.30: "Sun" news and late sporting. 6.40: 2BL Dinner Quartette, (a) "Hungarian Dance" (Brahms), (b) "Moorish Night Song" (Rasch), (c) "Bolero" (Moszkowski), (d) "Four Bavarian Waltzes" (Frank), (e) "Minuet" (Beethoven), (f) "Bal Masque" (Fletcher), (g) "Out of the Dawn" (Donaldson). 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"). 7.25: Mr. Pim and Miss Pam in advertising talks and nonsense. 7.55: Programme and other announcements.

EVENING SESSION

Announcer: Basil Kirke.

Accompanist: G. Vern Barnett.

8.0: G.P.O. chimes. Topical chorus.
8.2: The Music Makers.
8.15: Emil Sussmilch, baritone.
(a) "Summer and Winter" (Ronald).
(b) "Secret Love" (Ronald).
(c) "Star of the South" (Lohr).
(d) "I Dream of a Garden" (Lohr).
8.22: Donald McBeath, violinist.
(a) "Romance" (Wieniawski).
(d) "Mazurka" (Wieniawski).
8.29: Ivy Green, soprano.
8.36: The Music Makers.
8.45: A sketch by Charles Lawrence and Les Austin.
8.55: From the Hotel Australia, Cec. Morrison's Dance Band.
9.10: From the studio, Emil Sussmilch, baritone.
(a) "Before the Dawn" (Bath).
(b) "Before We Part" (Allitsen).
(c) "O Fairest Flower of Morn" (Chaminade).
(d) "Life and Death" (Taylor).
9.25: Ivy Green, soprano.
9.32: The Music Makers.
9.42: Sketch by Charles Lawrence and Les Austin.

9.52: Terrence Nugent, popular tenor.
10.0: From the Hotel Australia, Cec. Morrison's Dance Band.
10.15: From the studio, Terrence Nugent, popular tenor.
10.22: From the Hotel Australia, Cec. Morrison's Dance Band.
10.34: Late weather report.
10.36: 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.

2UW

MIDDAY SESSION.

12.30: Music. 1.0: G.P.O. clock and chimes. Music. 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. Music. 8.0: To-day's anniversary. 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.

2GB

10.0 a.m.: Music. 10.10: Happiness talk by A. E. Bennett. 10.20: Music. 10.30: Women's session by Miss Helen J. Beegling. 11.30: Close down. 2.0 p.m.: Music. 2.5: Women's Radio Service, by Mrs. Dorothy Jordan. 2.50: Music. 3.0: Labor saving demonstration. 4.0: Close down. 5.30: Children's session by Uncle George. 7.0: Music. 7.40: Short talk by Miss Beegling. 8.0: Miss Heather Kinnaird, contralto. 8.7: Miss Leila Waddell, violinist. 8.15: Mr. Leon Cavallo, 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: Miss Ada Brook, pianiste. 8.50: Miss Heather Kinnaird, contralto. 9.0: Weather report. 9.3: Address. 9.15: Miss Leila Waddell, violinist. 9.25: Mr. Leon Cavallo, tenor. 9.35: Humorous interlude by Mr. Jack Win and Mr. Heath Burdock. 9.40: Instrumental music. 9.50: Miss Gwen Selva, soprano. 10.0: Dance music. 10.30: Close down.



Uncle Jack, of 2UW, with some members of Farmer's Children's News Radio Birthday Club, who attended the second annual "C.N." R.B.C. Swimming Party at Rose Bay Baths on Saturday, March 9.

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Interstate Programmes, Wednesday, April 3

3LO

EARLY MORNING SESSION

7.15 to 8.15: See Saturday.

MORNING SESSION

Announcer: Frank Hatherley. 11.0: An hour of interest to women. To-day's Radio Recipe. Cake filling for pastry. 11.5: Miss I. D. Beavan will speak on "Home-made Confectionery." 11.20: Musical interlude. 11.25: Mrs. M. Callaway Hancock will speak on "The Art of Decoration." 11.40: Musical interlude. 11.45: Mrs. Clarence Weber will speak on "Physical Culture for Women."

MIDDAY SESSION

Announcer: Frank Hatherley. Accompanist: Agnes Fortune. 12.0: Melbourne Observatory time signal. 12.1: British Official Wireless news from Rugby. Reuter's and the Australian Press Association's cables. "Argus" news service. 12.15: Official report of the sheep market by the Associated Stock and Station Agents, Bourke Street, Melbourne. 12.20: The Radio Revellers—"Rio Rita" (Tierney). "The Kink-a-Jou" (Tierney). "Next to Me I Live Me Kink-a-Jou" (Tierney). "Next to Me I Like Me Whistler—"Bird Waltz—"Cake Walk." 12.37: The Radio Revellers—"Down Where the Sun Goes Down" (Jones). "Can You Blame Me?" (Gardwin). "I Want to be Alone with Mary Brown" (Leslie). 12.46: Betty Ross Clarke—Selections from modern poets. 12.53: The Radio Revellers—"Tea Leaves" (Nichols). "Forty-Seven Ginger-headed Sailors" (Sarony). "You Ought to Hear Olaf Lall" (Baer). 1.2: Meteorological information for forecasts for Victoria, New South Wales, South Australia, and Tasmania. Ocea forecasts. River reports. Rainfall. 1.10: The Radio Revellers—"A Bungalow, a Radio, and You" (Dempsey). "Back in Your Own Back Yard" (Johnson). "My Heart Stood Still" (Rodgers). 1.20: Lysle Davey, naturalist—Lark's Song. "Ode in the Stilly Night." 1.27: Radio Revellers—"Give Your Baby Lots of Loving" (Burke). 1.30: Speeches from the Rotary Club Luncheon, transmitted from the Freemason's Hall, Collins Street, Melbourne. 2.0: Close down.

AFTERNOON SESSION

Announcer: Frank Hatherley. Accompanist: Agnes Fortune. 2.15: The Station Orchestra—Overture. "Rosamunde" (Schubert). "Salome Dance" (Tobani). 2.30: Lalie Whyte, soprano; "A Heart That's Free" (Robyn). "The Market" (Gardwin). 2.37: The Station Orchestra—Suite "At Cresta Green" (Fletcher). 2.47: J. Alexander Browne, baritone—"O Flower Divine" (Haydn Wood). "Red Devon by the Sea" (Clarke). One-act play, produced by Betty Rae—"Stop!" Evan, Eric Donald; Molly, Betty Rae. Scene: An attic in Yew-Tree Mansions, Sussex. 3.16: The Station Orchestra—Selection. "Gallinero" (Chaminade). 3.25: Jessie Shmidt, contralto. 3.32: Victor Stephensen, piano—"Allegro Vivace" (Schumann). "Prelude in A Major" (Chopin). "Study in C Sharp Minor" (Chopin). "Prelude in E Minor" (Scriabin). "Allegro di Concerto" (Granados). 3.47: The Station Orchestra—Suite. "From India" (Powell). "Andante Appassionata" (Sorol). 4.0: Lalie Whyte, soprano—"I Pitched My Lonely Caravan" (Coates). "Our Waltz" (Rohlf). 4.7: Tasma Tiernan, cello—"Adagio" (Schubert). 4.12: J. Alexander Browne, baritone—"The Bedside Love Song" (Plick). "Lechitern" (Kennedy). 4.19: The Station Orchestra—Fantasie. "Zauberswald" (Weber). 4.33: Jessie Shmidt, contralto. 4.40: Special weather report for the benefit of listeners in the Redcliff district. 4.41: The Station Orchestra—Selection. "My Lady Favourite" (Plick). 4.50: "Hera's" news service. During the afternoon results of the Stawell and Sunbury races will be given as they come to hand. 5.0: Close down. 6.0: Answers to letters and birthday greetings by "John the Piper's Son." 6.25: Musical interlude. 6.30: Kerry Kell will tell the children—"The Hair-headed Man" (Scherzo). "Daddy's Sweetheart." 6.37: "John the Piper's Son" will amuse the children with a funny story. 7.0: Close down.

EVENING SESSION

Announcer: John Stuart. 7.15: Official report of the Newmarket stock sales by the Associated Stock and Station Agents, Bourke Street, Melbourne. Official report of the sheep market. 7.30: News session. 7.43: Birthday greetings. 7.45: Out of the Past. 7.48: Under the auspices of the Department of Agriculture, Mr. R. Crowe, Exports Superintendent, will speak on "Marketing Methods." 8.0: A Maker of History.

NIGHT SESSION

8.1: The Station Orchestra—Overture. "Festival" (Kela Bels). 8.10: Gertrude Hutton, contralto—"Serenity" (Wolf). "The Gardener" (Wolf). 8.17: The Station Orchestra—"La Cant de la Montagne" (Blie). "Bell Room Chatter" (Albi). "Melncholle" (Drafer). 8.27: Jas. Hay, tenor—Ten minutes with the Masters of Song. 8.37: The Station Orchestra—"Bell Music to William Tell" (Rossini). 8.47: P. J. Dear will give a characterisation of "Gentlemen Threepenny." 9.0: The Auburn Methodist Church Choir, organist and conductor, J. Sutton, Group. 10.0: "Argus" news service. British Official Wireless news from Rugby. Announcements. 10.10: The Station Orchestra—Selection. "The Girl from Brazil" (Sonberg). 10.20: Gertrude Hutton, contralto—"Who Knows" (Blie). "Agere." "All by Yourself in the Moonlight" (Wallis). "You are Wonderful" (Ash). "Honeycomb Waltz" (Renault). "There Ought to be a Law Against That" (Friend). "Mexican Serenade" (Terese). 11.30: God Save the King.

3AR

Announcer: Maurice Dudley. 10.0 to 10.59: See Monday. 11.0: Gramophone recital. 11.30: Transmission from the Town Hall, Melbourne. Civic reception to the Welsh Delegation. Speech by the Lord Mayor, Councillor Harold Lutton. 12.20: From the Studio: British official wireless news; announcements. 12.30: Close down.

AFTERNOON SESSION

Announcer: Maurice Dudley. 3.0: The Discus Ensemble. Selections by the famous vocalists. 3.20: The Imperial Russian Trio "Arved Norrit violin, Ivan Berzinsky cello, and Vassili Ister piano). Vassili Ister, piano. "Prelude in G Minor" (Rachmaninoff). Trio: "Allegretto" (Raff). "Polish Dance" (Scharvenka). 3.45: Kerry Kell, entertainer (by permission, J. C. Williamson, Ltd.): "Christmas Bells." "Beady Favoritism." "The New Baby." 3.52: Capt. Donald MacLean: A tale of the Old Widow Maker. 4.30: Close down.

EVENING SESSION

Announcer: Frank Hatherley. 6.0: Gramophone recital. 7.10: News service; announcements. 7.23: Gramophone recital continued.

NIGHT SESSION

Announcer: Frank Hatherley. Accompanist: Reg Brown. 8.0: P. W. Pearce, physical culture expert—"The Value of Good Lung." 8.15: Under the auspices of the Health Association of Victoria: Aaron Beattie will speak on "Abdominal Development and Its Importance to Health." 8.30: The Radio Revellers—"Toy Town Artillery" (Carlton). "Promise Me" (Van Coulli). "Ready for the River" (More). 8.40: Lysle Davey, whistler. "Nocturne." "Comin Thro' the Rye." 8.45: The Radio Revellers. "All By Yourself in the Moonlight" (Wallis). "My Stormy Weather Pal" (Plantados). "Dawning" (Silver). 8.57: Betty Ross Clarke, entertainer. "Gems from the Poets." 9.5: The Imperial Russian Trio "Arved Norrit violin, Ivan Berzinsky cello, Vassili Ister piano). Trio: In E Flat Major (Schubert). 1. Scherzo. Allegro moderato. 2. Allegro Moderato. 9.25: Lysle Davey, whistler. "Birds Evening Song." "Annie Laurie." 9.32: Transmission from the Victory Theatre, St. Kilda: The orchestra, under the direction of Henri Penn.

NEWS SESSION

10.30: From the Studio: "Age" news service, exclusive to 3AR; announcements. God Save the King.

4QG

EARLY MORNING SESSION

Announcer: J. Tyson. 7.43: Time signals. 7.45: News service. 8.0: Somic electric records. 8.15: News service. 8.30: Close down.

MORNING SESSION

Announcer: Rita M. Auliffe. 11.0: Music. 11.5: Social news. 11.15: Talk on "Artistic Use of Sealing Wax and Crepe Paper," by "Denise." 11.30: Music. 11.35: More social news. 11.45: Wurlitzer organ. 12.0 (noon): Close down.

MIDDAY SESSION

Announcer: R. Wight. 1.0: Market reports and weather information. 1.20: The Postal Institute Orchestra. 2.0: Close down.

AFTERNOON SESSION

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

EARLY EVENING SESSION

Announcers: R. Wight and H. Humphreys. 6.0: Mail train running times; mail information; shipping news. 6.5: Dinner music. 6.25: Commercial announcements. 6.30: Bedtime stories conducted by "Little Miss Brisbane." 7.0: News in brief. 7.5: Stock Exchange news. 7.5: 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: Lecturette: "An Orchard Topic," by Mr. J. W. Howie.

NIGHT SESSION

Announcer: H. Humphreys. 8.0: Alf Featherstone and his Dance Orchestra: Rhythmic paraphrase, "Aida" (arr. Black); symphonic fox-trot, "Dawn and Dew" (Packay). 8.10: Dibble and Dab in ten minutes' novelty entertainment. 8.20: Alf Featherstone and his Orchestra: Fox-trots, "Camille" (Sherman). "One Smile" (Bibol). 8.30: Margery Stuart (cellist): "Two Swedish Folk Songs" (Gillet). "Plaision D'Amour" (Martini). 8.40: Alf Featherstone and his Dance Orchestra: Jazz-waltz, "Mexican Serenade" (Terese). 8.50: Pop Todd (vocalist): "A Pleasant Half-hour on the Beach." "No Kiss." 9.0: Metropolitan weather forecast; movements of lighthouse steamers. 9.5: Alf Featherstone and his Dance Orchestra: One-steps, "Razzie Dazzie" (Lunzberg). "Fiddle Toes" (Penn). 9.15: Harry Collins and his Orchestra: Ten minutes' melody and mirth. 9.25: Alf Featherstone and his Orchestra: Fox-trots. "I Don't Care" (Dowell). "Where the Sky Little Violets Grow" (Warren). 9.35: Mrs. M. Gregor (soprano): "The Forest Shrine" (Temple). "Dear Faded Rose" (Forster).

9.45: Alf Featherstone and his Dance Orchestra: Jazz-waltz, "Painting Pretty Pictures" (Weddell). 9.50: Doris M. Innes (soprano): "Prelude" (Ronald). "O Lovely Night" (Ronald). 10.0: The "Daily Mail" news; the "Courier" news; weather news. 10.15: Alf Featherstone and his Dance Orchestra: Three-quarters of an hour's dance music. 11.0: Close down.

6WF

12.30: Time signal. 12.35: Markets, news, etc. 1.0: Time signal. 1.1: Weather bulletin supplied by the Meteorological Bureau of West Australia. 1.5: Talk, "Care of the Sick," by Dr. Winifred Holloway, of London. 1.20: Music. 1.25: Close down. 3.30: Time signal. 3.35: Music from the Philharmonic de Luxe. Items by the Misses Chapman and Marshall. Vocal items from the studio. 4.30: Close down. 6.45: Time signal. 6.48: Bedtime stories for the kiddies by Uncle Duffy. 7.5: Light music by the Perth Piano Trio. 7.30: Commercial and general information. 7.45: Talk by Mr. H. McCall on Popular Science. 8.0: Time signal. 8.1: First weather bulletin. 8.5: Items by Madame Ely (Tweek), world-famous Australian soprano. Instrumental items. 9.0: Late news items by courtesy of the "Daily News" Newspaper Co. clips which range announcements, station announcements, late weather bulletin. 9.15: Programme continued from the studio. 10.10: Close down. 10.15: Meteorological information: Simultaneous broadcast on 104.5 metres of programme given on 125.0 metres, commencing at 6.45 p.m.

7ZL

MIDDAY SESSION

11.30 to 1.30: General programme. 2.0: Speeches at the Rotary Club luncheon.

AFTERNOON SESSION

3.0 to 4.0: General programme.

EARLY EVENING SESSION

6.15 to 7.15: General.

EVENING SESSION

Announcer: J. M. Cousens. 7.0: Major Harry Trounsel, superintendent of the Hobart Fire Brigade, will speak on "Care of Private Fire Plants." 7.45: Geo. Nation will speak on "Early Spring Gardening." 8.0: G.P.O. clock chimes the hour. 8.6: Recital of instrumental and vocal items by our leading international artists, arranged by Findlay's Music Warehouse. 10.0: G.P.O. chimes. 10.1: God Save the King.

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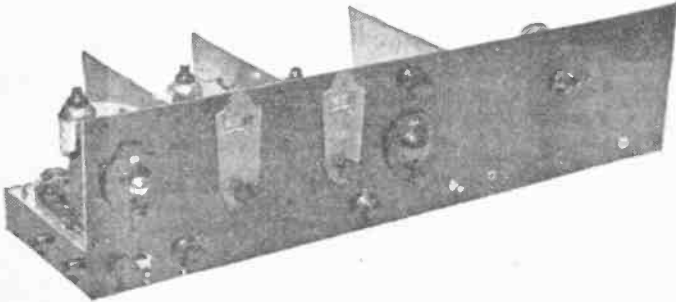
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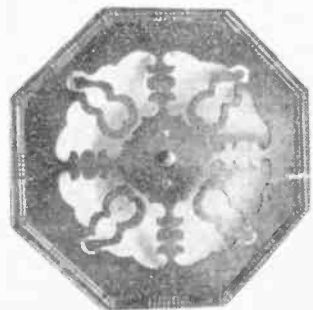
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Local Programmes, Thursday, April 4

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 down.

MORNING SESSION.

Announcer: A. S. Cochrane.

10.0: News, "Sydney Morning Herald." 10.10: From the Conservatorium of Music, second annual conference of the Music Teachers of New South Wales; "Vocal Session"; lecturer, Mr. Spencer Thomas. 10.40: Studio music. 10.45: Last-minute sporting information by the 2FC Racing Commissioner. 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: Musical item. 12.10: Summary of news, "Sydney Morning Herald." 12.15: Rugby wireless news. 12.18: A Dickens reading, by A. S. Cochrane. 12.30: Studio music. 1.0: "Big Ben"; weather intelligence. 1.3: "Evening News"; midday news service; Producers' Distributing Societys' report. 1.20: Studio music. 1.28: Stock Exchange, second call. 1.30: Studio music. 1.50: Last-minute sporting information, by the 2FC Racing Commissioner. 2.0: "Big Ben"; close down.

AFTERNOON SESSION.

Announcer: Laurence Halbert.
Accompanist: Ewart Chapple.

2.30: Programme announcements; from the Conservatorium of Music, second annual Musical Teachers' Conference. "School Music Session"; lecturer, Lindley Evans; programme of music, (a) "Orpheus with His Lute" (Sullivan), (b) "Bid Me Discourse" (Bishop), (c) "Jubal's Lyre" ("Joshua" (Handel), (d) "Be Thou Faithful Unto Death" (Mendelssohn), (e) "Where'er You Walk" ("Semele"), (Handel); selections from the above by boy choristers from St. Andrew's Cathedral. 3.30: From the studio, Enid d'Arcy, soprano, (a) "Cupid" (Sanderson), (b) "Jack and Jill" (Sanderson). 3.37: Studio music. 3.45: A reading. 4.0: Studio music. 4.15: Enid d'Arcy, soprano, (a) "The Woodpecker" (Nevin), (b) "I Love Thee" (Grieg). 4.22: Popular items. 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; to-night we have arranged for the popular "Baby Ballads," composed by Mrs. Valney Monk and Mrs. T. R. Bavin, to be sung to the children by Philippa Alston. 6.20: A Safety First talk. 6.30: Dalgety's market reports (wool, wheat, and stock). 6.40: Fruit and vegetable markets. 6.43: Stock Exchange information. 6.45: Weather and shipping news. 6.48: Rugby wireless news. 6.50: Late sporting news. 7.0: "Big Ben"; late news service. 7.10: The 2FC Dinner Quartette, conducted by Horace Keats, (a) "Moonlight" (Fink), (b) "Tin Pan Parade" (Whiting), (c) "Lied ohne Worte" (Mendelssohn), (d) "Wildflower" (Youmans), (e) "Gipsy" (Signorelli), (f) "Liebeslied" (Kreisler).

EVENING SESSION

Announcer: Laurence Halbert.
Accompanist: Ewart Chapple.

7.40: Popular music.
7.45: Programme announcements.
7.48: Studio items.
8.0: "Big Ben." From the Capitol Theatre, the Capitol Unit entertainment.

8.15: From the studio, William Dallison, tenor—

(a) "The Last Hour" (Kramer).
(b) "Thine My Thoughts Are" (Helmund).

(c) "The Palanquin Bearers" (Shaw).

8.22: Dulcie Blair, violiniste.

8.29: Laurence Macaulay, baritone.

8.36: Fred. Scholl at the Wurliitzer organ.

9.6: Weather report.

9.7: From the Capitol Theatre, Fred Scholl at the Wurliitzer organ.

9.22: From the studio, a bridge talk, by Graham Kent.

9.32: William Dallison, tenor, Irish songs, by request—

(a) "The Bard of Armagh" (Hughes).

(b) "Kitty Tyrell" (Glover).

(c) "To a Miniature" (Brahe).

9.44: Dulcie Blair, violiniste.

9.51: Lawrence Macaulay, baritone.

10.0: Ina Thornton, popular vocalist.

10.7: From the Hotel Australia, Cec. Morrison's Dance Band.

10.2: From the studio: Ina Thornton, popular vocalist.

10.29: Late weather.

10.32: 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 a.m.: G.P.O. chimes; metropolitan weather report. 8.1: State weather report. 8.2: Studio music. 8.15: G.P.O. chimes; news from the "Daily Telegraph Pictorial." 8.30: G.P.O. chimes; news service continued. 8.40: Information; mails; shipping, arrivals, departures, and sailings. 8.45: Studio music. 9.15: Half an hour with silent friends. 9.45: Studio music. 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: Studio music. 12.30: Shipping and mails. 12.35: Market reports. 12.48: "Sun" news service. 1.0: Studio music. 1.30: Talk to children, and special entertainment for children in hospital. 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: From the studio, Alexander Sinclair, baritone, (a) "O Star of Eve" (Wagner), (b) "Friendships" (Lohr), 4.7: Through the Rockies and Selkirks with E. B. Jones. 4.22: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 4.30: From the studio, Alexander Sinclair, baritone, (a) "The Horn" (Flegler), (b) "At Dawning" (Cadman). 4.37: "Sun" news. 4.40: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 4.50: Studio music. 5.0: "Sun" news. 5.7: Pianoforte reproduction. 5.20: Studio items. 5.37: Features of the evening's programme.

EARLY EVENING SESSION.

Announcer: Basil Kirke.

5.40: Children's session; music and entertainment; letters and stories. 6.30: "Sun"

and late sporting. 6.40: 2BL Dinner Quartette, (a) "Marche Militaire" (Schubert), (b) "Serenade" (Herbert), (c) "Ballet Egyptien" (Lulglml), (d) "Entr'acte Valse" (Helmberger), (e) "Lento" (Chaminade), (f) "Querida" (Simon). 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"); weekly traffic bulletin. 7.25: Mr. Pim and Miss Pam in advertising talks and nonsense. 7.55: Programme and other announcements.

EVENING SESSION.

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

8.0: G.P.O. chimes. Topical chorus.
8.2: Ila Turnbull, soprano.
(a) "In Summer Fields" (Brahms).
(b) "The Sandman" (Brahms).
8.9: Warwick McKenzie, violinist.
"Variations on Theme" (Kreisler).
8.16: Sketches by the players of the Players' Club.
8.26: Lawrence Broadbent, basso.
(a) "Love is a Bable" (Parry).
(b) "Memory" (Ireland).
8.33: To-night it is hoped a special feature will be added to 2BL's programme; it is early at this stage to definitely say what arrangements can be made.

8.53: Ila Turnbull, soprano.
(a) "The First Primrose" (Grieg).
(b) Selected.

9.0: Weather report.
9.1: The first of a series of Inter-State relays, which have been arranged by the New South Wales Broadcasting Company, Limited, in conjunction with the Dominion Broadcasting Company Propy. Ltd.; the programme from 3AR will be relayed between 9.0 and 10.0 p.m.

10.0: From the studio: Warwick McKenzie, violinist.

(a) "Am Meer" (Schubert-Wilhelm).
(b) "Schon Rosmarin" (Kreisler).
10.7: Sketch by the players of the Players' Club.

10.20: Lawrence Broadbent, basso.
(a) "Roadways" (Lohr).
(b) "Easter Hymn" (Bridge).

10.27: To-morrow's programme.
10.30: National Anthem. Close.

2GB

10.0 a.m.: Music. 10.10: Happiness talk by A. E. Bennett. 10.20: Music. 10.30: Women's session by Miss Helen J. Beeding. 11.30: Close down. 2.0 p.m.: Music. 2.5: Women's Radio Service, by Mrs. Dorothy Jordan. 2.50: Music. 3.15: Close down. 5.30: Children's session by Uncle George. 7.0: Music. 7.30: Short talk by Mrs. Jordan. 8.0: Signor Mario Gustavo, baritone. 8.7: Mr. Leonard Brewer, violinist. 8.15: Miss Florence Gordon, contralto. 8.22: Instrumental music. 8.30: Humorous interlude by Mr. Jack Win and Mr. Heath Burdock. 8.35: Mr. William Green, tenor. 8.45: Miss Jeanette Paterson, pianiste. 8.55: A humorous interlude. 9.0: Weather report. 9.3: Address. 9.15: Signor Mario Gustavo, baritone. 9.25: Mr. Leonard Brewer, violinist. 9.25: Mr. Heath Burdock, Shakespearean recital. 9.45: Miss Florence Gordon, contralto. 9.55: Instrumental music. 10.0: Mr. William Green, tenor. 10.10: Dance Music. 10.30: Close down.

2UW

MIDDAY SESSION.

12.30: Music. 1.0: G.P.O. clock and chimes. Music. 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. Music. 8.0: To-day's anniversary. Music. 8.15: Garden talk by Mr. S. E. Hunt. 8.30: 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.

Interstate Programmes, Thursday, April 4

3LO

EARLY MORNING SESSION

7.15 to 8.15: Set Saturday.
MORNING SESSION
 8.0: JLO's different duties for the daily dinner. To-day's radio recipe: Consomme Royal. 11.1: Under the auspices of the Blue Triangle Amateur Sports Association, Miss Bennett will speak on "Sports for Women." 11.20: "Beginners Tennis and Further Swimming." 11.30: Musical Interlude. 11.40: Sister Purcell will speak on "Infant Welfare." 11.45: Musical Interlude. 11.45: Miss B. Macaulay will speak on "Astronomy—A New Factor in Education." 12.0: Melbourne Observatory time signal. Express train information. 12.1: Prices received by the Australian Mines and Metals Association from the London Stock Exchange this day. British official wireless news from Rugby. Reuter's service from the London Press Association cables. "Argus" news-service. 12.15: Newmarket stock sales—report of the bullocks, cows, and calves markets and the number of cattle entered for next week's market. 12.20: The Associated Stock and Station Agents. 12.25: Brest, Melbourne. 12.30: Community singing—old-time choruses, transmitted from the King's Theatre, Russell Street, Melbourne. Conductor: Frank Hatherley. 12.40: Stock Exchange information. 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. 1.52: Close down.

AFTERNOON SESSION

Announcer: Frank Hatherley. Accompanist: Agnes Fortune. 2.15: The Station Orchestra—overture, "The Miller and His Men" (Bishop). 2.25: Jas. Hay, tenor, selections from his repertoire. 2.32: The Station Quartette, "The Cottage (Haydn)." 2.42: Jas. Hay, tenor, further selections from his repertoire. 2.50: The Station Orchestra—"Two Nocturnes" (Arlifre). "Tango Serenade" (Semon), selected. 3.0: Loftus Hills will speak on "Topics of the Week." 3.15: Frits Hart will speak to the audience. 3.30: Rev. Wm. Bottomley will speak on "Sigurd the Volung," by William Morris. 3.45: The Station Orchestra—phantasy, "The Three Bears" (Coates). 3.55: Jessie Irwin, soprano—"The Emperor Terry," Junie in My Ear" (Vaughan). 4.2: Alfred Oakland, violin, selected. 4.14: Jessie Irwin, soprano—"The Wind in the South" (J. P. Scott), "Advice" (Carew). 4.21: The Station Orchestra—selection, "The Bat" (Strauss). "In the Heart of the Redwoods" (Grey). 4.30: "Herald" news service. Stock Exchange information. Special weather report for the benefit of listeners in the Redcliffe district. During the afternoon results of the Mornington races will be broadcast as they come to hand. 4.45: Evensong, transmitted from St. Paul's Cathedral, Melbourne. 5.30: Acceptances and barrier positions for the Sandown Park races on Saturday, April 6. 5.35: Close down. 6.0: Answers to letters and birthday greetings, by "Bobby Blue-gum." 6.25: Musical interlude. 6.30: "Bobby Blue-gum" has a story for you, and maybe he'll sing a funny little song as well.

EVENING SESSION

Announcer: John Stuart. 7.5: Stock Exchange information. 7.15: Market reports. 7.30: News session. 7.45: Birthday greetings. 7.45: Out of the past. 7.48: A radio history. 8.1: Rod McGregor will speak on "Cricket."

NIGHT SESSION

Announcer: John Stuart. Accompanist: Agnes Fortune. Our Dance Night. 8.15: The Radio Revellers—"There's a Rainbow Round My Shoulder" (Johnson). "Mississippi Mud" (Harriss). "Oh, Be Mad at Me" (Friend). 8.24: Betty Ross Clarke will give this evening "Colored Cameos," negro life as seen by Paul Lawrence Dunbar. 8.27: The Radio Revellers—"High Up On a Hilltop" (Baer). "When Love Comes Stealing" (Rapee). "Glad Rag Doll" (Rapee). 8.36: Bob Molyneux, tenor. 8.39: The Radio Revellers—"To-day, To-morrow, Forever" (Nichols). "Who Knows" (Dixon). "Tin Pan Paradise" (Pohls). 8.43: Alan Adcock, entertainer. "Wotted Humor" (Baer). The Radio Revellers—"Chiquita" (Wayne). "Old Man Sunshine" (Dixon). "My Dream Sweetheart" (Hall). 9.0: Lysle Davey, natural whistler, trills and bird calls. 9.3: The Radio Revellers—"Guess Who's in Town" (Resali). "That Stolen Melody" (Fisher). "Leopold" (Gilbert). 9.5: Miss Betty Ross Clarke has some "Colored Cameos." 9.15: The Radio Revellers—"Japanese Mammy" (Donaldson). "There's a Ricketty Ricketty Rock" (Turk). "That's What You Mean to Me" (Davis). "Is It Gone So Long" (9.24: Bob Molyneux, tenor. 9.27: The Radio Revellers—"Oh, You're in the Moonlight" (Wallis). "Glad Rag Doll" (Aker). "She's Got a Great Big Army of Friends" (Nelson). 9.36: Alan Adcock will entertain some more. 9.39: The Radio Revellers—"Querida" (Simon). "Falling in Love with You" (Wayne). "I Love to Dunk a Hunk of Spongecake" (Castill). 9.48: Lysle Davey, natural whistler, will whistle a song you all know. 9.51: The Radio Revellers—"I Just Joy Along" (The Vice of the Southland" (Austin). "My Heaven is Home" (Collin). 10.0: Argus news-service. Meteorological information. British official wireless news from Rugby. Announcements. 10.15: The Radio Revellers—"Dream House" (Fox). "Mother" (Donaldson). 10.24: Betty Ross Clarke will entertain with some modern poems. 10.27: The Radio Revellers—"The Prune Song" (Crumit). "Sincerely Yours" (Davis). "Sally Rose" (Friend). 10.36: Bob Molyneux, tenor. "Rose of Flanders." 10.39: The Radio Revellers—"Rio Rita." "The Kink-a-Jou"

(Tierney). "Next to Me I Like Me Next to You" (Bito). 10.48: Lysle Davey, natural whistler. "Bird Waltz." 10.51: The Radio Revellers—"Down Where the Sun Goes Down" (Jones). "Can You Blame Me" (Goodwin). "I Want to be Alone with Mary Brown" (Leslie). 11.1: The Radio Revellers—"Tea Leaves" (Nichols). "Forty-seven Ginger-headed Sailors" (Sarony). "You Ought to Hear Olaf Laft" (Baer). "A Bungalow, a Radio, and You" (Dempsey). "Back in Your Own Backyard" (Jolson). "My Heart Good Still" (Rodgers). "Give Your Baby Lots of Lovin'" (Burke), selected. 11.30: God Save the King.

3AR

Announcer: Maurice Dudley. 10.0 to 10.59: See Monday. 11.0: Gramophone recital. 12.20: British official wireless news; announcements. 12.30: Close down.

AFTERNOON SESSION

Announcer: Maurice Dudley. 3.0: The Strad Trio (Cecil Parkes violin, Myra Montague piano, Frank Johnston cello). Trio: "Op. 49, D Minor" (Mendelssohn). Molto Allegro ed agitato. Andante con moto. Scherzo. Finale. 3.27: Lysle Davey (whistler). "Bird Waltz." "Cake Walk." 3.34: Cecil Parkes (violin). "Sonata in D Major" (Handel). Allegro. Larghetto. Allegro. 3.43: Betty Ross Clarke (entertainer). "My Garden" (Ed. Brown). "The Lady of the Lambs" (Maynell). "A Ballad of Trees and the Master" (Sydney Lanier). "The Sum" (Dunbar). "Oh, I'll Lamb" (Dunbar). "Frye Ewe is Like a Red, Red Rose" (Burns). 3.50: The Strad Trio: "Folk Tune and Fiddle Dance" (Pletcher). 3.57: Lysle Davey (whistler). "The Lark's Song." "Off in the Silly Night." 4.4: Diana Belmont (contralto). "A Wayside Flower" (d'Hardell). "My Son" (Del Regio). 4.11: Betty Ross Clarke (entertainer). "Classical Selections." 4.18: The Strad Trio: Request Item. 4.23: Diana Belmont (contralto). "Music When Soft Voices Die" (Besley). "Nocturne" (Head). 4.30: Close down.

EVENING SESSION

Announcer: Frank Hatherley. 6.0: Discus Ditties. 7.10: News service; announcements; acceptances and barrier positions for Sandown Park races on Saturday. 7.30: Discus Ditties.

NIGHT SESSION

8.0: Dr. Loftus Hills: "Life's Facts and Fancies." 8.15: Under the auspices of the Nurserymen and Seedsmen's Association: E. Wiseman will speak on "Garden Week." 8.30: The Station Orchestra: "Selection of English Melodies." "The Rose" (Middleton). 8.40: Victor Harding (bass): "Yeoman's Wedding Song." "The Floral Dance." 8.47: The Station Orchestra: Suite. "Al Gretna" (Green) (Pletcher). 8.57: Jas. Hay (tenor): "Selections from His Repertoire." 9.4: The Imperial Russian Trio (Arved Norst violin, Ivan Berzinsky cello, and Vassil Ilster piano). Trio: "Schubert Trio in E Flat Major." 1. Allegro. 9.14: Betty Ross Clarke will now delight you with her interpretations of "Poetical Masterpieces." 9.20: Russian Imperial Trio: "Schubert Trio in E Flat Major" (Continued). 2. Andante con moto. 9.30: James Hay (tenor): "Request Items." 9.37: Captain Donald MacLean: "Ship me somewhere east of Suez, where the best is like the worst." 9.52: The Radio Melody Makers: "Twenty Minutes of Melody." 10.12: The Station Orchestra: Selection, "Sounds of Enland" (Lansley). 10.20: Victor Harding (bass): "Glorious Devon." "Shearing Song." 10.27: "Argus" news service; announcements. 10.33: God Save the King.

4QG

EARLY MORNING SESSION

Announcer: J. Tyson. 3.0: A programme of News service. 8.0: Some electric records. 8.15: News service.

MORNING SESSION

Announcer: Rita M'Auliffe. 11.0: Music. 11.5: Social news. 11.15: Lecture: A Gardening Talk by "Teema." 11.30: Music. 11.35: More social news. 11.45: Music. 12.0 (noon): Close down.

AFTERNOON SESSION

Announcer: R. Wight. 1.0: Market reports and Weather Information. 1.15: A lunch-hour address. 2.0: Close down.

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AFTERNOON SESSION.

Announcer: H. Humphreys. 3.0: A programme of electrically-reproduced records. 3.30: Mail train running times. 4.15: This afternoon's news. 4.30: Close down.

EARLY EVENING SESSION.

Announcers: R. Wight and H. Humphreys. 5.0: Mail train running times; mail information; shipping news. 5.5: From the Wintergarden Theatre: Wur-ltzer organ. 6.25: Commercial announcements. 6.30: Bedtime Stories conducted by "The Sandman." 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 signal. 7.45: Lecture: "A Talk on Books," by Mr. J. Doyle (McLeod).

NIGHT SESSION.

Announcer: A. V. Jones. 8.0: Studio Instrumental Quartette (conductor, F. Smith): Overture, "Arion" (Walter). 8.7: Phyllis Deuth (soprano): "Villanelle" (Dell Acqua). 8.10: Harry Borradaie (cellonist): "Me and Jim" (Anon). "Algeron at the Bachelors' Club" (Rutherford). "Erbs" (Grey). 8.22: Miss G. Fagg (violinist): Selected. 8.27: "Gargoyles" will talk to motorists. His subject will be, "Road Wisdom." 8.40: The Studio Instrumental Quartette: "Queen of the Roses" (Weldt). 8.45: A. M. Folk (baritone): "The Beer of Malaga" (Froter). "The Curtain Falls" (d'Hardell). 8.52: "The Sandman" in a group of modern organ solos. 9.0: Metropolitan weather forecast. 9.1: Phyllis Deuth (soprano): "A Song of India" (from "Legend Sadko"—Aimiski-Kosakoff). 9.4: The Studio Instrumental Quartette: "Heartache" (Macbeth). A Comedy—"A Sister to Assist 'Er." As many 4QG listeners were away during Christmas when the comedy, "A Sister to Assist 'Er" was broadcast, it has been decided to repeat it. "A Sister to Assist 'Er" is a comedy in which Mrs. May has much trouble with her landlady, Mrs. M'Mull. During the sketch Mrs. May impersonates an imaginary wealthy sister. C. M. May H. Harry Humphreys; Mrs. M'Mull, Mrs. Robt. Bell. Scene: A Shabby Bed-sitting Room. 9.10: Radio Comedy: "A Sister to Assist 'Er." 9.30: The Studio Instrumental Quartette: "Fringing Thoughts" (Salzer). 9.36: S. B. Bacon (tenor): "Mighty Lak a Rose" (Nevin). "Down the Vale" (Moir). 9.45: "The Sandman" in four accordion numbers. 9.50: The Studio Instrumental Quartette: Ten minutes' popular music. 10.0: The Daily 3.0 news; the "Courier" news; weather news. Close down.

7ZL

MIDDAY SESSION.

11.30 to 1.30: General programme.

AFTERNOON SESSION.

3.0 to 3.15: General programme. 4.15: A representative of the Child Welfare Association will speak on "Baby's Cradle." 4.30: Close down.

EARLY EVENING SESSION.

6.15 to 7.15: General programme.

EVENING SESSION.

Announcer: Jack Broadbent. 7.30: Under the auspices of the "Come to Tasmania" Organisation, F. J. Batt will speak on "A Trip to Port Davey." 7.45: "The Emperor Terry." 7.50: Under the auspices of the Tasmanian Rowing Association, will speak on "Eight-oar Team Championships." 8.0: G.P.O. clock chimes the hour. 8.5: Musical selections. 8.15: Community singing—All: "Annie Laurie" (Sally Horner). 8.22: Doreen Ellison (soprano): "Passing By" (Purcell). 8.25: "Smilin' Thrò." 8.28: Harry Guy (baritone): "My Old Shako" (Trotter). 8.31: All: "Juanita." 8.34: Rene Dyer (contralto): "Caro Mio Ben" (Giorvani). 8.35: Harry Guy (baritone): "Bartlett." 8.53: All: "Hello, Aloha." 8.56: Rene Dyer (contralto): "Mendocino" (Brahel). 8.59: All: "Barcelona." 9.2: Doreen Ellison (soprano): "Oh, Didn't It Rain" (Burleigh). 9.5: "I'm Sitting on Top of the World." "Mothe" (Machree). 9.12: Harry Guy (baritone): "Friend of Mine" (Sanderson). 9.15: All: "Comin' Thro' the Eye." 9.18: Rene Dyer (contralto): "An Old-world serenade" (Heilmund). 9.21: All: "The Minstrel Boy." 9.24: Doreen Ellison (soprano): "The Spring Has Come" (White). 9.27: All: "Comin' Thro' the Eye." "Jennine I Dream of L'laic Time." 9.34: Harry Guy (baritone): "Beloved, It Is Morn'" (Alyward). 9.37: All: "When Irish Eyes Are Smiling." 9.40: Rene Dyer (contralto): "Birds Go North Again" (Wilbey). 9.43: All: "Auld Lang Syne." 9.45: News service. British official wireless news. Tasmanian district weather report. 10.0: G.P.O. clock chimes the hour. 10.1: Close down.

Syd Roy's Lyricals

An important engagement at 3LO is that of Syd Roy and his Lyricals, a combination of vocalists, dancers, and instrumentalists, who have gained an enviable reputation overseas. They have a most extensive repertoire, comprising vocal and instrumental solos and duets, and as the Lyricals have worked continuously for the last seven years without a change of membership their performance is marked by perfect harmony in every direction.

The WIRELESS WEEKLY

RADIO

INFORMATION

Under the direction of

Ray Allsop

and

Don B. Knock

Associate Technical Editors

Correspondence Answered

only through

these

Columns

(See Coupon Below)

Service

D.E. (Waverley).—Just a line to say that I appreciate 'Proving Radio' very much, and at the same time to ask if you can tell me the capacity condenser required to tune a S.W. receiver using Radikoes coil kit."

Answer: Thanks for your kind remarks. Use a .00014 or .00015 condenser for the secondary, and a .00025 condenser for reaction.

W.R.M. (Arncliffe).—I read last week's issue, in which a gentleman was shaking you up a bit. Please don't print such muck; we know him of old; treat him with contempt.

Answer: Sorry, but we have to cast personal feelings aside in such cases, and treat each reader as courteously as possible. Your letter has been posted on to the Radio Inspector as requested.

J.B. (Paramatta).—Use the A109 valve in preference to the other type, the characteristics of which are not suitable for a detector valve. If you want to add something more to your Reinartz, and haven't much room, suggest a stage of audio. If you think there is not enough room for this, suggest you place the detector valve inside the coil, and instead of using a battery strip, take flexible wire leads, correctly marked or colored, to the respective batteries. A three-valve set can be made in a cigar box if you use "gumption" in the layout.

T.E.W. (Virginia).—Glad you like "Proving Radio." The negative lead should give off bubbles when the positive and negative leads are placed in a glass of salt water. You will soon know if your battery has been charged the wrong way round, because it will not hold the charge long. A good test is to use a cheap type D.C. voltmeter (costing about 4/6). If the terminal attached to the voltmeter is placed on the positive pole, and the flexible lead placed on the negative pole, there will be a reading. There will be no reading if these are reversed. Cannot suggest any improvements (inexpensive ones) to your receiver. P stands for Positive, and N for Negative.

L.O.H. (Strathfield).—I am thinking of building the Countess's One Valve, published in WIRELESS WEEKLY, 25/1/29. Some of the parts I have are different from the parts specified by you, and I should like to know if these may be used. Firstly, with my previous sets I have used De-Forest valves in place of the valve specified by you. Can I use a De-Forest valve in the Countryman's One? Secondly, you state that a grid-leak of three megohms should be used. Could I use one of two megohms?"

Answer: Yes, these slight deviations will make no difference.

2. "Wishing you every success with your most reliable paper, especially the 'Proving Radio' columns."

Answer: Thank you.

3. "Could you tell me if there is a club in or around my district?"

Answer: There is a Group at Concord West, which I understand, is the next station to you. The secretary of this club can be found by addressing your letter as follows:—The Secretary, Concord West Group, of the "Proving Radio Club," 67 Consett Street, Concord West.

S.O.S.—WIRELESS WEEKLY dated February 8 recently required by A. Grant, 158 Phillip Street, Sydney. Can some reader kindly oblige?"

L.D.L. (Dunfermline).—The fault lies probably in the detector stage. If you have experimented with various grid leaks, see that there are no loose or bad connections.

A.T. (Armidale).—"I am writing to ask you if you would publish, through your Information Service Columns, the best make of short-wave receiver for an amateur to build, and also to build one, and I want your advice about the circuit that would be most suitable. I have been taking WIRELESS WEEKLY now for two and a half years, and wish it the best of luck—also to the editor and the technical staff."

Answer: Build the "Go-Getter," which was published in WIRELESS WEEKLY May 11, 1928. Thanks for your kind remarks.

S.J.C. (Glenreagh).—"My radio receiver has gone wrong. It is a Marco Pout. It was working O.K. yesterday, except for a loose wire attached to the filament switch. I remedied this, and at the same time, while I was on the job, gave the condenser plates, etc., a clean up. When I put set back in cabinet one thing was very noticeable, the .00035 variable condenser used to give a pip and go off into oscillation with the carrier wave, which

was easily tuned in with enormous volume. Now there is no pip, no carrier wave, no oscillation. The station just comes on by turning the two .0005 variable condensers, and very weak. Why is the usual long howl gone—not that I like it, but I think it signifies everything is O.K.? I am using three 45-volt "B" batteries and two "C" batteries, also a 4-watt accumulator. I have examined all there is, tested primaries of transformers, valves, etc., and the plates of condensers are not touching anywhere. All valves are making good contact, aerial and earth are O.K., so if you will write per return mail it will save a few more headaches."

Answer: You MUST feed bad! Sorry, but we do not reply by post. First of all, start from the beginning. See that you have aerial and earth connected. Then check up the battery connections. Next see that the filament wire has been fastened properly and is making good contact. After this, test the valves. Then the transformers. Finally, make certain all leads are tight, and that none have been broken. Make certain also that no matter has been left in between the plates of the condensers, and test the plates to see if they are touching by means of a "C" battery and a pair of telephones. I think you will find (if you have not already done so) that you connected the batteries up wrongly. Don't let rain get you down! Laugh at it! I wonder how you'd feel if you had to answer all these?"

W.J.H. (Wyangala Dam).—Our letters crossed. You will receive your reply before you read this, in connection with the book you required. Sorry, but we have no copies left, containing a Neutrodyne. Would you like us to publish the circuit for you?"

W.J.G. (Lillian Rock).—"I am very interested in your articles, 'Proving Radio,' and up to No. 9 have had no trouble in understanding them. In No. 9 all of your problems except one are quite clear. The one in question is 'Find the joint resistance of 8, 3, 5, 6, 2, 50, 7, and 4 ohms in series.' The answer given by you to this sum is 95 ohms. The best I can get is 82 ohms. Would you please explain in your next article how to do this sum, so that I can find out where I am wrong? Wishing you the best of success at all times."

Answer: Your answer is quite correct. Unfortunately, the "86" was a misprint. Sorry, but I think it will be too late to get this notification in the 'Proving Radio' article for you, so that is why I have published it here. However, I will place it also in the article if I possibly can.

G.S. (Cowra).—"I would esteem it a favor if you would tell me if the Aberdonian receiver would bring in Sydney and Melbourne stations on an indoor aerial on a cone speaker. Would it be correct to shellac varnish the primary coil to keep it in position on secondary?"

Answer: In your locality you should be able to work the speaker mentioned, but it would be advisable to use an outdoor aerial. Yes, shellac the primary.

G.W. (Gooranahone).—"Some time ago I was a subscriber to WIRELESS WEEKLY. I had no complaints to make on the splendid reading it contained. All went well until I decided to probe the short waves. I purchased a S.W. set, which was a failure. I asked you for help, and was advised to build the 'Go-Getter.' I attempted this, but the result was a complete failure."

Answer: The "Go-Getter" is one of the most successful three-valve short-wave receivers ever described. You have only to read in Queries recently of a reader who got wonderful results on his "Go-Getter," yet wanted more. I think his query appeared last week. Read it.

2. "I was advised (and by amateurs) that your circuits were only experiments, and were published for the sake of trade purposes."

Answer: This is a very grave statement to make. I hope you realize this! There are not, I assure, many amateurs who would be party to such incorrectness, to put matters very mildly. As for receivers being of "an experimental nature," it is rather a pity you do not reason out for yourself the following points:—(1) If the receivers are only experimental, why is it that these receivers are actually built—and tried—and photographed? (2) Would we be so silly as to build up a circuit which might, and might not, work, risking the loss of thousands of readers? (3) Would we dare to submit a receiver to readers when that receiver has not been tried—from our advertisers' viewpoint? We should have no advertisements at all if our receivers were of the nature you so unkindly suggest.

As for the receivers being published for trade purposes, this is a gross error. Particularly of late you will notice that no mention is made of particular parts, with the result that after each receiver is published we are deluged with scores of letters asking for the best parts to use. This procedure has become necessary through other readers, like yourself, who have considered that we published a list of parts as used in the original receiver for the sake of "trade." The express parts as used were always published with the idea of advising intending constructors that, at very least, if the same parts were used one could not go wrong. I am sure you will repent.

3. "One man sent me a two-valve circuit, which I built. This gave good results on Morse signals, but poor fone work. Occasionally, when in Newcastle, I purchased a copy of WIRELESS WEEKLY, and I nearly attempted to build the 'All Empire,' but I remembered the 'Go-Getter' failure."

Answer: If once you fail, try again. The error evidently was in your construction, or in a faulty part, since other readers had wonderful results with their "Go-Getters."

4. "Next I saw in RADIO the Midget Four, and badly wanting a set of efficiency, I expended £20 on the necessary parts, to give me every advantage. When built, I found that the set is far from right yet, and is most critical to tune."

Answer: Sounds like grid-leak, coil, or condenser trouble.

5. "I wrote WIRELESS WEEKLY twice enclosing stamp and envelope, and also promised a year's subscription if you would fix me up. Of course, as folk told me, I got no reply."

Answer: You mentioned earlier in your letter that we did write you at once. It was a little time after the "Go-Getter" article that we ceased to answer letters by post, therefore your queries were probably answered through the paper.

7. "So again I wrote to amateurs. Those who replied told me to consign all aluminium and screen grid dope to the waste paper basket."

Answer: I couldn't resist saying here, I like that phrase, "Those who replied." It gives one an idea that the amateurs you are getting in touch with are very amateurish. No technical man who understands what a screen grid is will tell you shielding is unnecessary, and no man who knows what he is talking about will ridicule the very component that has, without doubt, revolutionised short wave radio.

8. "However, I feel sure that the Midget Four is the goods for connected my aerial onto the grid terminal of detector coil, and since then I have used it as a three-valve, with fair speaker results. One Sunday night, and part of the following Monday night, I logged 169 Morse stations, only using the 10, 20, and 30 metre coils."

Answer: Glad to see that you have a little confidence in us. It is imperative that one should experiment with short wave receivers, trying different voltages, grid bias, and so on, particularly when the S.C. valve is being used.

9. "I'm just busting to get the Screen Grid perking, and so am enclosing 13/6 for twelve months' subscription to WIRELESS WEEKLY, solely for the purpose of the advantages of the Query Column."

Answer: It is not necessary to bribe us. We would rather think that you purchased the paper because you liked it.

10. "If the Query column does not fix me up, then I'll tear the set to bits—"

Answer: And what will you build next? 11. "The 'All Empire' will be my next job, as it seems more practical."

Answer: Did you know that the "All Empire" was simply the "Go-Getter" on a modern style, plus R.F. amplification?

12. "My main troubles with the Midget are—Critical tuning, failure of the screen grid valve to boost up the signals, and trying to clear up a fone station on the detector rheostat, the signals suddenly go out with a plonk, also same occurs when I turn on S.C. rheostat."

Answer: Is that all? Well, that's nothing—really! Surely you know that short wave tuning is very critical—always has been and will be. Next, fancy trying to tune a station, i.e., get the peak reception, with a rheostat. You might try it if you place a Vernier dial in place of the knob. After this, a plonk, eh? And the station vanishes, as

it were? That's caused through using the wrong capacity grid-leak. I've missed one, i.e., the remark "Failure of the S.G. to boost up signals." Well—that would signify that the R.F. stage is wrong somewhere, wouldn't it. And what CAN go wrong in the R.F. stage? Answer: Everything. Therefore, first test your valve, or have it tested. Check up your wiring. Count the number of turns on the coils again. Put a soldered wire with your fingers on the mind you don't hit your nose. It's all fingers and thumb. If the R.F. stage is O.K., there's a lot of work to be done to tuning the R.P. stage, but it's well worth it. You have such a lot more errors to make, and you have a lot more space, that I am afraid already taken up so much space, that I am afraid already taken up in brief. The parts used by you (Oh those deviations!) happen to be just O.K. The reason why the position of the coil was the same in RADIO and WIRELESS WEEKLY was because that position was found correct in the R.F. stage receiver, but it is generally understood that two things should be tried if any receiver does not oscillate. (1) Reverse connections to the reaction coil, (2) Change grid return lead from the reaction coil, (3) Change filament, or vice versa, positive filament to negative filament, or vice versa, as the case may be. Another thing that invariably helps oscillation is the placing of a .001 fixed condenser across the primary of the first transformer. Eighty volts should be O.K. The screen grid. Eighty volts should be O.K. The voltage, i.e., 135 volts. You should have a .001 on the plates of the amplifiers. If set whistles, cut out feedback by means of R.F. chokes. No two constructors wire a receiver the same, though they may use the same diagram. You say "I got me beggared." You mean you got worse than that. You wish for the name of a person who has had experience with this set? Well, I'm sure Mr. Koets would help you of this. He was very enthusiastic about the edition of the set. You will find him at the main tuning street, Petersham.

A.G.E. (Warawee).—What is the net resistance of 3 ohms and 2 ohms when connected together?
 Answer: Depends on whether or no they are in series or in parallel. In parallel 1.2 ohms. See "Living Radio," which explains how you can work these problems out yourself.

G.C. (Blackall).—"My set is five years old, and though it was O.K. when bought, all the stations have faded together during the last few years. What is the remedy?"

Answer: The jamming is owing to the fact that 3LO and 2PC have since altered their wavelengths. It will be necessary to align the coil system of the main tuning condenser to have a capacity of .0005 ohms, then reduce the secondary coil of the R.F. stage and the secondary coil of the detector stage to 50 turns.

K.G.M. (Baberfield).—"Would you oblige me with particulars for the making of an up-to-date crystal set that will bring in the five Sydney stations? What make of crystal gives good all-round results?"

Answer: Build the N.G. crystal receiver which appeared in this paper recently. The Harlec semi-conductor crystal is good.

M.G. (Adelaide).—"I should be pleased if you would answer the following queries in connection with the Countryman's One Valve Receiver. (1) Will this receiver tune to the amateur wave lengths, 200 metres and up to about 516 metres? If not, will you explain how it is possible to alter the set in order to tune to these wave lengths? (2) Will the Countryman's One Valve will tune from approximately 200 to 516 metres. If you wish to tune from 200 to 516 metres, remove approximately two turns. The opposite should be the procedure if you desire to raise the wave length, i.e., add two turns.

(3) "I am living about two miles from 5CL and about 200 from 3E. Do you think that this receiver would be selective enough to receive Interstate stations without interference?"

Answer: No. The receiver was made primarily for the listener well away from stations. It can manage more effectively in various short-wave condenser in the aerial lead or by use of a fixed trap.

(4) "What length aerial would you advise for use with this receiver—would 100 feet be too lengthy? (5) How long would the aerial need to be to lengthily for the country listener, but you will make the set more insensitive by using such a length. Suggest about 50 feet of aerial.

(6) "Is it possible to use this receiver for the three wave bands, and what alterations would be necessary?"

Answer: As it stands, the Countryman's One Valve is not suitable for short-wave work. It can be made into a short-wave receiver by substituting a .0005 condenser for the .0005, and using the same coils and coil systems in various short-wave receivers described in WIRELESS WEEKLY from time to time.

(7) "Would three 1½ volt dry cells be suitable for the 'A' battery supply? How long would these be used with the UX-190 valve on an average of two hours per night? How long would light duty 'B' battery last above?"

Answer: The three dry cells will be quite O.K. Perhaps you would like to know how you can find out how long your batteries will last? Take the 'A' battery. If you have read "Proving Radio" you will know how to do it. The amperage remains the same for one coil, therefore the amperage of one cell is 30, then four cells connected in series will still have an amperage of 30. Now, your valve set has a filament consumption of .95 amperes, therefore it will give 30/.95 = 31.58 amperes, and this gives you 400 hours. As you will be using the set two hours per night, the life will be halved, i.e., 200 hours, and as the life of the batteries will be intermittent, the life will be slightly less, about 300 hours. Then the deterioration of the batteries must be taken into account. This will be about 5 per cent. This gives you approximately 290 hours. The light duty

"B" battery will give you about the same service. Using two valves the batteries would last slightly less than half the time.

(8) "In the description of the circuit you state 'You fill on winding the reaction coil that there is not enough room for all the turns, and you advise winding the remaining turns in the grooves made by previous turns. Do you start in the centre of the reaction coil or near the end?"

Answer: Near the end, where you have finished winding the coil on the former.

(9) "You also state to mount the smaller coil inside the larger by means of interlocking screws, and you state when testing the receiver if the test whistles to pull the smaller coil outwards, until the whistle stops. I do not see how it is possible to pull the smaller coil outwards when mounted with screws inside the larger coil. Could you explain this further?"

Answer: The screws act as a pivot on which the reaction coil revolves. When the coil is "all in" the former is at right angles with the secondary coil, whilst the opposite is the case when the reaction coil is "all out." In other words, "pulling the coil outwards" merely means to have part of the reaction coil jutting out from the end of the secondary coil.

(10) "I have been advised to smear vaseline over the diaphragms of headphones to stop the rust from forming on them. Is this injurious to the headphones in any way?"

Answer: A moderate use of vaseline will be O.K. but it should be quite unnecessary.

Mr. Morgan, 153 Wardell Road, Dulwich Hill writes: Enclosed are letters from a reader of WIRELESS WEEKLY in Victoria on the Marco Four. These letters tell a better tale than I, so I will let them. Could you publish these letters in your paper for other readers to gaze on? (Readers may remember that Mr. Morgan advised readers through these columns that he would supply back numbers to any reader requiring same on receipt of stamp: "Dear Sir.—Will you kindly forward me a copy of the Marco Four as you stated in WIRELESS WEEKLY that you would forward copies to any one requiring same? If you have constructed the Marco Four I would be pleased to have your opinion of same with regards daylight reception. We are situated 300 miles air line from Melbourne and some distance from Adelaide, and about four or five hundred from Sydney. The best set have yet been constructed is Dr. Shellheiser's Improved Browning Drake. I could hear Melbourne stations half a mile away in daytime, and could get 2PC at speaker strength during day, and 2BL on phones. I constructed a valve superhet, but the R.D. did not easily therefor I wish to get a three or four valve set that would give daylight reception. It is less expensive to run, as it costs 6/ to get an 80 amp 6 volt 'A' battery charged, and 3/6 for a 40 volt 55 amp, so you see why it is not easily made. I have a set that are high on batteries, and at the same time give good daylight reception. Trusting you will receive this before you send all your copies away." Signed (W.G.O. REDCLIFFS) Mr. Morgan forwarded the copy requested, and exactly one month later he received another letter from W.G.O. which ran: "Many thanks for your kind reply. Please to state that I have constructed the Marco Four appearing in WIRELESS WEEKLY with good results. The set is designed for reception of 2PC any time, also 3LO 3AR and 5CL, and has little trouble to get the aerial tuning condenser to tune at all, having tried out a few fixed condensers in the aerial lead without success, so decided to gradually reduce the aerial coil, reduced from 20 to 31 turns before I succeeded in getting the condenser to give the same reading as condenser two. I just get 3AR with plates nearly full in. I can assure you I am well pleased with the results. I have heard several one and six valve sets that the Marco Four would far exceed in giving them a good try for your reply. I have placed a 200 turn honeycomb coil in plate lead from transformer to detector valve, and it has made my set very clear, and the volume does not waver."

"BROGG" (Taree).—"I built the All Empire receiver. Eventually I built the set down (after some trouble) to Sydney, where it was received slightly. I took it home, and had excellent results both on volume and quality on broadcast band, but having to go away the next day had no time to try out S.V., but presume this would have been O.K. The Browning Drake reception is remarkable, being easily followed outside the house at midday on a very hot day. After the short trial I was away two weeks during which the set was left connected to the 'B' batteries, but not to the 'A' battery. On my return it was absolutely dead, though untouched during the interim."

Answer: Disconnect the "B" battery and test it with a voltmeter. Test the "A" battery with a hydrometer and a voltmeter. See that aerial and earth are attached to the set. Make certain that the earth is making good connection. See that all valves are making good contact in their sockets. Lightly oil each wire set, and see there is a loose connection. Remove valves and slightly bend up the prongs. If the set is still dead, examine jack contacts, and if these are O.K. the trouble will be due to a faulty valve or valves, or to a transformer. Hope you see this in time.

T.W. (Shellharbour).—"I have a three-valve Rheola wireless set, which has given perfect results from 2BL and other stations, including Inter-State, but 2PC is never clear. Will you tell me the cause and remedy?"

Answer: All reports received from this district show that 2PC is received with distortion. This is one of the troubles there, which cannot deal with. It is due to (so generally supposed) by patches of ionised atmosphere, or to geographical conditions. At the present moment, there is no remedy.

A.A.G.M. (Waverley).—"I am using an R.C.A. model super-het No. 25, with a loop aerial of approximately 75 feet, which fits into the top of the cabinet. One UX120 valve in the last stage of audio and five UX190 valves in the remainder stages. All Radiolions. Is this combination satisfactory? How can I increase the range of the set? At present I can pick up all Sydney stations, also 3LO 3AR, 4QC, and 5CL. If by building a short-wave receiver (two valves) could it be used in conjunction or attached to this set for picking up short-wave stations?"

Answer: Always adhere to manufacturers' instructions regarding valves for your receiver. The range of the set may be increased by using an ordinary aerial of 50 feet and an earth connection in conjunction with your receiver. All you will require for short waves is one S.W. adaptor. This should be plugged into the detector socket of your set. If you prefer using two valves you could make a short-wave adaptor, using a stage of screen grid R.F. and an ordinary detector. A one-valve S.W. adaptor suitable to your requirements was published in Queries columns, January 4, 1920.

G.N. (Gordon).—"I am just thinking of adding a stage of audio to the Extraordinary one-valve set, only I am not too sure of the wiring. I was wondering if you could spare a bit of space in your columns, and give me a diagram of the stage of audio to this set?"

Answer: Space is very limited in this section at present. If we had not published the required circuit so often of late, perhaps it would have been possible to publish it for you. However, you will find that one-valve amplifiers have appeared in several other issues, among them December 1919, December 7, 1920, February 8, 1920, March 1, 1920. If you cannot trace one of these, repeat your request.

(2) "I am more than satisfied with the results of the set, but, as far as I can, never use one set for long. I've wanted to make a small loud-speaker set out of it, as I am certain of good results on account of being so close to the stations."

Answer: You're got the radio bug.

(3) "Like everybody else, have found your pages on 'Proving Radio' very much indeed."

Answer: So, therefore, you will be pleased to hear that a Proving Radio club is shortly to be formed in your district!

J. Lyons (Carlisle Road, Epping) requires urgent repairs to "Radio" dated August, 1917. Can any reader help, please?

Hector (Cremorne).—"No hope, Hector! Even with the R.F. stage you could not expect loud-speaker reproduction equal to Sydney 'A' class stations on the 'Proving Radio' set, which has three valves, and O.K. for local stations, but N.O. for reception of Interstate stations at loud-speaker volume as a four, using a loop aerial. Your circuit has been returned as requested. Your coupon arrived under separate cover two minutes ago."

R.C.S. (Concord West).—"I have just completed constructing an Improved Rehnart 'Three,' as explained in your diagram of August 10, 1920 (Vol. 12, No 16), and can only bring in all local stations at loud-phon volume, but cannot raise a sound with loud-speaker, which has just been tested with other three-valve sets, and works well. Can you please let me know where the trouble lies? All parts throughout are brand new, batteries included, and the circuit connections carefully checked over."

Answer: You don't give me much to go on, do you? Still, let's see what can be done. Look to the following: Aerial, earth connections, battery connections, faulty valve, valve not making contact in socket, faulty or bad battery, bad soldered joints, reaction coil reversed, faulty fixed condenser. What deviations did you make, if any? Look to these deviations first, and build the set up again, described.

E.K.D. (Springwood).—"May I ask the advice of your expert in regard to my wireless set? I have a four-valve Browning-Drake set, which gives excellent results when there is fine weather. Immediately it rains the volume diminishes, until it is a waste of time trying. I have a fear that the coils must absorb the moisture, and thus bring about diminishing results. Will you let me know if there is a remedy for such?"

Answer: It is possible that your aerial is insufficiently insulated from the house, the mast, or other earthed object, which, when wet, becomes a conductor, and earths the aerial. If your coils absorb moisture, place an ordinary electric lamp, connected to the mains (and, of course, switched on)—I have to put all these extra bits or critics pull me to pieces—and let this dry out the moisture.

QUERY COUPON

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

The Radio Information Service
 W. J. P. Ellis, Editor
 Please enclose the accompanying queries in
 the information service in order to
 This coupon in order to
 that I am a

"Rectifier" (Parkes).—No, your query didn't go astray. Your turn hasn't come yet. Not long.
J.C.C. (South Coast).—I would be obliged for your advice on a matter of interference, which is worrying us in this locality. I have a 'Crossley' six-valve battery-operated set, which I work with a Phillips 3002 eliminator. For the past month or so I have been worried with a noise from the set like a motor-bike travelling at a very high speed. I am situated about 30 yards from a lightning transformer of 6600 volts. Other people around me also get the interference in inverse ratio to their distance from this nuisance. Last week we had the interference for four nights, from about 6.30 p.m. till 11.30 p.m. Short bursts are also noticed through the day. I have complained to the council, and they say that the transformer is quite O.K., and that the noise must be coming from some electric motor, but this is disproved by comparing notes with neighbors. Would you give me your advice on the best possible means of overcoming this trouble. As things are at present, the set is only an ornament at night. Another point, also. In day time I can get 3LO's carrier, but cannot tune them in.

Answer: Did you see the circuit published for you in last week's issue? As to the cause of the interference, I am inclined to believe that there is a leak somewhere from the transformer mentioned, though it is quite possible that some doctor or other person has an electric motor running in the vicinity. The best way to test this is to use a loop receiver, i.e., a portable receiver, and move about with it till you trace the source. The council, of course, should immediately attend to any leak in the power transformer. The motor-boating may also be caused through a breakdown in the rectifier of your eliminator. Try using dry batteries. Daylight reception is very difficult, and your set is not at fault. The suggestion made by you regarding the replacement of valves is in order, and this may result in slightly increased volume if the power valve mentioned is used.

E.M. (Victoria).—"Please supply 'Wireless Weekly' dated December 28, 1928."

Answer: This copy has been forwarded you.
(2) "Will the receiver in this issue give speaker strength on inter-State stations? I will be using Penthode in last stage."
Answer: Yes.

W.T.S. (Lakemba).—"Would you kindly help me by answering the following in your valuable paper, of which I am a regular reader. My set is a four-valve English circuit, 'Sterling,' with four Phillips best valves, and I can only get 2BI and 2PC, no other stations being heard. I know nothing of wireless, although I can follow your clear wiring charts, but this set has an unusual circuit, so I am informed by the agents, who gave me no satisfaction on what alterations could be made in the set to enable me to get all local stations and Inter-State. Could I change the tuning coil for better results, and leave the wiring as it is now?"

Answer: No. The set will have to be entirely remodelled. It is of the old tuned anode type, with reaction coupling.

C.O.D. (Mossman).—"I have had a Go-getter in operation for some ten months, with pretty fair results from London, Holland, Java, and others, also from local B.C. stations, but the set has faults which you may be good enough to help me rectify. Internal noises increase from about 30 metres until at 104 metres (6WF) reception is drowned by a harsh roar."
Answer: Probably wrong value grid leak. Try several.

(3) "Fringe howl is an infernal nuisance. Between 15 and 30 metres the reostat is almost off, except for the last four or five turns of wire, in order to check the howl, which gets worse as the wavelength increases, irrespective of grid-leak value."
Answer: Try changing the grid return lead to the other side of the "A" battery.

(4) "At times, when receiving long-distance stuff, irregular grunts, or puffs, come through, which may be described as puffs of fringe howl."
Answer: Either a faulty grid-leak, or condenser, or a loose connection. Perhaps, also, the detector valve is faulty. The tuning condenser may have a noisy action.

(5) "I used two 2-1 Geophone transformers, instead of those specified. Aerial 40ft. long, 35ft. high, on mast 12ft. high at lead-in. Earth 12ft. long to two 2in. pipes, driven into ground. Rest of set and valves as specified."
Answer: All O.K.

(6) "The set seems to pop into oscillation too suddenly."
Answer: Another indication that the trouble is in the grid circuit.

(7) "Could grid bias be used on this set?"
Answer: Yes, in the usual manner. Filament terminals of transformers to C negative, and C plus to A negative.

(8) "The broadcast from motor vehicles and trams comes in well on about 104 metres, and has already cost me my seat in Paradise."
Answer: The local person will manage a re-booking. Thanks for your kind remarks.

J.B. (Bexley).—"I built the Countryman's One, and a squeal could be heard all the way round condenser dial. I could get rid of it by cutting rheostat back, but stations then faded out, too."
Answer: Adjust the reaction coil by turning it outwards, as described in the article. You have evidently failed to do this, or have placed too many turns on the reaction coil. You will find there is one spot for the reaction coil which is favorable for all wave-lengths.

C.E.N. (Bexley).—"I have just changed my three-valve Reinartz into the Marco Four. My trouble is that I can't get satisfactory volume on inter-State

stations which I want. Tuning is very sharp and very selective. I am using in the set Phillips B406 valves (two), A609, and A409, 4-volt accumulator, 90-volt "B" battery, No. 126 "C" battery, aerial 40ft. long, 24ft. high, earth soldered into ground. I have varied the placing of coil L2, but I am anxiously waiting for your advice. Kindly let me know as soon as possible through your wonderful paper. (No "kidstake.")

Answer: 6 to 4 on. In other words, you are using a four-volt accumulator with a six-volt valve, to wit, the A609.

W.G.B. (Sydney).—"I wrote you about two weeks ago, asking for information with regard to building short-wave receiver. I also enclosed 1/4d in stamp for a copy of 'Wireless Weekly,' March 2. Since you have not had the courtesy to reply, I would like to know why you invite your readers to seek information from your office?"

Answer: We don't. In fact, we are very much against it! We answer all queries through these columns. We have no record of receiving your previous letter or stamp, but the copy mentioned has been forwarded you, in spite of this—and in spite of the fact that you did not enclose a coupon. Please forward a coupon, and if you desire a reply to your queries (which were not given in this letter), please repeat.

T.H. (Port Macquarie).—"Would you kindly let me know if you have a 'Wireless Weekly' with a five-valve receiver in it, or if you can set one out for me (battery type); also write down parts required for same, and give me full information. Enclosed stamps for return letter."
Answer: We do—not—reply—per—post! The stamps received have paid for a copy of 'WIRELESS WEEKLY,' giving full particulars of a receiver to suit your requirements, and this copy (February 15, 1929) has been forwarded you.

W.A.O. (Willoughby).—"Being a constant reader of your valuable paper, 'WIRELESS WEEKLY,' for the past five years, in which it has proved itself to both amateur and professional, may I be permitted to place before you a suggestion regarding 'WIRELESS WEEKLY Circuits' and 'Proving Radio'?"

Answer: Certainly.
(2) "We radio bugs don't like parting with valuable information in your paper, so may I suggest that leaflets containing circuits and 'Proving Radio' be performed, so they could be detachable from book and put into two separate spring-back portfolios, marked 'WIRELESS WEEKLY Circuits,' and 'Proving Radio,' and put on sale by your firm for a few shillings. I think this would be a great boon for 'WIRELESS WEEKLY' readers."
Answer: We are unable to comply with this request. This procedure would be impossible without greatly increasing the cost of the journal. Would you care to pay 2/ or more for your weekly copy?"

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.0005 S.L.F. Ball-bearing Condensers	7	0	Celatsite Acid Proof 5-way Cable	3	0
Effesca .00025 Reaction Condenser	3	6	Aerovox New Type Grid Leaks	1	9
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W.R.C. Audio Transformers, 3½ and 5 to 1	8	3	Tefag Adjustable Diaphragm 400 ohm 'Phones	12	6
Pilot Bakelite Audio Transformers, 3½ to 1	10	0	Terraphon 8000 ohm 'Phones (lightweight)	12	6
Ediswan 45-amp. actual 2v. Cell Accumulator	18	6	Six-sixty Special Cone Papers, 1/9 and	2	9
Titan "A" 2-amp. Charger, complete	60	0	4 m.f. Fixed Condensers	7/6	and
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Genuine Carborundum Crystal Detectors	8	6	Ediswan 9-volt "C" Battery (tapped)	2	6
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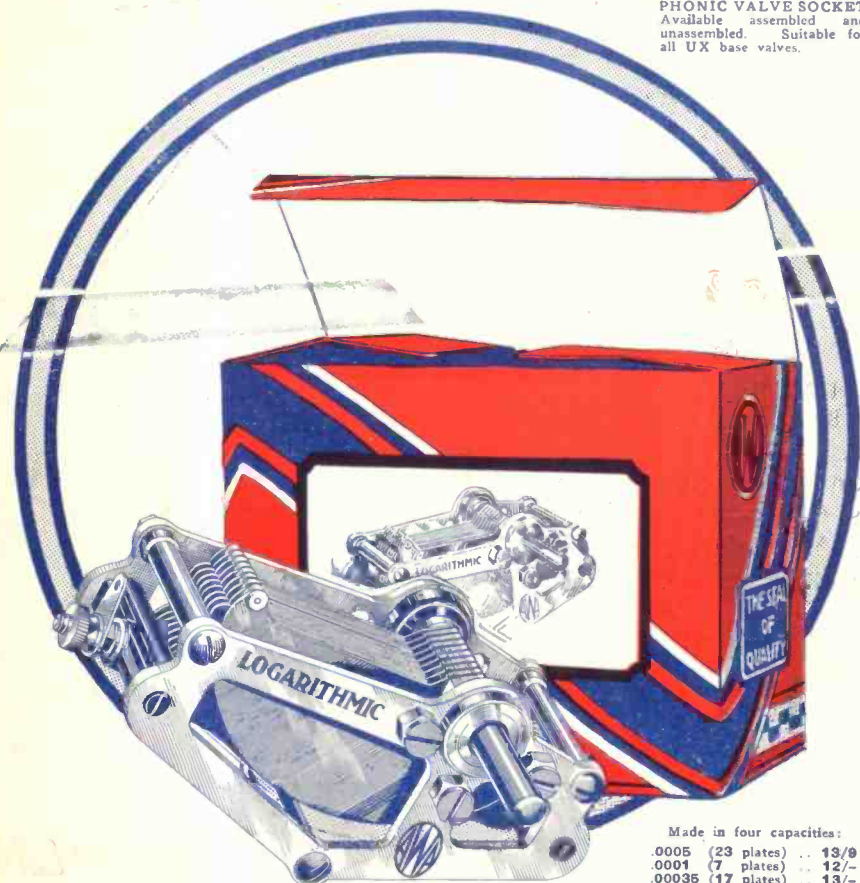
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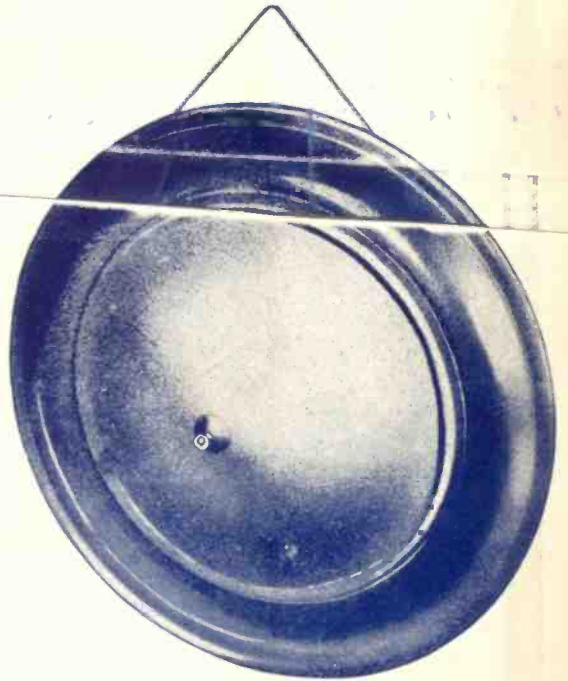
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