

: : *Technical Features for the Newcomer to Radio* : :

Wireless Weekly



INCORPORATING "RADIO IN AUSTRALIA & NEW ZEALAND"

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Days out at Sea!



Australia's National
Wireless Organisation



On an
AUSTRALIAN SHIP
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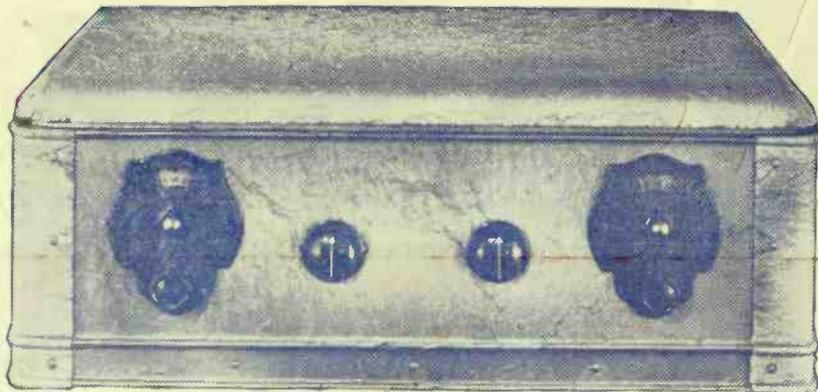
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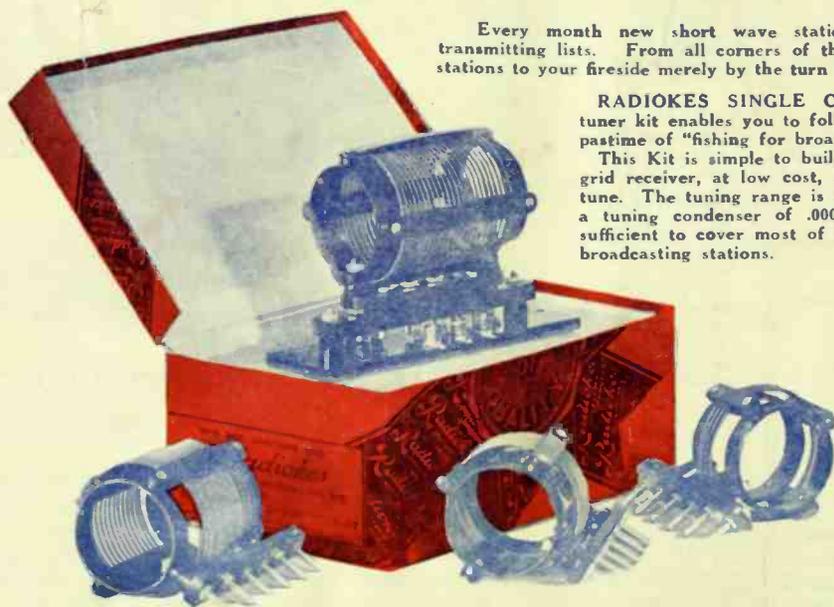
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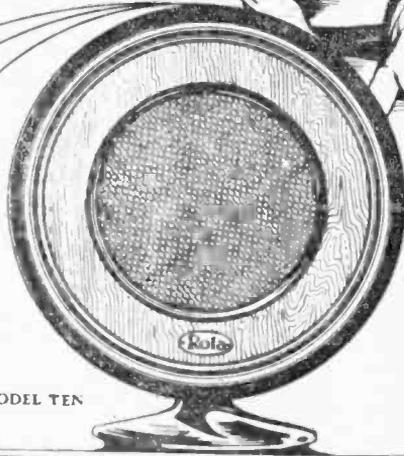
Double the Enjoyment



MODEL THIRTY-J



MODEL FIFTEEN



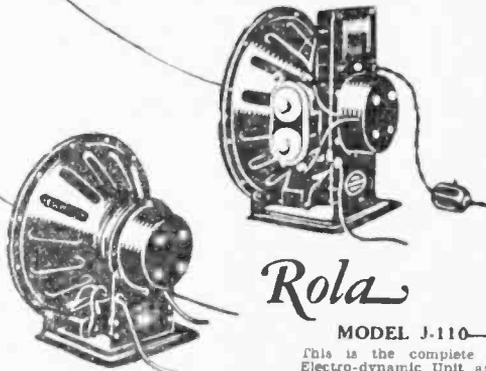
MODEL TEN

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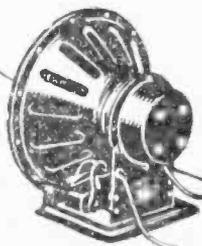
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Rola

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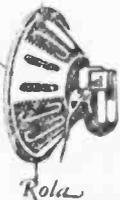
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DO WE REALLY APPRECIATE MUSIC —OR DO WE MERELY FOLLOW PRECEDENT?

The question is prompted after reading Mr. Agnew's article below, which pleads for a more frequent hearing of modern works. It is just as necessary for us to keep abreast of contemporary musical thought as it is for us to keep abreast of contemporary literature, art, or philosophy, he maintains.

The article was conceived as a result of the recent controversy between Mme. Sonya Michell and Mr. C. N. Baeyertz in these columns. Mr. Agnew takes neither side, but feels that later musical compositions are being neglected. He suggests that the broadcasting companies combine both entertainment and education in presenting modern music.

By ROY AGNEW

I AM inclined to think that many of the old masters are about due for a well-earned rest. I am heartily tired of a great deal of the old music, so much of it has worn very thin, indeed. Yet it does not seem so very long ago that we were taught to accept old masters of every kind almost as the word of God; to attempt criticism of any kind was almost blasphemous: it simply wasn't done. And it came almost as a shock to realise that the old masters of to-day were once very modern and up-to-date in their own time. The best of all music, old and new, remains as a sort of recorded impression of the period during which it was written.

Unfortun'ely, in Australia, we get very little opportunity of keeping in touch with contemporary musical thought, and when we do have the good fortune to hear anything it is almost always sure to be something in one of the smaller forms. How much have we heard of Scriabine, for instance? One of the most amazing figures of the late nineteenth and twentieth centuries, who was, according to the late Dr. Eaglefield Hull, "the most remarkable spiritual phenomenon in all music"? Scriabine wrote five symphonies, ten sonatas for piano, and some one hundred and twenty shorter works also for piano. And yet, out of all this important output, save for a mere handful of the earlier works, what have we heard? Nothing. Then, what do we know of the works of Arnold Bax? His chamber music consists of some of the loveliest things in modern chamber music literature. Frank Bridge has also written some lovely chamber music, which is generally conspicuous by its absence in our programmes. Symanowski, a Polish composer of genius, is a name quite unknown in Australia. Yet he has written some three symphonies, and four piano sonatas, etc. Dellius and Miskowsky are also names which come to mind as being quite unknown here, especially the latter.

The tragedy is that there seems, as far as I can see, little likelihood of our hearing any of these works in Sydney for some time to come. And if we do happen to have the luck to hear any of them during the next ten years or so (of course, I speak as an optimist) they will no longer be characteristic of contemporary musical thought. In-

stead, what do we hear? If Beethoven happens to be the composer, then it is almost certain to be the "Moonlight" or the "Appassionata" Sonatas. Chopin is usually represented by the "A Flat Ballade" or a waltz or two; Liszt, by a Rhapsody, or the "Lieberstraume"; and so the deadly monotonous repetition goes on. Why on earth can't we hear some of the lesser-known works, such as Beethoven's sonatas composed in his last and greatest period, or Chopin's lovely "Barcarolle"—one of his greatest works, by the way? And just think of all the wonderful

wealth of music, quite unknown here, by modern composers just waiting for a few adventurous spirits with sufficient leisure, technique, musicianship, and idealism to give it a chance of being heard—music often of a strange and haunting beauty, and, often, of a marvellous craftsmanship.

What a splendid opportunity for our new Broadcasting Company to do something of real importance and of educational value—something similar to that which the British Broadcasting Corporation is doing in London. One hears practically everything over the air in London. All the very latest experiments of composition are heard, as well as the more familiar works, classic and modern.

For a start, what about commencing with a series of short piano recitals, to be given nightly, say, from about 8 p.m. to 8.20 p.m., the programmes consisting of the unfamiliar works of the classical composers, and the compositions of the moderns, week about. It would be a good plan to devote each week to the work of one composer, to be prefaced by a short sketch of the composer's life, his aims, work, and technical peculiarities, with illustrations at the piano; each week's programmes to include, at least, two sonatas (that is, if the composer chosen for the week has written any).

In this way we would sooner or later hear the complete piano works of Scriabine, Debussy, Ravel, Bela Bartok, John Ireland, as well as all the unfamiliar works by familiar composers. If the lecturette were broadcast clearly and intelligently by a musician who really knows his job, the discerning public would very soon sense an order and logic in the (to unaccustomed ears) most advanced music.

After thus breaking the ice it would be quite logical to introduce chamber music and songs in the same way. I, somehow, feel that our Broadcasting Company, under its new management, will be interested in a suggestion of this kind; for, as well as earning the thanks and interest of all true music-lovers, it will be laying the foundation-stone for a new, more critical, and discriminating musical public, with a greater capacity for appreciating what is finest and best in all music, old and new.



Roy Agnew was born in Sydney. He came very early under the influence of the modern school of musical composition; and eventually went to London and the Continent, where he scored many successes, having many of his compositions played by well-known orchestras, and published by some of the more exclusive of London houses. During his stay in England Mr. Agnew played often from 2LO, London. He returned to Australia a year ago.

BETWEEN YOU & ME & the MICROPHONE

HAVING failed entirely to devastate the charge of empty-headedness made by the only correspondent of our existence, we have decided to reform, and to give the reader (we know we have one, at least) some information. Modelling ourself on our own Mr. Hull (with acknowledgment to his very excellent style also), we propose first to clean up the broadcasting situation as a preliminary to getting down to a general standard of—of—anyway, it's a good beginning.

COMMONSENSE ABOUT BROADCASTING PROGRAMMES.

WE are mournfully surprised now and often, as we wander trippingly through the programme pages of WIRELESS WEEKLY, by the alarming amount of balderdash and bunkum talked about artists. It is rather confusing and a little amusing to come back from a sojourn in Utopia, where artists are simply artists—nothing more nor less—and to hear artists called "World Famous," "Kings of the Ether," "The Radio Laughmakers," and so on, and so forth, as though these rather doubtful and altogether to be regretted titles might add to their prestige before the public. Moreover, one is looked at askance by many who profess to have taste in such matters, if one should venture to hint at the quaintness of these customs. But we are growing weary of these arbitrary and not always exact classifications. We, in short, have rebelled against the "Wizards of the Saxophone," "Princes of the Piano-forte," and other such invidious distinctions.

If we consider an artist as purely the resultant of careful cultivation of inherited instincts, we may say that artists, as a tribe of gregarious beings, may be divided roughly into three classes. The first division contains the good, serious artists in all mediums from music to drama, who present only the work of so-called "classical" composers. Then there are the artists whose work is of the more popular character—musical comedy, ballad songs, Milne sketches, and so forth. Finally, there are the artists whose business it is to portray the more farcical elements of existence in such a manner as to endue their audiences with the spirit of levity and animal mirth, the comedians.

A broadcasting programme is really only the arrangement of these three elements in varying proportions. Yet we have heard people talking about 2BL's programme, or 2FC's programme, or 3LO's programme, as though the letters had something to do with the excellence of these programmes!

What, after all, is represented by the symbols 2BL, 2FC, 2GB, 2UW, 3LO, and so on? Simply the number of metres which make the wavelengths of the respective stations. Thus, 2FC has a wave-length of 442 metres; and, supposing its programme to be made up of 20 per cent. so-called "classical" numbers, 40 per cent. so-called "popular" numbers and 40 per cent. so-called "humorous" numbers, then the evening programme of that station



may be set out simply as "442 metres, transmitting 20 per cent. classical, 40 per cent. popular, and 40 per cent. humorous." With the date and time of transmission added, this would be a tolerably correct statement of the evening's programme.

We may write more fully on the subject later, but in the meantime let us square off our department with a few queries.

ANSWERINE ANSWERS TO QUERIES.

WE heard somewhere that this is to be a **BEGINNERS' NUMBER**. The announcement pains us slightly, as we had intended to make our Answers to Queries very wise and very satirical commentaries on the complex ailments of our more advanced listeners-in. The trouble with beginners at the listening game is they are generally very enthusiastic about radio, and have very little knowledge of what to complain about, whereas listeners-in of three or four years' suffering have worn out the more obvious complaints, found out what things it is useless to complain about, and have created original and very beautiful grievances and questions, the consideration of which is always a delight. However:—

The pen-name of our querist appears first, his question second, and, AT LAST, our answer.

Q.—("Interested"): What is radio?
A.—Radio is the means of pushing into people's homes many things which they once desired to keep out.

Q.—("Curious"): Why is radio?
A.—Well, it supplies us with a living, doesn't it?

Q.—("Junko"): Are announcers human?

A.—Have you any reason to believe it?

Q.—("Unkwal"): Who is Mr. Stuart F. Doyle?

A.—Send us your address and a photograph. Mr. Doyle will be interested in your case.

Q.—("Maud"): Do you believe you can love a man for his voice?

A.—Keep us out of it. Yes. It is a good enough radio reason, and very often the best reason. Who is it this time, by the way — Cochrane, Stevens, or Charles Lawrence?

Q.—("Gloak"): What is a musical ensemble?

A.—Lowbrow for orchestra.

Q.—("Panthea"): My husband bought a set the other day, but will only use it to listen in to the wrestling. I want to listen to the music. What shall I do?

A.—Divorce is too conventional. Choose the lesser of two evils, and listen in to the wrestling.

Q.—("New Licensee"): What is the new era in broadcasting?

A.—This. But it's growing older. Next new era in three years' time. Buy a set and be ready for it.

Q.—("Banquo").—How are programmes improved?

A.—Cut out all the old features for a month or so, then put them back again one by one, as requested.

Q.—("Metaphysico"): Is dignity a feature essential to broadcasting?

A.—Essentially no!

(2) If not, what is?

A.—Humanity.

(3) And why?

A.—Because beer is better than an empty champagne bottle.

Q.—("Psychologist"): I have just bought a radio set, and after listening in I have decided that everyone connected with broadcasting has an inferiority complex. Is this so?

A.—That's something we've never noticed. But you may be right. Black is so often an excuse for white these days.

Q.—("Wondering"): Are sopranos good broadcasters?

A.—They are rated very high.

(2) If so, will you put me on to the best overhauler of sets in Sydney?

A.—Yes, we catch your meaning, but a service man can do nothing for your case (although it's doubtful if he'd admit it). Most listeners generally (a) Stuff their ears with cotton wool, or (b) Tune in to some other station.

Q.—("Highbrow"): Which instrument plays Beethoven's "Pathetique" Sonata better—the xylophone or the saxophone?

A.—After you have heard it played on the xylophone you won't worry about the saxophone.

Q.—("Argumentative"): What is the matter with gramophone records?

A.—Jealousy.

(2) Why can't we hear more gramophone records?

A.—You will, brother, you will!

(3) After all, they're... aren't they?

A.—We decline to express an opinion.

Q.—("Listener"): How are programmes prepared?

A.—A n y w a y, we've grown

tired of answering our own

questions.

James

The FIRST MONTH of the NEW ERA IN BROADCASTING

In which the policy of the Australian Broadcasting Company is Outlined

By **STUART F. DOYLE**

(Chairman of Directors of the Australian Broadcasting Company)

NEVER in the history of wireless in Australia has so much public attention been focussed upon the broadcasting services as at present. The advent of the new era in New South Wales and Victoria was ushered in with a great revival of listening-in.

As chairman of directors of the Australian Broadcasting Company, I realise only too well the immense responsibilities of our contract with the Commonwealth Government, to provide programmes for the National Broadcasting Services through Australia, and it may be assumed that before we entered into the immense undertaking my co-directors, Sir Benjamin Fuller and Mr. Frank Albert, and I very carefully considered every aspect of the scheme and the requirements of every class of listener were thoroughly investigated. We were aware of the difficulties with which those responsible for the services in the past were faced in blazing the trail and we know that we will not have to contend with many of those difficulties in the future.

My last visit to America was chiefly for the purpose of making a comprehensive study of the broadcasting conditions there, and to investigate the most efficient methods adopted, not only in providing programmes, but also into the very important network system of relaying. Broadcasting conditions in Australia are very much better in many respects than those in U.S.A. and Canada, where "jamming" and interference through overcrowding the wave bands is a source of continual annoyance. Of course, the system of control of broadcasting in the United States of America is entirely different from that in Australia. For instance, over there the broadcasting companies derive their revenue solely from advertising and propaganda. The result is that many hundreds of high power stations are operating and as some are very close together it can be imagined with what confusion the ether is, at times, oscillated. Naturally, in order to listen-in comfortably, very efficient receivers are required and crystal sets are not used in anything like the large proportions as in the Australian cities. The network system of some of the large companies is really marvellous, and when simultaneous broadcasts take place the same programme is relayed over thousands of miles from the Atlantic to the Pacific, and is heard by millions of listeners.

Relay Stations

Distance is the main obstacle in the way of an efficient broadcasting service for the whole of Australia. Distance and huge stretches of sparsely populated country are a barrier to the establishment of big broadcasting stations situated closely together as they are in America and Europe. The area of Australia is greater than that of Europe. The distance from Sydney to Perth is equal to that from Greece to Portugal, whilst an air line from Athens to Scotland would only reach from Melbourne to the far North



of Australia. In Europe there are hundreds of high-powered stations, whilst in Australia there are only eight. These, excepting the two each in Melbourne and Sydney, are situated many hundreds of miles apart along the eastern and southern fringe of the great continent. The difficulty is obvious, therefore, of endeavoring to supply efficient services for the whole of Australia.

Under the scheme adopted by the Commonwealth Government for relaying the National Broadcasting Services, listeners in populated country districts will be able to hear with efficiency the programmes relayed from the city stations, which may, conversely, draw studio programmes from the country centres where the relay stations are to be erected. From these relay stations will be broadcast local events and market reports.

Under the conditions of our contract with the Government the directors of the Australian Broadcasting Company are required to co-operate with the Government in providing the services to and from these relay stations and the periods of local transmissions are definitely laid down. Where these relay stations are to be erected is purely a matter for the Government to decide, and it is quite outside our jurisdiction. Country listeners, however, may rest assured that the programmes to be provided for them by the Australian Broadcasting Company will exceed the requirements of the contract, as it is our policy to extend the services throughout the country as far as practicable. However, that is a matter for the future when the relay stations are erected. At present our immediate obligations are more important—the supply of programmes to the Sydney and Melbourne "A" Class Stations.

The Magic of Radio

Although radio these days is taken for granted by most people, one cannot help blessing to the community. It has been wondering at the magic of it and its great

said of Socrates that he brought philosophy down from Heaven to inhabit among men. It may be truly said of wireless that it spirits away to the remote corners of the earth, to the habitations of the poor and the rich alike, the speeches of kings and rulers, and, on the other hand, it carries to the palaces of the mighty the voices of the masses, as is possible by no other means. The world's greatest singers and musicians are heard in the seclusion of humble cottages, heard in hospitals and far away camps, heard by people who would never otherwise hear them, and all for a trifling cost of less than one penny a day—and these are only a few of the benefits of this great science.

Broadcasting and Education

Whether it be for good or for evil, wireless is and must increasingly become a great factor in influencing the minds of the people. So long as they listen they will be to a more or less extent led by the power of speech and music and song. Music becomes popular only by its continual rendition. Its devotees increase in number because of its repetition and so it will be with all classes of broadcast entertainment, recreation and education. It behoves the Australian Broadcasting Company, therefore, to exercise the greatest care in selecting the programmes. It will be remembered at all times that the National Broadcasting Services shall be a powerful influence in stimulating a revival of musical appreciation and in opening up for the public avenues of education and recreation hitherto undreamed of.

It may be taken for granted that the vast majority of listeners want only music and entertainment. There is an ever-increasing minority of listeners, however, who depend upon wireless for church services and talks of an educational nature. This minority will be adequately catered for in order to increase the universal use of radio.

Popular Music

Lovers of dance and popular music need not fear, however, that their needs will be curtailed in the new era. As a matter of fact, the increased transmitting times of the stations will enable more music of every class to be broadcast and the dovetailing of the services will provide alternate programmes, thus when a highly classical programme is on at 3AR listeners may tune into a popular programme at 3LO, and the same will apply to 2FC and 2BL. In States, however, where there is only one "A" Class Station, difficulties will present themselves, but these will be overcome by the provision of specially arranged programmes.

Monotony to be Avoided

Everything possible will be done to obviate monotony or repetition of items. It must be remembered that the listening audience is practically the same every day. With a stage production the audience is limited to the seating capacity of the theatre and it takes many weeks for even a very small proportion of the community to witness or hear it.

With broadcasting, however, the novelty of an item has a very short life and quick changes are essential in order to maintain its popularity. Programme experts of the highest standing in music, song, drama, religion, literature, science and sport have been appointed by the Australian Broadcasting Company, and the requirements of listeners will at all times be carefully watched.

Public Services

The National Broadcasting Services belong to the public, they are the public services in the strict sense of the term. The Australian Broadcasting Company is merely a contractor to the Commonwealth Govern-

LICENSES IN THE COMMONWEALTH.				
	June 30.	July 31.	Incr.	Decr.
N. South Wales	100,798	102,575	1777	—
Victoria	142,534	142,079	—	455
Queensland	24,650	24,778	118	—
South Australia	23,944	24,273	329	—
West Australia	3,841	3,887	46	—
Tasmania	4,751	4,947	196	—
Commonwealth	300,528	302,539	2466	455

Increase of licenses in the Commonwealth of Australia during the month of July, 2011.

ment and as such will co-operate with the Government in extending the use of radio by popularising the programmes and catering for all classes of listeners. We must think nationally, favoring no particular party.

class or creed. Radio knows no State boundaries and they do not divide our broadcasting map or limit our activities.

The States where listening-in is languishing are to have certain revolutionary changes in the services and in consequence of their isolation and the limited supply of local talent the task of supplying programmes for more than 10 hours a day will be very great, quite apart from the enormous increase in the cost. However, this will be met with the optimism that has been a feature of the advent of the new broadcasting era and the present lack of public interest in radio in those States will give way to the same enthusiasm that marks our opening of the new era in New South Wales and Victoria.

:: East of Suez With Jean Armstrong ::

OUR main streets are not more familiar to us than "the magic East" is to Miss Jean Armstrong. She has travelled as journalist, reporter, and organiser through India, China, Japan, and other lands which to the majority are mere romantic names. She hopes to instill into her lectures from 2BL a little of the charm of the Far East, at the same time discussing those problems, social and economic, which she has studied there.

Miss Armstrong leaves for India in February to organise big expositions, and this may be the only time listeners will have an opportunity of hearing her. "Wealth and Want, East of Suez," "Social and Commercial India," "Moods and Modes of Egypt," are a few titles which indicate how very interesting these lectures should be.

Before Miss Armstrong left Australia she was the secretary of the Chamber of Commerce, and won a big reputation as the organiser of charity benefits. In China she ran her own newspaper, "The Far Eastern Lady's Companion," and was official correspondent to the Chinese Communist Party's magazine. "Dr. Sun Yat Sen and Eugene Chang, who dictated the paper's policy, are now in command of the situation in China," said Miss Armstrong. "They will bring about some astonishing reforms!"

When Miss Armstrong was passing through Cairo and Port Said she had exceptional opportunities for photographing the graves of those soldiers who fell in the Great War, and has kept many of the negatives, with the names on some of the monuments. "I know," she said, "that there are many people who cannot travel abroad to these places, and who would like to see the graves of those they lost. They might be comforted to see how well the memory of our men is preserved in the countries where they fought. I would not like to disappoint anyone, but perhaps if those who are interested in my photos would write or see me I would be only too pleased to supply the negatives, so that a copy of my pictures might be made from them."

A Distinguished Actress—Mollie Kerwin

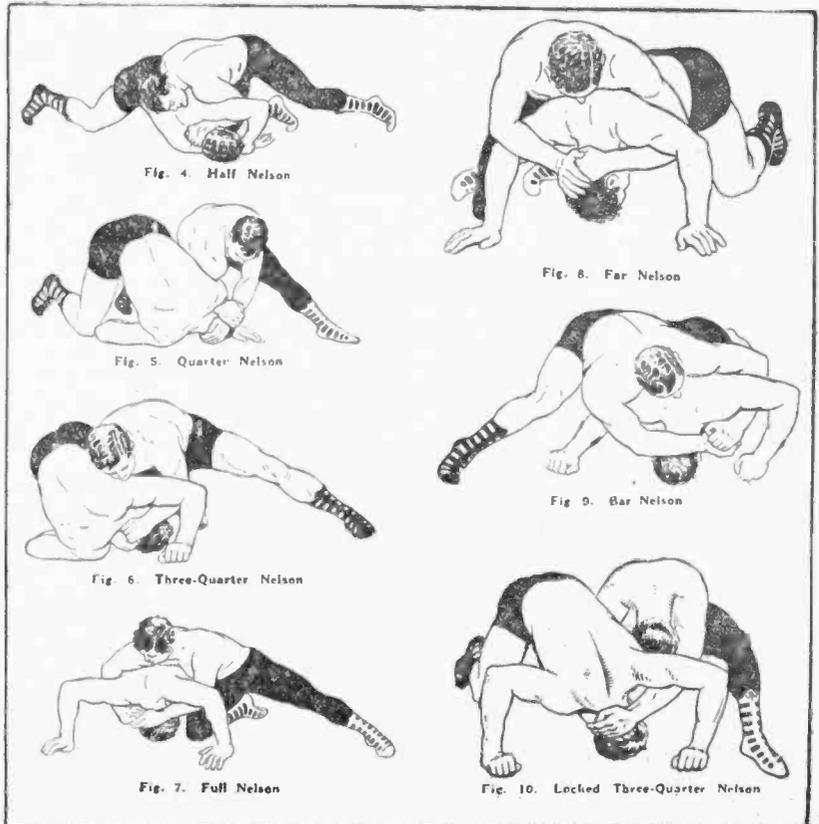
A DISTINGUISHED actress, with a deep contralto voice, Miss Mollie Kerwin has acted many parts with the Turret Theatre, when she was Judith in "Granite" and also with the Shakespearean Society. She studied at the Conservatorium, and her exceptional talent has been recognised by many critics. Her portrayals of difficult characters in the plays in which she has acted have marked her as an artist of discernment and magnetic charm. She will be included in the cast of St. John Invine's play, "She Was No Lady," which will be broadcast from 2BL on September 5.

The University Players

THRILLS will run up and down the rightly constituted listeners' spines on the night of September 4, when the University players broadcast the dramatised version of one of W. W. Jacobs' most blood-curdling stories, "The Monkey's Paw." Although not officially Grand Guignolish, the play almost achieves it, and the enthusiasm and real talent that the actors put into their parts will make the production a certain success. The cast is made up of Miss Mimi Spaul, Mr. Trevor Zeims, Mr. Ronald Andrews, and John Pickard (producer). They are all members of the University, and will be remembered for their excellent work in "Mr. Ambrose Applejohn's Adventure" and other plays that the University Dramatic Society has lately produced.

Ronald Marston

"IT is queer," said Ronald Marston, "but I spend hours practising difficult sonatas and preludes for the organ, and may have a little piece with chimes in it on the same programme. Every person who hears me play will tell me how sweet those chimes were, and ignore the rest of my items that took me so much effort and thought. You can't put any very long pieces over the air, because people like to relax when they listen-in, and refuse to concentrate." Ronald Marston studied under the late Alfred Woodham in London, and received the degree of A.T.C.L. as well as two other diplomas. He has not broadcast for quite a long time, and listeners will be pleased to welcome him back, when he will broadcast under the regime of the Australian Broadcasting Company. He is organist at the Fullerton Presbyterian Memorial Church, Crown Street, and will broadcast from there.



Illustrating various wrestling holds for the benefit of the listeners to the wrestling broadcasts. From "The Science of Wrestling and Jiu Jitsu," by courtesy of Walter Withrow, of the Withrow Physical Culture Institute.

MY FIRST SET

—and How I Survived

*The True Story of a Beginner Told in
Perfectly Good Humor and
Admirable Restraint*

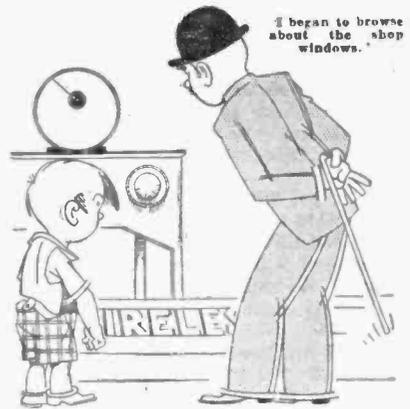
By LANCE FISHER

MANY times my wife had said to me—“Lance,” she said, “Why don’t you buy a radio set? I think it would really do you good, dear. You would hear all about the wrestling and the racing and the market reports; and it will help to pass many a peaceful evening for you—” “And you, of course,” I used to say pointedly. “Of course—for me, too, darling,” she would answer. “And why should I be left out of the question? Won’t you ever give me any consideration? If you’re going to buy a radio set am I not to listen to the programmes? Good heavens! That I should have married a man—” and so on, through the hat I hadn’t bought and the dish I broke last Sunday, and the unusual quantities of beer I must have consumed to get home drunk last Friday night. So gradually it dawned upon me that I had

vatively, of the merits of our own set. It is super-selective, ultra-dynamic, frigidly perficite; and will bring in all the ‘A’ class stations and all the ‘B’ class stations in Australia for less money than you expend weekly on your vacuum cleaner. Lord Stonehaven has installed two sets exactly similar to the one you are now looking at. Sir Dudley de Chair has ordered four—one for Lady de Chair, one for Miss Elaine de Chair, one for the servants, and another to carry round with him on extended excursions. Mr. Bruce has one. Dr. Earle Page has one. Squadron-Leader Kingsford Smith and Flight-Lieutenant Ultra have one apiece; and, to tell you the plain truth, I have one myself! Of course, if you don’t want a set that is super-selective or ultra-dynamic, or frigidly perficite—if you just want to get the local stations more or less distinctly, and if you’ll be quite prepared to put up with scratching and hum in the loud-speaker—well . . .”

I went round all the respectable radio houses—all those advertised in WIRELESS WEEKLY—and came away with folders and catalogues and information about receiver performance and cost of upkeep, and I turned these over in my mind until I felt almost as dizzy as I did on that Friday night I mentioned. I studied the advertisements. I compared costs of battery and electrically-operated sets, together with arguments about hum and distortion. I soon became conversant with the jargon of the wireless set owner; that is, I could talk about any question related to wireless sets—which to buy—which not to buy—how one compared with another on past performance and on folders and catalogues—and I consider that at that time I would have been an exceptionally well-informed man on radio matters if only I had understood what I was talking about! Eventually, my wife grew impatient. She wanted to know why I hesitated so long. Surely I had time by now to make up my mind what set I was going to buy. Finally, she brought the matter forward one night when we were entertaining the Tom Smiths. She always brings such matters forward when we are entertaining the neighbors. Then I have to play the indulgent husband and promise to do something I had no intention of doing; and I have to keep my promise for fear the neighbors may start talking—you know what neighbors are!

“Lance is going to buy me a radio set,” said my wife.
“Oh, how PERFECTLY BEWTFUL!” slobbered Jennie Smith, a feline creature if ever there was one. “Tom and I have often wondered why you didn’t have a radio set. Haven’t we, Tom?”
Tom cleared his throat. “What are you going to buy?” he asked, turning to me.
“The poor silly can’t make up his mind!” said my wife, getting in before me. “You know all about radio, Tom—can’t you help him?”



“Well, I’ve heard most of them,” said Tom importantly (the fat idiot), “but I still prefer the Wunglobunglo myself—I’ve had mine for three years.”

“Yes,” I said, “but look at the upkeep. The Wunglobunglo costs four times as much to run, more than even the Garapoosla Four.”

“But my dear chap! Look at the difference in Tone! The Garapoosla’s only a four-valve job, and the Wunglobunglo’s a five-valver. Anyone who understands anything of radio matters knows that an odd number of valves gives much better results than an even number. Besides . . .”

“Yes, Lance,” said my wife as we turned in that night. “You may be quite right in what you say. But you must remember Tom Smith’s had far more experience with radio sets than you have. You can’t go wrong if you do what he tells you. You go in and see the Wunglobunglo people to-morrow.”

Now I had really been thinking of buying an all-electric set. Since then, I HAVE bought an all-electric set; but my wife just then would hear of nothing but a Wunglobunglo battery set, and that was that. I went in next day and saw the Wunglobunglo salesman. I chose a table model. I had resolved to put it on the sideboard in our dining-room, and the Wunglobunglo table model 8A was of exactly the same wood and finish, to outward appearances, as our sideboard. I arranged with the dealer to send it out to our home, complete with speaker, batteries, and aerial wire. He said, “We shall send our mechanic to instal it for you, if you like.” I said by all means. He said, “And if you ever have any trouble with it, just ring us up and we’ll send a man out. Our motto is, CONSTANT SERVICE TO SET BUYERS, and we make no charge for Service to anyone who has bought a Wunglobunglo set.”

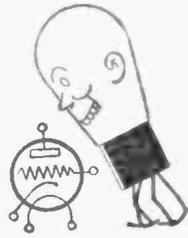
Then he said, “Cash or Terms?”
We said, “Time payment is the curse of the country.”
He said, “Too right it is!”
We said, “It’s putting all the little men out of business; shacking our industries with unnecessary burdens; and creating unemployment for future generations.”
He said, “Absolutely!”
We said, “The Crash will Come.”
He said: “Of course it will come.”



better buy a radio set. I began to browse about the shop windows. Then I began to go in and talk things over with the salesmen.

Let me here say a good word for the salesman of radio sets. He is most courteous and considerate. His tact is unfalling. His voice is mellifluous. His candor is intense. And he bears no malice—this is the one thing you will always notice about every radio salesman—he bears no malice. HE WILL NOT SPEAK ABOUT THE OTHER MAN’S SET.

“No!” says the radio salesman, “I won’t say anything about our competitors’ sets! It is not for ME to say a word about our competitors’ sets. I would not dream of thinking of saying anything at all about our competitors’ sets! I have told you, conser-



So would any respectable screen-grid valve be glad to meet the symbol which identifies him on paper. Beginners note.

We said, "For instance, what is the scale on which this iniquitous system makes you give away your sets?"

He said, "Well, that set you've just bought, for instance, sells at £47/10/. We take as low as 7/6 weekly on that price."

We said, "Good! Those terms will suit us admirably."

He did not seem surprised.

That night I was met at the door by an excited and affectionate wife. "Dearest," she said as she kissed me, "how WONDERFUL! It's arrived!" We inspected it together—my wife had already undone everything that was to be undone. I said, "Better put it up on the sideboard—see how it looks." She said, "Sideboard? The Idea! No; it's going on a small table under the window." "Which small table?" I asked. We went to bed wrangling about whether or not I was going

to show us how the set worked. Well, of course I knew enough about radio by then to work any set. As I said to my wife, "It's quite a simple matter. All you've got to do is turn the dial on the right-hand side till you hear a squeal. Then you turn it back a fraction. Then you turn the dial on the left-hand side till you hear the station you're looking for. Then you turn the volume control accordingly as you want it louder or softer. Watch me."

Well, I turned the right-hand dial. I turned it right round; but I couldn't get a squeal. I turned the left-hand dial. It wouldn't squeal. I turned both dials at once; then I turned them in contrary motion. But the set wouldn't squeal. I turned the volume control to different degrees, and tried both dials with each turn. The set absolutely refused to squeal. "There must be something wrong with it," I said. "Let's see the inside." I pulled up the lid. "Leave it alone till he comes," said my wife. "You've probably broken it or something. Why can't you leave things alone?"

He arrived at that moment. "I can't get it to work," I said. "I've done everything the catalogue says. What's the matter with it?" "You haven't pulled on the switch." He pulled on the switch, and the speaker began to bellow and screech like a bull at a beauty show. He resolved the screechings into music. "That's 2FC," he explained.

"Fancy me forgetting the switch!" I said, and began to laugh weakly.

"The switch? Oh, yes, the switch. Oh, they're all like that." He seemed a very phlegmatic sort of chap. He fiddled round with the dials, bringing in station after station, and tuning them out again as soon as he had them tuned in, making notes on a piece of paper in a stolid, unappreciative manner. We stood and watched him, my wife and I, fidgeting occasionally. I wanted to get at the thing myself. He finished making his notes, put away his pencil, and handed me the piece of paper, saying, "There's the log of all the Sydney and Inter-State stations. All you've got to do to tune in any one of those stations is, get the dials pointed to the number of degrees written opposite the name of the station. For instance,

He finished his course of instruction; accepted our thanks; answered such questions as to whether, if we joined the "A" batteries to the "B" batteries when they were not in use they would charge one another; and took his leave. I spent the night, up to five in the morning, pulling in the various stations, and explaining to my wife exactly how the thing should be worked.

I was sitting upstairs in the ferry a few days later, when who should come along but John Books, a fine chap, and a great radio crank. Trailing behind him was Phillip Williams, another friend of mine. We began to talk of radio. I told them what a wonderful set my Wunglobunglo was; and how I had been on to 3LO all night last night; and how I could get any conceivable station at any time of the day or night, just by turning the dials round. They sniffed.

"What size aerial are you using?" asked Mr. Books.

"Thirty feet over all," I said, which was true.

Mr. Books shook his head and looked at Mr. Williams. Mr. Williams shook his head and looked at me. "You'll never get anything properly on thirty feet," said Mr. Williams. "Will he, John?" "Not a chance in life," said John. "Seventy feet, at least, is necessary. You can't get anything properly under seventy feet. I've used seventy feet all my life; and it's always given the best results. You take my tip, and use seventy feet."

On the following Saturday I made the necessary addition to my aerial, breaking down two azalea beds and a promising setting of sweet peas in the process. Then I went inside, and tried to tune in. Do you think I could make that set do anything other than squeal? Answer's a lemon. I had no radio that week-end, because my wife said I had better not touch it and make it any worse than I had already. But on Monday I rang up the Wunglobunglo dealer. The mechanic came out that night.

"What on earth have you been doing with this set?" he asked.

"Nothing," I said. "I haven't touched it. Why do you think it should go on like that? It's most unsatisfactory, especially as I lengthened the aerial only the other day."

"You lengthened the aerial!" exclaimed the mechanic. "No wonder the log's all out of place. I'll have to log the whole thing again." Which he did. When he left that night the set was working as perfectly as ever before.

Things went well for a week or so; and I had just come to regard my set as something to be disregarded, when the damn thing stopped utterly. Wouldn't bring in anything at all. I decided to shorten the aerial, because, as my friend Phil says, the length of the aerial makes all the difference. I brought it back to thirty feet. But nothing happened. So I rang up the dealer again. He seemed a little annoyed that morning. Some foolish person must have been worrying him for information. He asked me what I thought was wrong with my set this time. I told him what had happened. He said, "Oh, it's gone dead suddenly, has it? I'll send a man out with a full emergency kit." The man arrived out that night. He only spent a few minutes with the set. "Do you pull the switch off every night when you've done with it," he asked. "Oh, yes," I said.

"How about the day time?" he said, turning to my wife.

"Oh, no," said my dear wife, "I just turn the set on in the morning, and leave it on till my husband turns it off at night. I shouldn't like to think I'd missed anything during the day."

"Quite right, madam," said the mechanic, "but it's somewhat wearing on the batteries. You've run down your 'A' battery in three weeks. You had better bring it in to-morrow, and get it re-charged."

"The Idea!" said my wife, growing angry. "Do you mean to say we've got to get a battery charged every three weeks, just because we like to have the set on all day? It's monstrous!"

"I can't help that," said the mechanic; and got away with it, which was more than I could have done.

Since then we have bought an all-electric set. You plug it into the wall, turn the dial, and go to sleep. It goes all day for half as much as it costs us to run our vacuum cleaner. Lord Stonehaven has one, Sir Dudley de Chair has one; and the salesman has one himself. The speaker brings the artist into the room; he is here now—I wish I had the energy to get up and push him out.

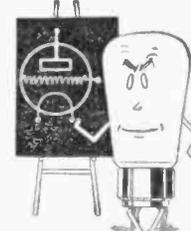


to buy a small table to go under the window.

"Now, understand finally," I said, as I went out next morning. "I'm not going to buy a small table for that set. It'll go on the sideboard or nowhere." My wife pretended to be trying not to cry. But it was a fine Spring morning; and business was brisk; and at lunch time I was feeling so well that I went out to Beard Watson's and bought a small table, of the same finish as the set, and told them to send it out.

"You might have waited before you bought that table," was my wife's greeting that night. "The mechanic came to-day and said the dining-room wasn't a suitable place for the set. He said you couldn't get your aerial in properly; and it's too far away from the ground. He suggested we should put it in the breakfast-room; so I told him to go ahead, because I knew you wouldn't mind where it went so long as—so long as... well, anyhow, come and have a look at it." She pushed me into the breakfast-room; the set was there, standing on our old card table, among wires and odds and ends of equipment. "See? The card table will do very well," said my wife. "but you needn't worry about sending the other one back—I'll find some use for it. The mechanic says you'll need to put an aerial up, though."

I hadn't thought about the aerial. Then I remembered that Smith had his aerial mast just next to my back fence. I decided to get the use of that. Smith was only too ready to oblige; and when I paid him five pounds ten for my share of his mast he said he'd help me put up my aerial next Saturday afternoon. But I said the mechanic would attend to that, which he did, next day. He told my wife he would come back that night



Attention Please! Beeginners. Here we see the familiar thermionic valve demonstrating his own symbol not without a degree of justifiable pride.

"I can't help that," said the mechanic; and got away with it, which was more than I could have done.

SECTIONALISED Programmes



Lisuscha Engels
whom you
will receive
at 2 B.L.
on
Friday
Aug 30



Herbert Batchelor
will be
broadcasting
from 2FC
on
Friday Aug
30



Annie Hughes
talking
from
2 B.L.
on
Thursday Sept
4



Charles Zoll
producing
a revue
at 2FC
on
Saturday
Aug 31



Leo Packer
producing
the opera
'Martha'
at 2FC
on
Monday
Sept 2

IN last week's WIRELESS WEEKLY details of the sectioning of the programmes of 2FC and 2BL to take effect from September onwards, were printed. To any student of wireless presentation, it must sooner or later become obvious that the sectionalised programme (the programme arranged in sections representative of various types of presentation, which sections will appear every week on the same day at the same time) is the only proper method of satisfying the diverse tastes of our modern radio audiences. When listeners get the habit of saying, "To-night is Monday: Wrestling from 2BL," or "It's Tuesday: Dance Night from 2FC"; or, "Wednesday: There'll be a Mystery Play from 2FC"; then the Broadcasting Company will have the trust of its public. Therefore it is very reassuring to see this company putting out a complete scheme of sectionalised programmes at this comparatively early stage of its existence.

FRIDAY: The opening artist from 2FC will be Christian Helleman, who will give a twenty-minute organ recital. Then will follow a popular programme, including Everard and Manning, Lottie Keys, the Two Old Cronies, the Two Fosters, Herbert Batchelor, and Charles Lawrence. From 2BL, a semi-classical programme will be broadcast by Maurice Ballance, Lisuscha Engels, Leonore Gotch, Muriel Lang, and Arnold Ashworth. At 9.47 there will be a talk by a well-known speaker; we might almost say, if we were quite sure, a well-known K.C.

SATURDAY: The racing broadcasts from Warwick Farm will go over from 2FC during the afternoon. 2FC's night feature will be an hour and a half's revue, arranged by Charles Zoll. From 2BL one full hour will be devoted to a sporting event; but what that sporting event will be we are unable to say.

SUNDAY: 2FC's morning church service will be from St. David's, Haberfield (Presbyterian). In the afternoon Lillian Frost and Esther Kahn will broadcast an organ and pianoforte recital, including two moods of Mozart's "Coronation" Concerto, and two from a Beethoven Concerto. Jean Derrin will sing. Another classical programme begins at five under the arrangement of Miss Dagmar Thompson. At 7.40 the Hon. D. R. Hall will give the Talk of the Week, "Prisons and Prisoners." From 8 till 10, Ted Henkel's

Orchestra. Somewhere in the evening programme will be included a message of greeting to 6WF, Perth. 2BL's morning church service will be from the Bourke Street Congregational Church, sermon by Rev. S. H. Cox. At 12.28 there will be a special gramophone presentation, in the arrangement of which Mr. Stevens spends much time and thought. At 4.30 Addison Brass Band will blare, and several sinners will sing. Mr. Stevens' children's session begins at 6 and ends regretfully at 6.40, when the Newtown Congregational Church prefaces its service with organ and orchestral music. Sermon by the Rev. Mearns Massey. Relay of 3LO from 8.30.

MONDAY: Leo Packer will produce the opera "Martha" from 8 to 9 from 2FC. At 10, Mr. Baeyertz will tell a dialect story. 2BL will do some popular stuff in the shape of Sonny Miller, Frank Ryan, and Palmistra, who wizards at the piano, until 8.30, when the wrestling will be broadcast from the Stadium.

TUESDAY: This is 2FC's dance night. The Australian Broadcasting Company's Dance Orchestra will be interspersed with doers of popular things in many mediums. From 2BL, Vern Barnett's idea of a classical concert will be broadcast till 9.30. The Welsh Male Choir leads off the ball; then Mr. Barnett's Trio, then Etta Field, then Ilma

Merske Barnes, speaker of poetry, and so on.

WEDNESDAY: The State Theatre Hour opens up from 2FC and goes on till 9. Then the Sydney University Players play a play. They know their stuff, and are getting better and better. From 2BL there will be a night of comic opera—Wireless Singers. Tramway

Band, Victor M'Mahon, Lottie Keys, Norman Hestelow, Hilda Boyle, and Robert Gullbert will sing duets.

THURSDAY: Charles Lawrence heads the bill with a Hospital Concert Party broadcasting from the Graythwaite Convalescent Home. At 9.16, C. R. Hall will attempt to give listeners A BIG SURPRISE. Well, 2BL begins with some Capitol music from 8 to 9. At 9 o'clock, Mr. Francis Jackson will produce a character sketch—"She Was No Lady." Thence onward there will be a popular programme. Wally Baynes, Peerless Four, Malsie Oattie, the Two Fosters.

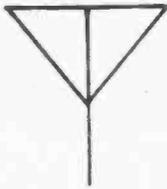
Not what you might call an exciting week; but who wants an exciting week?

Lisuscha Engels

MISS LISUSCHA ENGELS is a shy little Russian pianist, who has only been in Australia for eight months; but she likes it so much that she is seriously thinking of staying here. Miss Engels received her musical education in Germany, and also played quite frequently over the wireless there. She will include in her programme from 2BL on August 30 the first movement of Beethoven's D Minor Sonata and Tschalkovsky's "Barcarolle."

Miss Annie Hughes

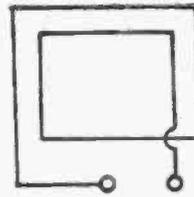
"FAMOUS Personalities I Have Met" is the subject of a series of talks from 2BL by Miss Annie Hughes. Miss Hughes is an actress of distinction, who has been included in the theatrical "Who's Who" in England. She has had many opportunities of meeting famous people on equal terms, and is fully qualified to speak of them. Miss Hughes is on an indefinite visit to Australia, and came out to play "Mrs. Midget" in "Outward Bound." She made a previous visit a few years ago, when she came from England and played in "Iris" with Oscar Asche. Later she acted with Gregan M'Mahon in "The Circle." Miss Hughes, it is interesting to know, was the original "Little Lord Fauntleroy" in the play of that name when it was played in England.



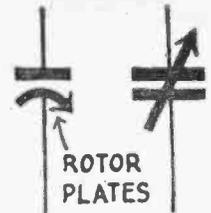
Aerial



Earth



Frame aerial



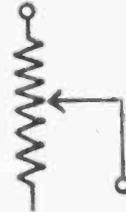
Variable condensers.



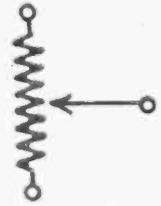
Fixed condenser



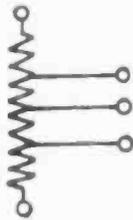
Fixed resistor



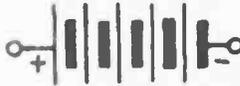
Variable resistor



Potentiometer



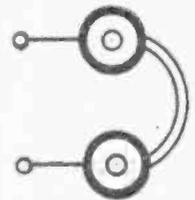
Tapped resistor



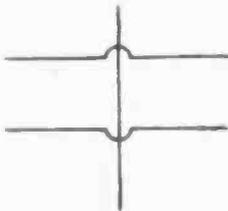
Battery



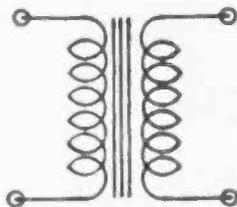
Jack



Telephones



Wires not joined



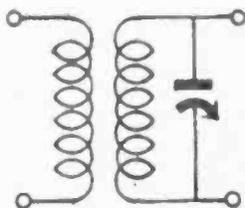
Audio transformer



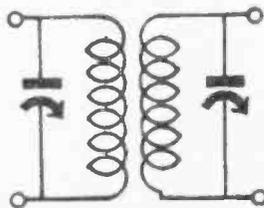
Audio choke



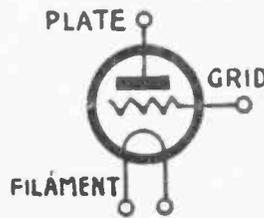
Radio frequency choke



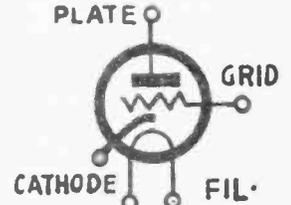
R.F. transformer, with untuned primary.



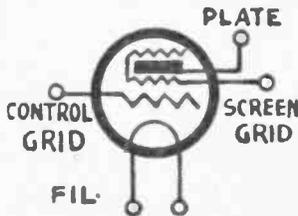
R.F. transformer, with tuned primary.



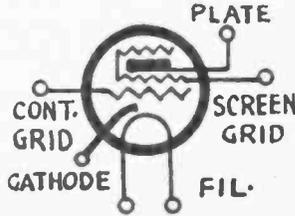
Three electrode valve (D.C.)



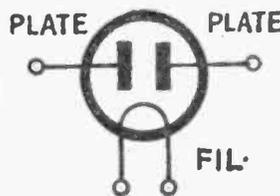
A.C. valve



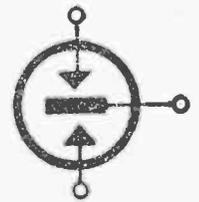
Screen Grid valve (D.C.)



Screen Grid valve (A.C.)



Full wave rectifier, with filament



Full wave rectifier filamentless

Understanding CIRCUIT DIAGRAMS

The beginner's first step towards acquiring a working knowledge of radio is a comprehension of all the various symbols which constitute the "circuits," which are so puzzling to the uninitiated, but which are so simple to the radio fan.

By ROSS A. HULL

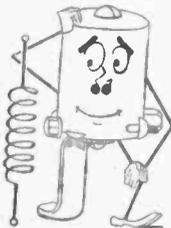
IT is readily possible to imagine the confusion that must exist in the mind of the individual who decides to interest himself in radio and radio set building and who glances, for the first time, through a radio magazine or text book. On all sides he is greeted with circuit diagrams—curly lines that twist and twirl in all directions; lines that zig-zag back and forth; lines with arrows on them; and still other lines that seem to connect everything on to everything else. On page after page he can find nothing much more than diagrams—pictures that must look very much like the work of a well-linked but rather systematic fly trying, in its death agonies, to find the edge of the page at any cost.

In reality, of course, these diagrams are just as useful and necessary to the radio set-builder as machine drawings are to the mechanical engineer. Though at first glance they appear confusing, they are actually straightforward, simple, and chock-a-block with valuable information for the individual who understands them well enough to abstract it. Unfortunately, a great many beginners think it impossible or at least difficult to master the reading of circuit diagrams, and, as a result, most radio publications have fallen into the habit of supplying with all circuits a "picture-plan" of the wiring and the apparatus of the receiver.

Beginners apparently find it easier to work from one of these picture diagrams than from the circuit.

But to anyone having an understanding of circuit diagrams, the picture diagrams are hopelessly confusing. In them, the lay-out of the parts can usually be shown quite clearly, but it is rarely possible to indicate the many wires in their correct positions without arriving at a horribly complicated mess.

There will always be set-builders, however, who find it impossible to work from anything but a picture-plan, and we suppose that for this reason they will continue to be published. At the same time we would stress the fact that working from a circuit



We suppose any self-respecting Choke would have the right to look askance at his own symbolic equivalent on paper. Beginners note!

diagram is actually simpler and much more satisfactory when once the circuit symbols are understood. Then, with a knowledge of the purpose of each component and the considerations involved in wiring them together a set can be built up without difficulty and a good wiring job accomplished, even if the type or the arrangement of the parts does happen to vary from those indicated on the picture-plan.

The language of all radio and electrical circuits is made up of an alphabet of standard graphical symbols. Possibly hundreds of these symbols have come into general use, but fortunately it is not necessary for the beginner to master very many before he is able to follow radio circuits. The symbols are really the equivalent of the characters in shorthand. Instead of drawing a detailed picture of a resistor, whenever one is to be shown in the circuit, it is merely indicated by a symbol—in this case a zig-zag line. Then, to avoid the complication of drawing a complete valve whenever one is to be shown in the circuit, it is just suggested by a circle with the elements inside it as shown on the chart of symbols. Transformers, chokes, condensers, and coils also have their own particular shorthand characters. The wires connecting these components are indicated, as might be expected, by single lines.

Whenever two wires are connected together they are shown on the diagram as meeting in a butt joint, just as the wires would. In some cases the joined wires are distinguished from wires which cross without joining by a dot over the junction. The more usual practice, however, is to indicate wires which cross without joining by looping one over the other in the manner shown in the symbol chart. In this way there is never any difficulty in deciding at a glance whether the wires are supposed to make contact or not. As in this instance, the common practices in circuit drawing do differ in some respects.

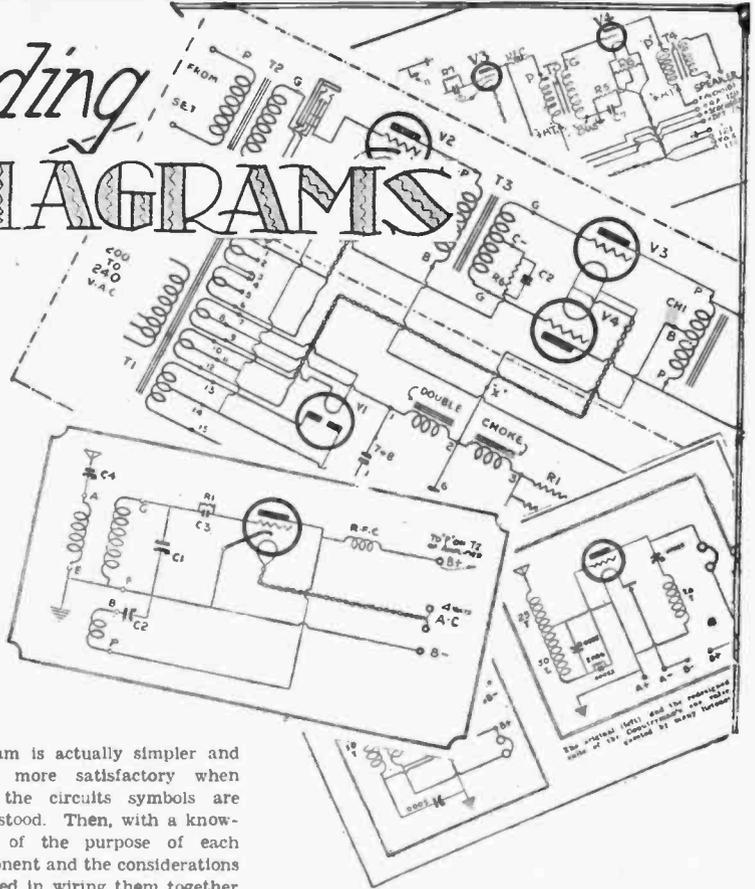
Valves, in some circuits, are indicated as oval-shaped affairs, while a variety of methods are in use for indicating variable condensers and variable resistors.

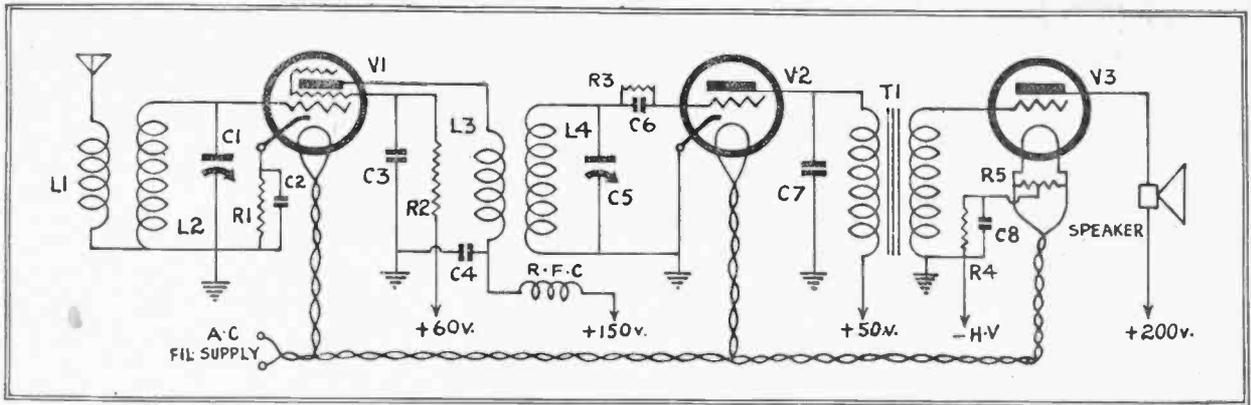
The efforts on the part of radio societies throughout the world has resulted in a close approach to uniformity. Once the idea behind the symbols has been grasped, there is very little possibility that circuits in some strange magazine or book would be unintelligible, even if it be printed in China or Chile.

In running through the page of symbols we find that most of them bear some hazy resemblance to the apparatus they represent. The coils, for instance, are all represented by a spiral line. In the case of the radio frequency transformer, the two coils of which it may consist are shown as two spirals side by side. When the coil has an iron core, as in the case of an audio frequency transformer or choke, the core is indicated by a few lines alongside the spiral. Whenever the coil is tapped, the lead that does the tapping is shown with an arrow on it.

The condensers are found to be indicated by two lines representing the two plates or the two groups of plate which comprise it. In the variable condenser the rotor plates are shown as a curved line to distinguish the from the stator plates. Another practice is to indicate the variable condenser as two parallel lines with an arrow crossing them. This symbol has the disadvantage that the rotor and stator are not shown, though in some cases a dot at the centre of the line indicating the rotor serves the purpose.

The resistors are drawn as a zig-zag line which, after all, is a somewhat realistic representation of the unit itself. Irrespective of whether the resistor is a one ohm filament resistor or a two million ohm grid leak, it is indicated by the same symbol. Its





A typical circuit diagram, which is explained below for the beginner.

value, of course, is either shown on the diagram by the side of the symbol or is made available by a designation "R1" or "R2," to which reference is made in the list of parts. Similarly, fixed condensers are indicated by the two parallel lines, even if its capacity is as low as .00001 mfd. or as high as 10mfd. At one time the large condensers—of the order of 1 mfd. and above—had a special symbol of their own, but this has fallen into disuse in recent years.

Batteries are invariably shown in the diagrams as a series of short and long lines, the short lines usually being thicker than the long ones. Standard practice is to use the long thin line to indicate the positive pole of each cell and the short thick line to indicate the negative pole. Usually the polarities are also indicated by a "plus" and "minus" sign.

A Typical Diagram

The remainder of the symbols are all perfectly straightforward, and it should need little more than a few minutes' study of them to memorise the whole lot. If at any time one of them is found in a diagram, and there is any doubt about its meaning, it is really only necessary to consider what the thing looks most like.

And now let us examine the typical circuit diagram, with the idea of finding out just what it is all about and in order to visualise what the circuit would look like when built into a receiver.

At first glance it is seen that the receiver consists of three valves. An examination of the valves shows that the first is a screen-grid valve—the screen being shown as a wavy line surrounding the plate. It is also evident from the fact that the valve has a cathode that it is an indirectly heated valve for a.c. operation. The twisted filament leads from the valves provides a further check on this point as do the words "a.c. filament supply" at the filament terminals.

The second valve is clearly an ordinary three electrode valve, though in this case also, the cathode shows that it is of the indirectly heated type. The third valve has the a.c. filament supply running directly to the filament and no cathode is shown. It is, therefore, a valve of the directly heated type. This, together with the fact that it is the last valve in the set leads one to the correct conclusion that it is a power valve. The filament supply leads to these three valves are shown twisted because they are to be twisted in the completed receiver. The idea of this is to avoid the alternating currents in the filament wires inducing unwanted alternating currents in other wires which may happen to run near to or parallel with them.

The placing of these wires with respect to the other apparatus, of course, has nothing whatever to do with the wires in the finished set. They are shown dropping down from the valves and running off to the left just because that is one convenient way of

keeping them clear of the other wires in the diagram. In the building of the set they would be run directly between the valve socket terminals—probably under the base-board—in the position which kept them as well clear of the apparatus and other wires as possible. Even if it were not shown in the picture-plan or mentioned in the text, these wires would be made of heavy twisted "flex," or the type used to connect up the electric toaster or the radiator. Two single solid wires could be twisted together and used in place of the flex, but care would have to be taken to use a heavy gauge (about 16 gauge) in order that the heavy filament current would not cause too serious a voltage drop. Unless each valve was fed directly from the filament terminals with a separate pair of leads, the wires between the terminals and the first junction to "V1" would possibly be carrying three or four amperes depending upon the type of valve used.

Now that the valves themselves and their filament supply leads have been located we can proceed with the other symbols which crowd themselves around the three valves. First, there is the aerial at the left top side of the diagram. In some diagrams it may be shown in a slightly different manner, but there is never very much doubt as to what it is supposed to be. The triangular affair does not look much like the common single wire aerial in use today, but, at any rate, it looks like a collector of something. It is shown, as is the vogue, on the left side of the diagram, together with all the input apparatus.

Connected in the lead running from it is a coil. This obviously is the aerial coil, the purpose of which is to feed the energy collected from the aerial into the radio frequency amplifier. Its bottom end runs to a series of parallel lines which indicate the "ground." This, in most cases will be a connection with the water pipe or with a plate buried in the earth.

Confusion Over "Ground"

The symbol used in this case, however, does not always indicate a connection with the earth. "Ground" is an electrical term which is sometimes used to mean a datum line from which all voltages are measured. For instance, in a shielded receiver it is common practice to connect the negative terminals of the filament and plate batteries to the shield. This shield and all the apparatus and wiring connected to it is then said to be "at ground potential." Even if

the shield is not actually connected to the earth the same term would apply.

In the circuit diagram serving as an example it will be seen that there are a number of "ground" symbols in various places. They do not represent separate connections with the water pipe, but simply connections to the shielding of the receiver or to other wires connected with the shielding. These connections actually do make contact with the water pipe in the long run, since they are tied in with the aerial coil and its connection with earth.

The coil alongside the aerial coil is the secondary. The fact that they are shown together indicates that they are coupled and the lead between their bottom ends shows that they are connected together at those points. Across the ends of the secondary coil is a variable condenser used for tuning the circuit.

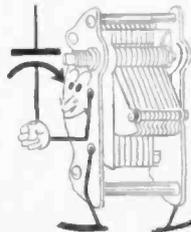
Condenser Connections

The fact that the curved line is that connected with the grounded wiring shows that the rotor terminal is connected in that position with the stator lead running to the top side of the secondary coil. This end of the solli connects directly with the control grid of the valve—indicated by the wavy line next to the cathode. This lead and the apparatus connected to it are all carrying radio frequency currents when the receiver is working and these currents have the ability to hop across even the slightest capacity that may exist between the wiring and apparatus in the plate and grid circuits of the radio frequency valve.

The screen in the screen-grid valve has the effect of reducing the capacity between the control grid and the plate to a very low value, but this desirable feature is all in vain if appreciable capacities exist between the grid and plate circuits outside the valve. It is to eliminate or greatly reduce these capacities that shielding is used, and the general principle in its arrangement is to see that if the grid circuit and wiring are in one shield, the plate circuit and wiring must be in another—that grid and plate wires belonging to the one valve should never be contained in the one shield except possibly for an inch or two of plate or grid lead on its way out.

The resistor R1, with a condenser across it, serves to provide the bias voltage for the first valve. The negative side of the plate supply connects to ground and to one end of this resistor and the plate current must flow through it on the way to the cathode of the valve. This flow of current results in a voltage drop, and the grid, through the secondary winding, is given a negative voltage with respect to the cathode. It is impossible to go into a more complete explanation at this stage, but the chief idea is just to recognise the resistor in this location as serving for bias purposes.

The screen-grid of the valve, already mentioned, connects with a tapping on the plate



This is a variable condenser, let us inform you, proudly bearing the symbol which characterises him in a circuit diagram—the association of ideas will help you.

supply system, and is therefore held at a positive voltage with respect to the control grid and cathode. The by-pass condenser between the screen-grid and the ground is to be found in all circuits with screen-grid amplifiers. Usually it is of .5 or 1 mfd.

The plate of V1. is shown connected through the primary of the radio frequency transformer, through a radio frequency choke, and thence to the positive plate supply terminal. The purpose of the radio frequency choke is to keep radio frequency currents out of the plate supply wiring, and so to avoid unwanted feed-back into other parts of the circuit. The primary coil, as can be seen, is coupled to another coil—the secondary. With the secondary tuning condenser, the arrangement is quite similar to the aerial coil and its secondary. There is little difficulty in understanding what the symbols indicate.

Valve Connections

Since the second valve is a detector with a grid leak and condenser, there is no bias resistor in the cathode lead, and the cathode connects directly to ground in the same way as does the bottom end of the secondary coil. The grid condenser and leak look just the same as the bias resistor and by-pass condenser in the cathode lead of the first valve, but at that the similarity ends. The grid condenser serves quite a different purpose to C2, and is only of about .00015 mfd. capacity. Similarly, the grid-leak functions differently from R1, and has a value possibly two thousands times higher.

The plate of the second valve, in much the

same way as V1, connects with the primary of a transformer and thence to the plate supply. In this case, however, the transformer operates at audio frequencies, and has an iron core. The core is indicated by the parallel lines running between the two coils. The secondary, like the secondary of the radio frequency transformer, feeds to ground and to the grid, though in this case no grid condenser is necessary. The bias for the third valve is obtained with a resistance in exactly the same manner as in the case of the first valve.

Resistors

Of course, the different plate current of this valve and the different bias required will mean that the bias resistor will be of a different value to R1. Valve V3, being of directly-heated type, has no cathode, and the connection between the bias resistor and the filament circuit is made to a centre-tap across the filament terminals of the valve. The resistance of this unit is never very critical, the only requirements being that it be of heavy enough wire to pass the plate current together with the load current that it will take from the filament supply. A value between 20 and 100 ohms is usually employed.



The Rheostat makes his bow to the symbol which has served him well in countless diagrams.

The plate of the third valve—the power valve—is connected, in just the same way as the plate of V2, to another transformer. In this case the transformer is not the diagram since it is built into the moving-coil speaker. The plate current of the power valve flows through the primary of this transformer and fluctuations in the current induce currents in the secondary winding. These currents are fed directly to the unit of the loud-speaker, and do the actual work of making the speaker speak.

The whole idea that we are trying to get at is that the circuit diagram is perfectly simple and entirely straightforward. Even though pictures of the various parts in the receiver are not supplied—as in the picture diagram—they are all there, shown much more clearly than they could be in any other way. The connections between all the parts is indicated quite clearly, and there is not nearly the same scramble of lines that is invariably to be found in the best picture-plans. Admittedly, the leads are not shown in the same positions with respect to each other as they are to be in the set, but that would apply also to most of the picture circuits.

Building Easier

We certainly believe that the building of a receiver will be made simpler for anyone who cares to give a few hours of study to the standard circuit symbols. With an understanding of what circuits are all about, a good circuit to work from and a few photographs of the receiver, set building is then, even for the beginner of beginners, an absolute cinch.

D. R. HALL ON "PRISONS AND PRISONERS" WILL BE WEEK'S FEATURE TALK

ONE of the most interesting talks from 2FC will take place on Sunday, September 1, at 7.40 p.m., when the Hon. D. R. Hall will speak on "Prisons and Prisoners." Mr. Hall took charge of the gaols of the State under the McGowen Ministry, and controlled them for six years. It was the first time the State had a Minister who visited every prison and saw every prisoner in the gaols. Those who had anything to tell regarding prison reform were seen after they came out of gaol, and the many changes made during Mr. Hall's regime were the direct result of suggestions made by prisoners themselves. "The man who collects figures and pens books about prison reform and the official who writes reports do not know nearly so much about it as the man who does time," said Mr. Hall. As a result of suggestions made the whole scheme of prison treatment was overhauled and hardships were done away with, and good treatment, combined with hard and intelligent work, came to be regarded as the first essential of prison reform. Mr. Hall will speak with a close knowledge of the men inside and an understanding of their viewpoint.

Accomplished Linguist

C. N. BAEYERTZ has the reputation of being one of our most entertaining raconteurs. He is an accomplished linguist and a master of dialect. His accent is so perfect that he has deceived Scotsmen, Germans, Frenchmen, Americans, and others as to his nationality. On September 2, from 2FC, he will begin a series of twenty-minute entertainments, consisting of humorous dialect stories—Scottish, Irish, Jewish, American, German, French, Italian, Cockney, Yorkshire, Cornish, Maori, and Australian.

Price Conigrave

ON September 2, from 2BL, Mr. Conigrave will describe the mangrove swamps of Cambridge Gulf, West Australia. The country fringing the north-eastern corner of Cambridge Gulf, in the far north of West Australia, is an unexplored labyrinth of mangrove swamps. Mr. Conigrave and his companion, Mr. Chas. Young, had some remarkable experiences in these swamps in 1911.



Hon. D. R. Hall.

The Doctor

"THE DOCTOR" (a well-known Macquarie Street specialist hides his identity under this name) will tell listeners of the importance of cleanliness in the maintenance of physical fitness, and how clean sport aids health. "The Doctor" will speak from 2BL on September 4.

Miss Vera Wright

MISS VERA WRIGHT, contralto, will appear from Station 2BL on September 3, singing popular ballads. She studied in France, Germany, and England, and was Seymour Hicks' and Ellaline Terris' protegee. Miss Wright has appeared in grand opera, playing in "Rigoletto," "Tosca," and "Parsifal" with the Royal Opera Company, Covent Garden, and also as principal boy in London revues. She has only been three months in Australia, but was out here about twelve months ago under contract to J. C. Williamson. Only last week Miss Wright broadcast with the Sydney Madrigal Society from the Conservatorium, singing "classical" numbers.

Harrison White, Banjo Artist

"FOR the first time in my life," said Mr. White, "I broke a banjo string a few weeks ago, while I was playing from 2FC. The station was on the air, and my wife had to play a solo on the piano to fill in while I changed the string." Mr. White will be heard from 2FC on September 3, when he will play banjo solos. He has a repertoire of over four hundred solos, ranging from popular choruses to classics and old-time melodies. He is very versatile, and, besides his banjo, he can perform on the Spanish guitar, the mandolin, and other string instruments. Mr. White has been associated with the A class stations since their inception.

Programme News From 3LO and 3AR



J. Howard King
Melbourne
Baritone
broadcasting from
3LO and 3AR

Clara
& Montez
Organist &
Orchestra
St. Peter's, Melb.
who is a
regular
broad-
caster



Mme. Hesele
the Russian
Soprano,
who is to
broadcast
from 3LO
shortly



Capt. Guy
MOORE
aviation fame
who is to sing
from 3LO
& 3AR



C. J
Williams
who talks
from
3LO
on
Wrestling

Sporting Descriptions From 3LO

BECAUSE the broadcasting of sporting results and descriptions by 3AR has not been as popular as expected (country listeners being particularly inconvenienced by the change), the service will again be established at 3LO, from which station descriptions and results of racing, football, and other sporting events will be broadcast.

The Melbourne Cup

WITH the approaching completion by the Postmaster-General of the telephone trunk line to Perth, listeners in West Australia are anxious that the interstate system of relaying will be finalised in time for a simultaneous broadcasting from every station in Australia of descriptions of the Melbourne Cup and the other big events. The Australian Broadcasting Company is very anxious to co-operate with the Postmaster-General in effecting this great relay, and if it is successfully carried out it will be one of the biggest relaying achievements ever accomplished.

With the big racing season approaching the Australian Broadcasting Company hopes to persuade many of the prominent owners, trainers, and riders to face the microphone at 3LO, and give their impressions of current events, and perhaps a few words of advice to followers of the sport of kings.

Successful N.S.W. Bass

WILL DAVIES, whose fine bass voice has placed him in the front rank of broadcasting artists, will be heard from 3LO on September 3. It may be mentioned that Mr. Davies is the champion bass soloist of New South Wales, and is known throughout that State as an oratorio vocalist of outstanding ability. His work is greatly appreciated in Melbourne musical circles, and, in addition to his vocal solos, he is a prominent member of the popular Lyric Male Quartette.

Style in Music

AN instructive talk of much educational value to music lovers and students will be broadcast from 3LO on September 5 by Mr. A. E. H. Nixon, of the University Conservatorium, who will give the first of a group of three talks dealing with "style in music." These talks will be illustrated by vocal and instrumental selections, and Mr. Nixon, who is an authority on the subject, should have a wide and attentive audience.

The Passion Play

FOR centuries past "The Passion Play of Ober-Ammergau," depicting the "Betrayal of Our Lord," has been faithfully performed by inhabitants of the little village hidden away in Central Europe. For generations past, members of the same family enact the same role, and thousands of visitors from all over the world flock to see this historic presentation. A lecture on the Passion Play, with comments on the actors, who, when they are not performing, carry on the trades of pottery-making and wood-carving, will be given by Mr. Howlett Ross from 3AR on September 1.

Lord Mayor's Hospital Radio Fund

THE Lord Mayor (Cr. Harold Luxton) has expressed his great satisfaction with the excellent progress of his 3LO Hospital Radio Fund Appeal. The collections at the weekly community singing at the Town Hall since August 1, when the fund was opened, amount to over £200. The object of the appeal is not only to equip radio at hospitals, but to maintain the same. "Many hospitals which are already equipped," said the Lord Mayor, "are in sad need of replacements and repairs." The 3LO Hospital Radio community singing is held at the Town Hall every Thursday at midday, and special attractions are always introduced as features.

Children's Birthday Greetings

ACCORDING to widespread requests from country listeners, the A.B.C., Melbourne, has decided to broadcast birthday greetings at 5.45 p.m. daily instead of during the early morning session. Another reason that prompted this change was the growing popularity of the children's hour at 3LO, and the limited time available for broadcasting the ever-increasing list of birthday greetings and special children's messages. The change has already been effected, and has given general satisfaction.

Round the World From 3LO

THE "Come with Us Round the World" series is proving highly popular with listeners to 3LO, who through this excellent channel are learning a great deal about the life and customs of people in other countries. For September 7, an interesting lecture on "The Siberian Eskimo" will be given by H. J. G. Esmond, who will give many sidelights on these comparatively little-known folk. It is interesting to hear that Mr. Esmond will speak from first-hand knowledge, for he has spent many years in Lapland, studying the conditions of the people.

Six Popular Talkers from 2FC and 2BL



Francis Jackson,
"Famous short story
writers."



Jean Armstrong,
"Travel in the
Orient."



Lucille Brunnell,
"Modern Drama."



Price Conigrave,
"Australian Explora-
tions."



Rose Antill de War-
ren, "World-Famous
Women."



C. N. Baeyerts,
"Philosophy" and
"Spoken English"

TALKING ABOUT TALKS

Following Dr. Loftus Hill's outline of the Australian Broadcasting Company's educational and lecture policy in Melbourne, this week a contributor deals with talks from the New South Wales stations.

AFTER all, talking is one of the oldest forms of civilised expression, and the universal method of conveying ideas. Yet it is surprising that although human beings are talkers from their cradle days, only a small percentage of the world's population is fitted to address its fellows from the public platform, in the lecture hall, or, coming down to our subject, "over the air." And although good public speakers are few enough, the ordeal by air thins even their ranks, leaving only a handful of really capable men. Otherwise good speakers have failed over the air, not through any fault of diction, not through any lack of proper matter; but simply because they were not suited for broadcasting. Future experimenters may be able to explain why. Here we can offer no explanation.

TALKING.

However, leaving such questions on one side, there are certain very clear rules for attainment to success in broadcast talks and lectures. Popular broadcast talks are only so when the talker puts his audience in his own place, letting it see his subject through his eyes, as it were. The speaker must give out his subject matter just as though he were talking to one of his friends over a cup of tea; he must avoid all methods of speaking which are unnatural to him, and speak the idiom of everyday conversation. Some men are always careful in their speech and their grammar is faultless; others are not so careful, and their grammar, to grammarians, is bad; but it were ten times better for Bill, the Australian bullocky, to speak in the blistering language to which he is accustomed than that he should attempt to imitate the language of the universities. In him it would sound unnatural, and Bill would not stand a chance of success as a broadcast talker.

The same rule holds for broadcast lectures; but here it has a different application. The lecturer should not try to put his audience in his place; he should try to put himself in ITS place; and, supposing himself to have as little knowledge of his subject as the average listener, he should then attempt to expose it in the most interesting and real manner possible, speaking always in the everyday language of the listener himself. It is always best that a lecturer or a talker

should saturate himself in his subject, and speak entirely without notes. His talk will then be most natural, because he will have his subject in his mind before him, and, even if he should pause for a word, that will add to the apprehension of his audience; for when a man speaks impromptu, we follow him, not only his words, but the working of his mind. But if a man should speak from notes, or read his talk or lecture, he must speak so that the effect will be that of an impromptu delivery. This demands great concentration; and many broadcast speakers have failed because they have not realised the necessity for such concentration.

These remarks lead us naturally to the question: What talks or lectures broadcast best?

Because the kind of talks and lectures best suited to broadcasting are those which best suit the styles we have discussed, the best subjects are those which can be most easily visualised. For instance, travel and descriptions of scenery are very good subjects for talks; and customs of strange countries, when they are clothed with humanity, have a vivid appeal to the intellect and imagination; but strictly academic talks on the economic systems of various nations, or on prevailing codes of morals, have little or no appeal. They are abstracted facts from life and experience, which may "please the mind, but not the heart." In the same way, lectures on music, illustrated with excerpts from the composers dealt with, are the most successful of all radio lectures, because music is the most real thing which comes over the air. But a lecture on mathematics, or the propositions of Euclid, would fail to interest listeners, because the subject matter is abstracted, and has no directly corresponding value in life.

TALKS AS FEATURES.

In most countries where broadcast services have been established for some time, the percentage of time devoted to talks and lectures has gradually grown larger, thieving its added figures from time given to music. Music, of course, will always be supreme; but it is easy to understand that a public which listens in, day and night, for five or six years, may grow tired of hearing music broadcast continually, with no re-

mittance, no break in an inescapable monotony of sameness. The only things which can break this harmonious monotony are plays, comic sketches, descriptions, and talks. The radio play is as yet purely a ragged experiment; comic sketches are now in their hundredth performances, and original comic sketches are sometimes saddening, and at other times provocative of stern anger.

Descriptions—where are the descriptions of the storied past? When the microphone went down the mine—down onto the ocean bed with a diver—down the underground—into newspaper offices—everywhere there was a story of topical interest? The day of the stunt is over; and descriptions are becoming mild affairs, such as the story of the wrestling, or to-night's fight, or to-day's racing. Topical descriptions are now wrapped in the cottonwool of the studios, and are given by experts, who read from typed scripts their memories of past happenings. Thus, what is lost in atmosphere is gained in precision, and we lose the illusion of being there, to gain the precise knowledge of what was there. Besides, we wander over farther fields. Some lecturers in this department—notably Mr. C. R. Hall—give their talks as a kind of monologue, spoken on the scene they describe; while Major Sandford Morgan adds interest to his Mesopotamian talks with gramophone recordings of Arabic songs and speech, etc.

The future of the talk and lecture as broadcast features seems assured. Certainly, although music may be very entertaining, it will not entertain for ever and ever. Someone is sure to get up and say "We know all about that music you're playing; it's very nice; so it was last night and the night before, and the night before that. But our ears were made to listen to more than music. What other tricks do you know?"

WHAT IS BEING DONE?

Perhaps that someone won't get up and say, "What other tricks do you know?" In that case, the Australian Broadcasting Company can sit back in its armchair and say, "We told you so!" and I shall be a disappointed prophet; but still a benevolent friend of the public and the Broadcasting Company, which, after all, is only supplying the National Broadcasting Service for

the Commonwealth Government of Australia. And anyhow, the A.B.C. hasn't done so badly.

There are four regular talk-sessions every week-day from both 2FC and 2BL. 2BL begins at 10.10 a.m. with a twenty-minute Women's Session under the control of Miss Gwen Varley. Miss Varley speaks on women's sport; and numerous other prominent women speak from time to time on subjects as varied as Agricultural Bureau Conferences and "Women in Public Life." This twenty minutes is devoted on Saturdays to Gardening Talks, which are put over by Mr. Cooper, Parks Superintendent to the Civic Commissioners, and "Red-gum" (Mr. J. G. Lockley), alternately.

From 2FC at 10.32 a.m. there is a Sporting Session of thirteen minutes on week-days and Saturdays. Mr. Ferry talks about racing on Mondays, Tuesdays, Thursdays, and Saturdays. Mr. Oscar Lind speaks on General Sporting on Wednesdays, and on "To-morrow's Events" on Fridays.

At 11.0 a.m. there is a ten-minute Women's Session from 2FC—cooking, domestic notes, hints to housewives, and week-end suggestions; conducted every day of the week, and on Saturdays by Miss Ruth Furst.

At 12 noon, 2FC's Literary Session bursts out for twenty minutes every week-day. Rev. V. C. Bell, B.A., begins on Monday with a "Public Forum." Then come Mr. C. N. Baeyertz, on a literary subject; Mr. Harry Thomas, on Dickens; Miss Eleanor Ross, with The Poets; and Francis Jackson, on Famous Short Story Writers.

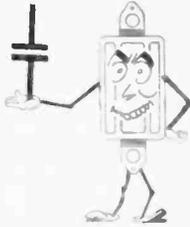
From 1.15 to 1.30 on week-days, Women's "Interest" (sic) talks gush from 2BL. Dr. Sandford Morgan begins on Monday with Far Eastern Talks; then Miss Rose Antill de Warren talks of Prominent Personalities; Miss Goodie Reeve gives aids to personality; Matron Millen talks on infant welfare; and Miss Annie Hughes warbles about famous people she has met.

From 2FC, at 2.2 p.m., an eighteen-minute session is devoted every week-day to popular education. Mr. W. S. Reay paints poets' pictures on Mondays. Mr. J. R. Kinghorn exclaims at nature's wonders on Tuesdays. On Wednesdays, there is an illustrated music lecturette by a Conservatorium lecturer. Mr. Baeyertz speaks on spoken English on Thursday; and Mr. Reay has another little talk on Fridays.

From 2BL, at 2.30 there is a fifteen-minute Business Efficiency Session every day of the week. Speakers from the Australian Institute of Industrial Psychology begin this session on Monday. On Tuesday, Fred. Arlington Burke speaks on Experiences in North Russia. On Wednesday, "The Doctor" describes the contest: "Machine versus Man." On Thursday, Miss Jean Armstrong speaks on "Moods and Modes of Egypt." On Friday, Mr. James Peddle, president of the Institute of Architects, talks on architecture.

From 2BL at 2.45 every week-day, the Magic Carpet floats about for fifteen minutes, carrying, on Monday, Mr. Price Conigrave, who talks of Australian Exploration; on Tuesday, Miss Lucille Bruntnell, who talks on Customs of Modern Civilisation; on Wednesday, the Storyteller, who talks; on Thursday, Mr. F. H. Raward; and on Friday, Major Sandford Morgan, who travels on it over to Mesopotamia.

Eight sets of weekly sessions represent an enormous amount of organising. And look at the variety of subjects presented! What an impressive assemblage! And how badly assembled!



This, beginners, is a typical fixed condenser very cleverly balancing his circuit symbol on a hand which he does not possess in reality. But you get the idea—its to help you to associate the two together.

Of course, the Australian Broadcasting Company hasn't had much time to get things in order; but just look, for instance, at the Business Efficiency Session. Lectures by industrial psychologists one day; a talk on Russia the next; Machine versus Man the next; and Moods and Modes of Egypt, followed, on Friday, with a discourse on Architecture. This is Business Efficiency! What has Russia—what even, has North Russia—to do with Business Efficiency? Will a knowledge of the Moods and Modes of Egypt add one particle to a young man's efficiency or to an old man's ability to run an office? Then notice the time, 2.30 p.m. Who on earth is going to listen to a talk on Business Efficiency at 2.30 p.m.? (The business men? They are in their offices. The clerks and salesmen? They are working. Who, then? The boys in the high schools? They are going to listen to Business Efficiency. They are going to hear all about North Russia, Architecture, and the Moods and Modes of Egypt! The high school boys and their mothers and their aunts and their stay-at-home sisters. At least the audience has the quality of virgin soil.)

It may be thought bad taste for me to criticise a new company's programme at this early stage in its existence. But the A.B.C. claims to be, above all things, a showman. It prides itself above everything else on its ability to present its programmes and features to their best advantage. Therefore, I cannot understand why it should present one kind of talk under the name of another kind of talk, at the wrong time of the day. One can scarcely be blamed for summing up such inefficiency as a sorry business.

WHAT SHOULD BE DONE.

And now I am going to be chivalrous enough, or idiotic enough, to make some constructive suggestions.

Firstly, some of the general interest talks—the better of them—should be transplanted to the evening session. I don't wish to advertise names, but talkers of the calibre of C. N. Baeyertz, Price Conigrave, C. R. Hall, Lucille Bruntnell, Rev. V. C. Bell, and so on,

should be allowed to shine through the darkness, say, between seven and eight, or later on, in the evening. At 2BL, for example, there is sometimes a classical hour, which is followed by an hour of revue. Why not a talk between the two? A talk would make an ideal wall between two kinds of presentation.

The lecturette on music, with illustrations, has been tried with success in London. If the A.B.C.'s endeavor is to foster musical appreciation in Australia, why doesn't it arrange for such a talk to be given several evenings during the week? The idea isn't new. It was highly successful in the foggy past when Mr. John Prentice decorated 2BL.

Talks on foreign affairs by well informed and capable speakers are bound to interest listeners. News is always novelty, and novelty is the catch cry. And talking of novelty; a stunt or so, well arranged, would be quite worth while. The newspaper going to press, the guns on the battleship in dock, operations on new city works, descriptions of these and similar things are always interesting to a public which knows scarcely anything of the intricacies of modern labor outside its own individual ruts.

Debates by competent speakers—trained speakers—on subjects of topical importance, even on frivolous subjects, sustained either seriously or facetiously, should also be arranged at regular intervals. It should be the business of the company to choose the very best talent available for this kind of work; and to get big men for such events. The question of the broadcasting of debates on "controversial" topics will also have to be reviewed in the future. One can scarcely imagine what interest would be manifested in a debate between Mr. Bruce and Mr. Garden on Socialism!

It is to be hoped the A.B.C. may walk very soon along some, at least, of the paths suggested. But before it rises from its present happy seat of self-satisfaction, it should look about it carefully, adjust its watch to correspond with G.P.O. time, and proceed to rearrange its talk material to suit the public.



NEXT WEEK'S TALKS

FRIDAY, AUGUST 30.—2FC: Noon, Mrs. Meredith Atkinson, "Banjo Paterson"; 2.0, W. S. Reay, "Foote, the Humorist." 2BL: 1.15, Mrs. Meredith Atkinson, "An Australian in Constantinople"; 2.30, C. R. Hall, "Know Australia First"; 2.45, Major Sanford Morgan, "Babylon."

SATURDAY, 31.—2BL: Mr. Cooper, "Gardening," 10.10.

SUNDAY, SEPTEMBER 1.—2FC: 6.45, Hon. D. R. Hall, "Prisons and Prisoners."

MONDAY, 2.—2FC: 12.0, V. C. Bell, B.A., "The Public Forum"; 2.2, W. S. Reay, 10.0, (evening session), Major Sanford Morgan.

2BL: 1.15, Jean Armstrong, "Glimpses of Social and Commercial India"; 2.30, C. R. Hall; 2.45, C. Price Conigrave, "Mangrove Nights."

TUESDAY, 3.—2FC: 12.0, C. N. Baeyertz, Literary; 2.2, J. R. Kinghorn. 2BL: Rose A. De Warren, "World-famous Women"; 2.30, Fred Arlington-Burke, "Dialect and Differences of the English Language"; 2.45, Lucille Bruntnell; 9.30 (evening session), F. H. Raward, "Travel Talk."

WEDNESDAY, 4.—2FC: Noon, Harry Thomas, "A Dickens Story"; 2.2, Conservatorium Music Lecturer, "Illustrated Music Lecturette." 2BL: Goodie Reeve, "Aids to Personality"; 2.30, The Doctor, "Cleanliness Next to Godliness"; 2.45, "The Storyteller." "Romance of Bridge Building"; 7.5 (evening session), Graham Kent, "Bridge."

THURSDAY, 5.—2FC: 12.0, Eleanor Ross, "With the Poets"; 2.2, C. N. Baeyertz, "Spoken English"; 9.0 (evening session), C. E. Hall, A Surprise Item. 2BL: 1.15, Annie Hughes, "Henry Ford"; 2.30, Jean Armstrong, "Faculty and Festivities of China"; 2.45, F. H. Raward, "Travel."

This Week's Programme Personality

Alma Merske Barnes
AND ENGLISH
POETRY



“TO be a poet,” said Miss Barnes, as we closed up our notebook, “To be a poet—you’d better put this down—

*To be a poet is to stand
Upon the dais and right hand
Of warlike Caesar. Gods and kings
Are but the very Dust of Things.*

That’s by Hugh M’Crae. You could begin whatever you’re going to write with that. Beautiful, isn’t it?”

“Yes,” we said; “but how about the copyright?”

“I don’t think you need worry about that,” said Miss Barnes. “So very few poets get anything at all printed in Australia nowadays.”

So we put it in, at the head of what we are going to write. We doubt whether Mr. M’Crae will exactly appreciate the honor of being included in such a Philistine publication as ours is. If he doesn’t, we hope he may write to us, and express his sorrow. The letter shall be framed, and hung upon the walls of WIRELESS WEEKLY as a sign to posterity that WIRELESS WEEKLY is not without its traditions. Thank you, Mr. M’Crae; you needn’t bow.

Miss Barnes speaks poetry, and teaches people to speak poetry. Brief biographical sketch: Miss Barnes is an Australian who went to London to go on the stage, where she got, at the Aldwych Theatre, three weeks after her arrival. Miss Barnes played there for some months, then went on tour to play in Dover, where she was playing when the war broke out. Miss Barnes saw all the “Old Contemptibles” embarking for France in the early hours of morning. An eerie vigil. Miss Barnes remained on tour until 1916, when she came to London and did war work, then went to France doing the same thing. Miss Barnes was sent to Germany after the cessation of hostilities, doing work with the—

“It’s a peculiar thing,” said Miss Barnes. “Do you know where the American cemeteries are?”

“No,” we said guiltily. “That’s something we’ve really never thought about.”

“Exactly,” said Miss Barnes. “You’ve heard about Belgian war cemeteries, English war cemeteries, Australian and French cemeteries, and so on, but you’ll never hear of an American war cemetery on the Continent. The reason is that there isn’t one. All Americans killed at the war were taken back to America. An American Senator promised the American public this would be done; and it was. Sentiment, of course; but—”

As we were saying, Miss Barnes went to Germany after the war to aid in the identification of American soldiers who died prisoners of war. This work completed, Miss Barnes went back, through France, to London, where she returned to the stage with James K. Hackett, the American exponent of Macbeth, who died since Miss Barnes returned to Australia. For a year, Miss Barnes

broadcast poetry from 2LO, London; and then was called back to Australia on business.

Miss Barnes speaks poetry to music. “Every branch of art,” said Miss Barnes, “has its counterpart in each other branch of art. The same thing can be put in sculpture, painting, poetry, and music—the same feeling through a different medium. I look for music which expresses exactly the same thing in sound as some poem does in words. There are so many poems which have their counterparts in music—you have only to hear the music to know immediately that it was inspired by the same feeling as inspired a given poem. For instance, Rupert Brooke’s “Mary and Gabriel,” which I shall speak on September 3, is paralleled exactly by a Prelude of Debussy. Exactly. Such analogies strike the mind continually. Sometimes, perhaps, a phrase of the music must be repeated to concur with the rhythmic pattern of the poem; nevertheless, the general form and feeling coincide; and such adjustments as are necessary are easily and certainly made.”

We asked Miss Barnes what poetry she specialised in. “Keats,” we suggested. (Keats, Shakespeare, and Tennyson are among the few names we can conjure up when the talk turns on poetry.) “No, mostly modern poetry,” she said. “Masefield, Rupert Brooke, Sassoon, and so on. Of course, there is only A public for it. Everyone doesn’t like it.” (You’re not alone, Mr. Finley. Again that peculiar, foreboding cry—EVERYONE doesn’t like it—only A public—it gives a respectable journalist shivers.) “But if you can get away from the old idea of elocution—I mean, it’s painful to listen to generally. Isn’t it?—I think you will be able to gain appreciation for good poetry. After all poetry is the basic art of life. It is the first essential thing. Every beautiful thing grows out of poetry—first you have speech, then music; and music is only the extension or sublimation of poetry into a universal from a national tongue; and into an eternal from an episodic sphere. Poets are the historians of their times—their work embodies the thought of their age; the only material thing, so to speak. Just now, in England and in America, poetry is coming into its own. John Masefield has done a great deal towards interesting people—he speaks his own poetry publicly, and holds poetry-speaking contests in Oxford each year. He and his wife at Gore Hill are doing a great deal to foster the art of speaking poetry. John Masefield’s drama, “The Trial of Jesus,” was performed in Canterbury Cathedral, with the permission of the Archbishop, and was accorded a wonderful reception. Poetry speaking in unison by massed voices of speaking “choirs” is becoming recognised. The idea originated in England; and in America the same thing is being done. It is, in a way, a return to the style of the old Greek dramas.”

Modern English poets worth studying, says Miss Barnes, are Humbert Wolfe, Siegfried Sassoon, John Drinkwater, Rupert Brooke,

and John Masefield. Two of the foremost Americans are Edna St. Vincent Millay and John Arlington Robertson. “And how about Australia?” we asked. In Australia, there are Daley, M’Crae, Myra Morris, Nettie Palmer, and Ross Francis Gollin, among others.

“But the Australian poets are mostly all hard-working people. They only write poetry in their spare time, because there’s nothing in it. There is such a lot of lovely poetry being written here, but no one ever sees it. No one will print it. It’s the fault of the newspapers—they say they have no demand for it—no readers. But one can train the public to appreciate good poetry, and the newspapers should attempt to do this. After all, a public appreciation of beautiful things raises the public taste. People who like fine things will not be satisfied with shoddy. People who are trained to live in such worlds as poetry and the arts hold open to them will not be content with cheap surroundings, or cheap clothing, or cheap furniture. If you raise public taste you raise the standard of living; increase the amount of skill and craftsmanship required in the making of furniture and clothing and homes, and in the setting out of cities, and thereby you add to the value of these things, building a wealthy nation on what? A higher standard of public taste. Now you, young man—”

We raised our eye from our notebook. “You may be running a newspaper in ten years’ time.”

“Good heavens!”

“Then you remember what I’ve told you.”

We shall remember. In the meantime . . . Miss Barnes’s programme on September 3 will include Rupert Brooke’s “Mary and Gabriel,” spoken to a prelude by Debussy; a bracket of Masefield’s sonnets: “Bethlehem,” by an American; Abbie Brown, a poem of the Nativity—a child’s idea of seeing the Christ; and “Deborah,” by Mrs. Kilner, wife of Joyce Kilner, another American who was killed in France, who wrote a poem beginning, “I think that I have never seen a poem lovely as a tree.”

We have never heard Miss Barnes speak poetry, so we can honestly say we don’t know what her recital on September 3 will be like; but we are going to listen in, and we advise everyone who is on the lookout for novelty to listen in with us. At the other end of the line will be a fine face with eyes that have been through the war, speaking poetry that has been through the war. They say war is the purge of passion.

Miss Barnes will speak in a quiet, conversational style, as though it really doesn’t matter, as though nothing really matters very much; as though—

—“Gods and Kings
Are but the very Dust of Things.”

Well, it may be so, but “Australian poets only write poetry in their spare time, because there’s nothing in it.” What price standing on the soap-box and right mitt of warlike Caesar?

We dunno . . . we dunno . . .

Wireless Weekly

Incorporating "Radio in Australia and New Zealand."

FRIDAY, AUGUST 30, 1929.

WHERE THE BEGINNER BEGINS

In the first place it should be said that the radio beginner does not necessarily begin by building a set any more than a motorist begins by building an automobile. Indeed, the building of a receiver is one of the last stages of "beginning," marking as it does the transition between mere interest in radio and the enthusiasm which makes him a dyed-in-the-wool radio fan.

The beginner most often, and most satisfactorily, begins by purchasing a commercially-built receiver, with a view to hearing the broadcasting programmes. If he is not unfortunate, these are brought to him in very excellent fashion, and entertain both him and his family. But soon his imagination will be stimulated by the extraordinary powers of the handsome (and probably mysteriously sealed) box he has bought, and curiosity will carry him further.

It is here that he shows evidence of his amateur standing. Small experiments, perhaps pursued no further than the tuning and volume dials, and the information volunteered by his friends, convince him that a knowledge of radio will enable him to obtain much more from his set than ever before, just as the motorist sooner or later realises that a more intimate knowledge of his machine will increase its efficiency.

But a better knowledge of radio involves a practical knowledge of receivers at least. Simple arrangements of apparatus such as that described overleaf lead him to commence the building of sets, and thus, without quite realising it, he becomes more than a beginner. The fascination of listening to voices and music emanating from places thousands of miles away seizes him, and the triumph of finally building a set of his own which gives a better performance than his neighbor's, or that which he bought in the first place, is sweet indeed.

Radio set building and designing is still the best hobby in the world. The fact that development has moved so rapidly is rather in favor of the home constructor than otherwise. No sooner do we believe that stabilisation has been reached than a new screen-grid valve, A.C. valve, or a moving-coil speaker appears which upsets all our assumptions.

"Atmosphere" for Broadcast Sketches

Leo Packer, Conductor

SINCE Mr. Laurence Halbert has been studio producer at 2FC he has been concentrating on the production of the short radio dramas and sketches that go over the air. Mr. Halbert is aiming at putting a realistic background of radio effects behind these dramatic sketches, wherever possible, to make the theme more apparent to listeners. He stresses the fact that, although "the play's the thing," it is subconsciously helped by these effects. For instance, "The Monkey's Paw," which was recently produced by the Sydney University Players from 2FC, was the first drama in which these touches were introduced, and which were the result of hours of costly experimenting in the control room of the studio. The University play was the first of its type in which this new and important development of radio production was given rein. Mr. Halbert hopes to produce similar types of plays, and has in mind a special production, "The Jazz Spider," which is a serial in four parts; each excerpt is complete in itself. Mr. Halbert hopes to commence this series in the middle of September. The atmosphere in this play will be of a railway smash and two motor-cars racing.

THE light opera, "Martha," which will be broadcast from 2FC on September 2, with Leo Packer as conductor, may not be well-known to Sydney opera-goers, but nevertheless it is a great favorite of the Metropolitan Opera Company of New York, and includes a leading part which Caruso always considered among his best. Leo Packer, who is the moving spirit of the production, will be assisted by Myra O'Neill, Anne Mills, Alfred Wilmore, and Arnold Ashworth. Mr. Packer is well-known as a cellist, and as the possessor of a fine baritone voice. While young for a conductor, his experience in this kind of work is unique. He has always specialised in the production of light opera, musical comedy, and drama. This work is supposed to be his hobby; but he treats it, perhaps, more seriously than his real occupation. At his home Mr. Packer has a specially-constructed music-room where he entertains his friends with improvised operas. He was studying the Arts course at the University, but found that music was so absorbing that he regretted the time spent on his studies. He hopes to go to America shortly to finish his training as a conductor.

Radio Children's Parties

BY arrangement with Sir Benjamin and Mr. John Fuller, Fullers' Theatre, Castle-streagh Street, Sydney, will be available for children's parties on the third Saturday in each month, from 10.30 to 12 noon. The first of these will take place on Saturday, September 21, when a splendid musical programme will be arranged by the popular Radio Uncles and Aunts under the Australian Broadcasting Company's regime

Two Old Cronies

THE little cameo of old-fashioned life and manners which "The Two Old Cronies" are arranging for the night of August 30 will be both novel and charming to listeners of 2FC. The atmosphere of the sketch is that of an old village inn, where two old gentlemen meet to discuss their young days and to sing over to each other the songs that were popular in their youth. The sketch will be humorous, and will introduce all the old-time melodies that were sung by Charles Godfrey and others of his period.

.. TUNING IN TO TROUBLE ..



CROSS CURRENTS



DOMESTIC INTERFERENCE



UNEXPECTED VISITOR



The END



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 of 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 necessarily represent our editorial policies. Anonymous letters are not considered.

Newcastle Interference

Dear Sir,—Re wireless station for Newcastle: This may be a good proposition, but most of the listeners-in around the district are of the opinion that the money would be better expended if used to eliminate the terrific electrical disturbances which, at the present hour (8 p.m., Sunday, August 18) render transmission from the local station 2HD unintelligible. Every night, commencing at 5.30 p.m., an indescribable grinding noise overwhelms all wavelengths, continuing until 8 a.m. This has been going on for years. No one seems to care to shoulder the onus or to do anything to better the conditions. All seem content to blame the other fellow. The Radio Inspector blames the faulty house installation of the listener-in, although it seems not unlikely that it may emanate from a substation if one may form an opinion from the period of commencement and finish of the trouble, coupled also with the fact that the predominant noise sounds like the steady whirring of a faulty commutator or interspersed with a cracking main-leak accompaniment. It is very apparent that the people responsible know the source of the trouble yet do nothing to better conditions. Local radio fans say it is up to the Radio Inspector to find the offender instead of placing the blame on the faulty house installation of listeners-in. During the day time, reception is passable, except from 2FC, this station being groggy day or night. By all means let us have a new station, but we hope the broadcasting authorities will make an effort to clean out the stable before putting in the horse.—Yours etc.,

FRANK H COLE.

Newcastle.

Coincidence?

Dear Sir,—Can you beat this for coincidental phenomenon? Just prior to retiring I was giving all the stations a few seconds hearing each. This was about 10 p.m., August 12, and 3LO with Yvonne and Yvette had featured "Broadway Melody" and the "Wedding of the Painted Doll." I tuned into 2BL where Harrison White and Connie were just finishing "Broadway Melody." Immediately tuning into 2GB I heard "Broadway Melody" and "You Were Made for Me." Is this coincidental, advertising for the talkie, or just plain everyday duplication? It certainly seemed strange that I should hear all those renditions within five minutes.—Yours etc.

Arnccliffe

O. SHEPHERD

Fat Stock Sales

Dear Sir.—Why not give the country men the same descriptions of the Homebush fat stock sales as was given by the old broadcasting company? There are men in the country who only get their mail once a week, and it is worth a great deal to men with stock for sale to have a good description of the sales put over the air. As things are now, we don't know whether a sheep is worth ten shillings or ten pounds, as no prices are given. Surely city listeners would not begrudge us the news they get so easily. 2FC is the best station about here for daylight reception.—Yours etc.,

Queanbeyan.

J. MALONEY.

Candid

Dear Sir.—I must endorse the remarks of Mr. Gerard in a recent issue regarding the duplication of artists and programmes by the Australian Broadcasting Co. It may be a little early to criticise, but the practice referred to should be nipped in the bud before the evil has a chance to spread. The A.B.C. set out with the intention of doubling—or was it tripling?—the number of broadcast licences; but, so far, I can see very little to justify the change of control. In fact, I doubt very much whether I will renew mine when it falls due. It is premature, perhaps, to make such a statement, but I must say I have wondered at times since the "new era" commenced what the other tenderers' policies were if we have been given the best of them. To give an instance of bad management—and this is probably known to many listeners to 2FC and 2BL—I have heard a record called "A Musical Switch" played at least five times in what must be scarcely more than a week. I dare say it has been put on another five times when I have not heard it as well; and I am sure that this state of things never existed in the old regime. Another thing—and I am sure this is greatly missed in new programmes—is the broadcasting of plays, which I think, always found favor—musical ones, at any rate.

Now, all we have to look forward to in this direction is Fuller vaudeville, and, as I would not go across the road to get some of that I am hanged if I'll let it enter the four walls of my shanty.—Yours, etc.,

GROWLER.

Goulburn.

One Valve—57 Stations

Dear Sir,—I notice (W.W., 5/7/29) a claim to a wonderful performance of a three-valver owned by "Satisfied." I have a one-valver here that will make his look like a 1924 model crystal. The following is my log compiled in eleven months:—N.Z., 1YA, 2YA, 3YA, 4YA, 2YB.; N.S.W., 2FC, 2BL, 2GB, 2KY, 2UE, 2UW; Qu., 2CH, 2RT; Vic., 3LO, 3AR, 3UZ, 3DB, 3BH, 3BY, 3SL, 3ER, 3EF, 3TR, 3GT, 3SW, 3UX, 3WA, 3CR, 3AM, 3RA, 3KR, 3BL, 3BD, 3ML, 3AL, 3RI; Qu., 4QG, 4GR, 4BN, 4RM, 4NW; South Australia, 5CL, 5DN, 5KA, 5WS, 5BG, 5DR, 5KJ; Tasmania, 7ZL, 7JR; Japan, JOAK, JOBK, JODK, JOFK; and other stations too weak to identify.

Should anyone doubt the veracity of this log, I have call-cards to back me up. My aerial is 100ft. long and 20ft. high. I have logged best part of these stations on 15 volts on plate. I very rarely use more than 20 volts. I live 226 miles from Sydney and 20 miles from Forbes. I think this log will silence "Satisfied" and any others with three valves. I have had Sydney stations on loud

speaker. Bog Balwin and music could be heard quite plainly. I also get 2FC and 2BL and 3LO any time of the day. I would like to ask readers to refrain from sending circuit, as it is a commercially built receiver when I had about 28 stations logged. I sent my log to another wireless journal and the result was that I was inundated with letters from all over Australia. One coming from Western Australia.—Yours, etc.,

Forbes.

"ONE LUNGER"

Super-marvellous One-valver

Dear Sir.—Kindly allow me (if I can do so without hurting his feelings) to puncture "Radio Ace's" "extraordinary one-valver" with an absolutely super-marvellous one which, under favorable conditions, brings in Japan, Indian, and New Zealand stations, all inter-State "A" and "B" class stations, including 7ZL and 6WF, and some amateurs on the one coil. This "wonderful circuit" is the good old classical reacting detector—in use for ten years.—Yours, etc.,

RADIO DEUCE.

Latrobe, Tasmania.

One Valve—70 Stations

Dear Sir,—Seeing a letter by RADIO ACE (W.W., 9/8/29) giving a list of stations received on one valve, and inviting other one-valve hams to have a say, I am sending you a list of stations received on my one-valve set during the past two years or so.

N.S.W.: 2FC, 2BL, 2GB, 2UE, 2KY, 2UW, 2MK, 2HD, 2SX, 2QJ, 2ME, 2AG, 2DG, 2AD, 2AR. Vic.: 3LO, 3AR, 3UZ, 3DB, 3BY, 3GT, 3CB, 3TM, 3ML, 3RI, 3EF. Qld.: 4QG, 4GR. Tas.: 7ZL. N.Z.: 1YA, 2YA, 3YA, 4YA. Java: JFC. S.A.: 5CL, 5DN, 5KA. Philippines: KZRM, KZRQ, KZKZ, KZIB. India: 7CA, 7BY. Japan: JOAK, JOBK, JOCK, JODK, JOFK, JOGK, JOHK, JOIK. U.S.A.: KDITA, KFI, KGO, KOA, WBZ, WGY, WEAF, WJZ, WGN, WLIB, KNX, WREN, KSL, KMOX, KLX, KNRC. Hawaii: KGU. Sth. Africa: WAMG, JB. A total of seventy stations not including many more stations, and others not yet recognised. There is no freak circuit idea, it is merely a slightly varied Reinartz type with ninety volts on the plate, and installed under good conditions. Good speaker strength is obtained from all local and, often, inter-State, rest on phones. Many of the long-distance stations are only audible occasionally, but, even so, I think it is a good performance for one valve.

Let us hope to hear from any one-valve hams who have done as well or better.—Yours, etc.,

Stanmore

DX FAN

One Valve—47 Stations

Dear Sir.—Please allow me space in your valuable paper just to show SATISFIED, of Eungai, that he has not got it all his own way, as I see his log of stations in WIRELESS WEEKLY (5/7/29). I have a three-valve set which I built from WIRELESS WEEKLY (10/8/28) and my log, including amateurs on the loud speaker, is as follows: 2FC, 2BL, 2UE, 2KY, 2GB, 2UW, 2MO, 2CH, 2MK, 2AD, 2GL, 3LO, 3AR, 3UZ, 3DB, 3BH, 3AM, 3EF, 3JR, 4QG, 4GR, 4RB, 4RM, 4BJ, 5CL, 5KA, 5DN, 1YA, 2YA, 3YA, 4YA, 7ZL, JOAK. And the following on ear-phones at good strength: 2LG, 3OR, 3OT, 3AL, 3LK, 4WN, 4NW, 5WH, VJL, VJM, VJK, 2YB (New Plymouth), 2ZN (Gisborne, N.Z.), and KFOX (Longbeach, U.S.A.).—Yours, etc.,

Kyogie.

V. C. WEBB.

**B
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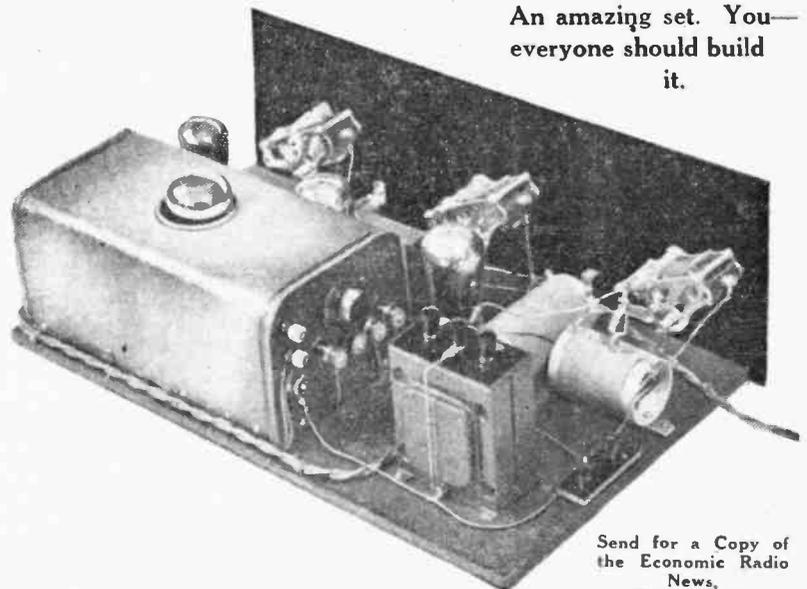
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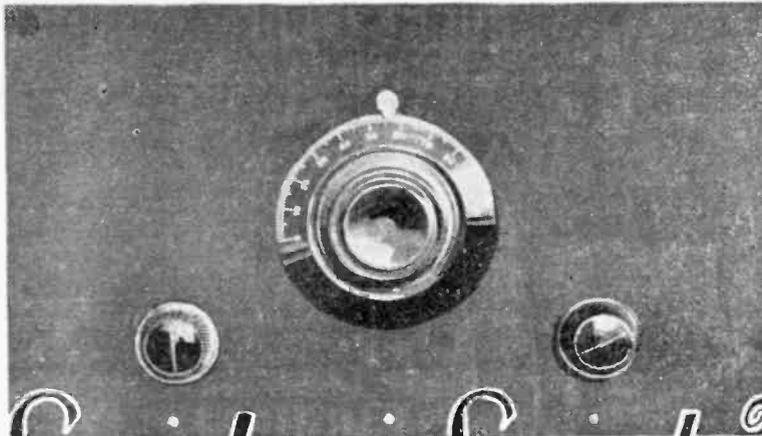
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By R.W.M.



The front panel view of the completed set.

The Simplest Single Valve Set for the Beginner

That is to say, a single valve receiver, the design of which has been reduced to the lowest degree of simplicity commensurate with a high standard of effectiveness.

IF the heading of this article has caught the beginner's eye and held him this far we would ask that he continues reading, and not pass the article over on the assumption that it talks in very technical language about radio frequency currents and so on.

The receiver about to be described was built mainly for the rawest beginner, and the wording that is to describe it must also be written in that manner. This much we appreciate. But the receiver itself is not inefficient because it is so remarkably simple. On the other hand, the local listener will be able to receive stations at excellent headphone strength, and the set may also be used by the average country radio fan, though, as may be expected, volume will not be extraordinarily great.

There will be no need for us to go into technicalities of the circuit, but it will be necessary for us to explain the components

You will note that the components on the circuit diagram are marked with letters and numbers. On another page you will find a list of symbols used in radio circuits, and you will soon see that it is quite easy to follow out a circuit diagram once you have mastered the symbols. In the meantime however, there is no need to learn these symbols. The letters and figures will be sufficient guide for us.

The capital letter C stands for condenser. Have a look at condenser C1. You will notice that the bottom part of it is drawn like a bent arrow. This part of the condenser shows that it is of the vari-

able type—that is, half the plates are movable with relation to the other half. Now look at condenser C5. This is a fixed condenser. The lower part of the condenser is a straight line.

In the top left-hand corner of the circuit diagram is a symbol which represents the aerial. This should consist of approximately 100 feet of 7/22 copper wire, slung as high from the ground as possible, and broken with insulators. The term, "broken with insulators," means that the end of the wire is attached to one end of an insulator, and the other end of the insulator is held by another piece of wire or rope, this being passed round a chimney stack or some other supporting object. Several insulators should be placed at each end of the aerial.

At a convenient spot a length of wire long enough to reach the aerial terminal of the set should be soldered. This additional piece of wire is known as the "lead in," and should

be well insulated where it makes contact with the house.

You will note that the aerial is connected to the fixed plates of condenser C1. This is a midget condenser (13 plates in all). After the midget condenser we see a coil marked L1. L represents an inductance coil. The number 1 represents primary—i.e., the first coil. Next to this coil is L2, the second coil, or secondary. L3 is the third coil, which we know as the reaction or tlekker coil.

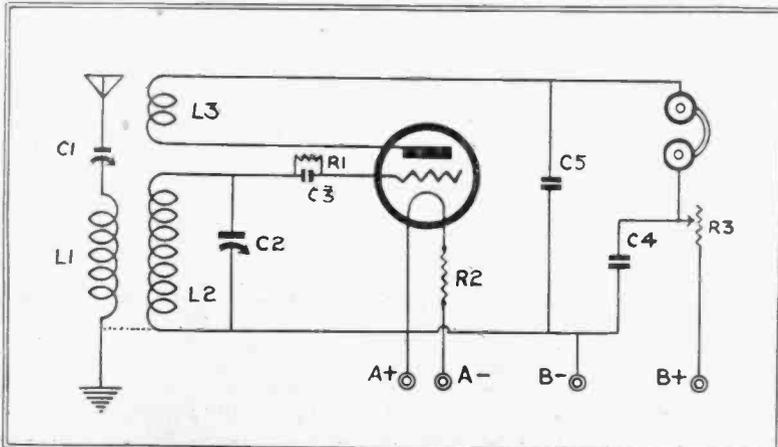
You will see that there are some wavy lines in the circuit—namely, R1, R2, and R3. These are resistances. Both R1 and R2 are "fixed" resistances, but R3 has an arrow near it, showing that it is variable. Just above the resistance R3 will be found the symbol for telephones. One could hardly mistake this symbol, for it is almost a drawing.

Right in the centre of the diagram you see a circle, in which is a flat bar, a wavy line, and a semi-circle.

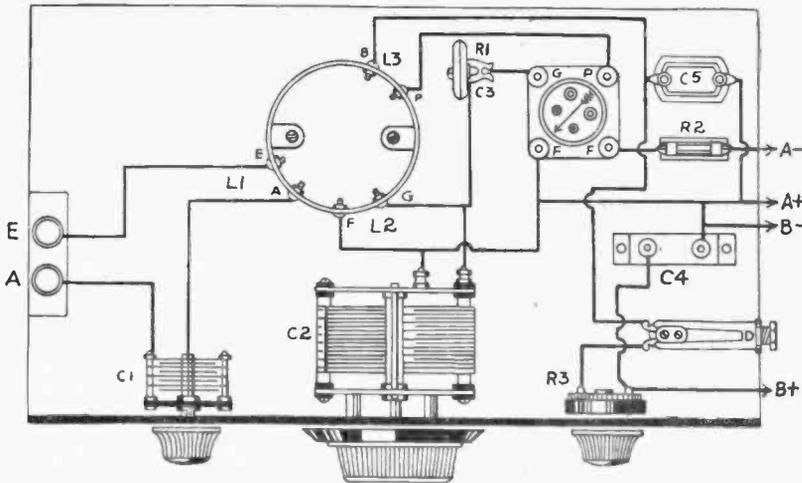
The semi-circle is continued outside the circle in two leads. The circle represents the valve. The flat bar is the plate terminal. The wavy line is the grid and the two leads that make exit from the valve are the two filament leads.

You will find these leads marked on your valve socket as follows—P (plate), G (grid), F plus (filament plus), F minus (filament minus).

Let us start off on construction by making the coil. For the benefit of those who desire to purchase a ready-made coil, Messrs. Radlokes or Messrs. Grodan's three-coil tuner may be used. We will presume you have procured your roll of card-



The circuit diagram.



The baseboard layout and wiring diagram.

board and reel of insulated wire as per list of parts. The cardboard should measure three inches across. If you have a vice, mount a pencil in it in an upright position, then slip the reel of wire over this. If this is done it will save the wire from becoming twisted or rolling about in all places and awkward corners.

A quarter of an inch from one end of the cardboard former drill a hole with a knitting needle. Level with this hole, but a quarter of an inch further round the former, drill another hole. You should now have two holes a quarter of an inch apart, and each a quarter of an inch from one end of the former.

Take one end of your wire, and thread about six inches of it through the first hole (from the top of the former), then up through the second hole. Clean part of the insulation off the end of the wire with a knife, then solder it firmly to a soldering lug. When the solder shivers you can pull on the lug to make sure the contact is tight. If all is O.K. gently pull the wire back through the two holes until the soldering lug prevents the end of the wire from coming further.

Now place the opposite end of the former against your chest. Hold the former in the left hand, and feeding the wire with the right hand wind on 12 turns. When you come to the last turn drill two more holes dead against the last turn (holes quarter of an inch apart), then snip the wire so that about six inches is left over. Thread this end down through the first hole, then up through the second. Cut it off close to the former, leaving enough to solder to another soldering lug.

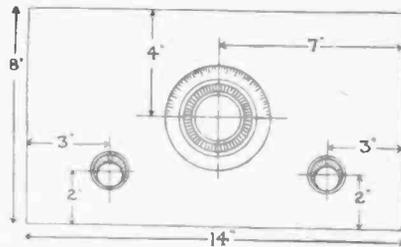
A quarter of an inch away drill two more holes in exactly the same manner. Thread through your wire as before, solder to a lug, then pull tight. Now wind on 47 turns of the wire, and finish up as before. If your hand gets tired during this winding the coil can be held in the right hand while you take a rest; but do not get impatient and do the job clumsily.

This time space three-eighths of an inch, and make two more holes. Thread the wire, and solder on a lug in the manner described previously, then wind on 25 turns, and finish up by making two more holes, and soldering the end to a lug.

Well, there's your coil. The first coil you wound is L1 (look at the circuit diagram). The next is L2 (secondary), and the last L3 (reaction). If the windings have a tendency to slip a little Durofix rubbed between the loose turns will keep them tight. This glue dries in a few minutes, and gives the coil a neat appearance.

Now let us turn our attention to the baseboard on which the coil and other components have to be mounted. From the "back of panel" wiring diagram you will see

that the coil is placed at the rear of the baseboard, and almost in the longitudinal centre of it. To the right of the coil is fixed condenser C3 (.00025 mfd.), across which is shunted fixed resistor R3 (2 megohms), this latter being known as the grid leak. To the right of this is the valve socket, with its grid terminal facing the coil. Then to the right again, from the back of the baseboard, and in the following order we see condenser C5



The panel drilling template.

(.002 mfd.) resistance R2, Brachstat or other type filament resistance suitable to valve used, condenser C4 (2 mfd.), and the 'phone jack, which latter component is used to hold the plug for the telephones.

At the extreme left of the baseboard will be seen two terminals, one of which is marked E (representing "earth"), and the other A, representing "aerial."

On the panel you will see mounted (from left to right) midget condenser C1. This is a selectivity control. Then comes the main tuning condenser C2, of .0005mfd. capacity. To the right is a variable resistance, R3, which is to control regeneration (we won't bother our heads with this further at present). However, the condenser C2 is the main control. The other two controls have only to be adjusted at times.

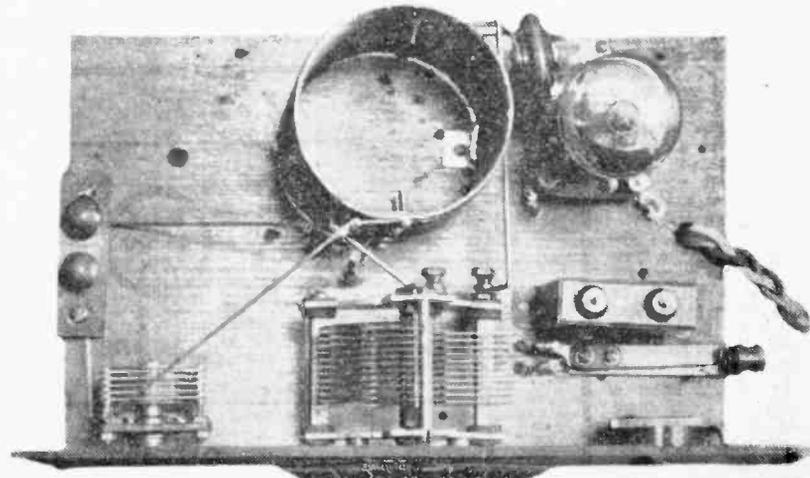
On the original receiver a large circular dial was used, but if the constructor wishes any type of dial or vernier control may be substituted. By now you know the names and positions of the various components and what they are for. A word description of the wiring follows:—

First of all, the terminal marked A on the diagram should be connected (follow the wiring diagram) to the fixed plates of the midget condenser, and the other terminal to the LAST turn of the small coil (L1). Now the first turn of L1 should be connected to the moving plates of the midget condenser C1. You will see there is a lead from the bottom of L1 to the bottom (i.e., the last turn) of L2. This lead is optional, and should be tried. The set will, however, work without it.

Now connect the first turn of the largest coil to the fixed plates of the tuning condenser C2, and also to one side of the condenser C3, across which is clipped the grid leak R1. From the other side of the condenser and grid leak carry a wire to the grid terminal of the valve socket.

From the last turn of L2 take a lead to the moving plates of the condenser C2 (.0005 mfd. capacity), thence to the F plus terminal on the valve socket, to one side of condenser C5, to one side of C4, then bring the lead underneath the baseboard and up through the hole in the baseboard, and connect it to the positive terminal of the "A" battery. Connect a lead from here to the negative terminal of the "B" battery. (A 45-volt "B" battery will be sufficient).

Next take a lead from the F negative terminal of the valve socket to one side of resistance R2, which is a Brachstat or fixed resistor for keeping filament supply constant. Note that if a six-volt valve is used with a six-volt "A" supply, or four-volt valve with four-volt "A" supply, etc., this resistance need not be used. If, however, a five-volt valve, such as a 201A is used with a six-volt "A" supply, or a 199 valve (3½ volt valve) is used with a four-volt "A" supply, etc., this resistance must be incorporated. From the other side of the resistance a lead is taken underneath the baseboard to the negative terminal of the "A" battery. If the two "A" battery leads are of different color no error can be made when re-connecting leads.



A plan view of the completed receiver

DEVELOPING A GRAMAPHONE AMPLIFIER

Some Notes on the Design of the "Udisco" Apparatus

By E. G. BEARD

Next connect the plate terminal of the valve socket to one side of the jack (any side), thence to the remaining side of C5. Now connect the other side of the jack to one terminal of the variable resistance R3 (0-500,000 ohms), and also to the remaining side of C4. The last connection is to the other side of R3, and a lead is taken up through the baseboard battery hole. You now have three leads here, presumably of different colors. These can be plated. Leave enough for the various battery leads. The additional battery lead just connected to the resistance R3 should be taken to the positive terminal of the "B" battery.

Now plug in your valve, connect up the battery leads, connect the lead-in wire to the aerial terminal—i.e., that terminal which is connected to the fixed plates of the midget condenser, then connect a thick wire from the other terminal (earth) to a water pipe or tap.

To tune the receiver turn the knob at the extreme right of the panel until a rushing sound is heard in the telephones (which must, of course, be plugged in the jack). If the set squeals turn this control back to stop squealing, otherwise you will cause interference to neighboring listeners. Now slowly turn the dial in the centre of the panel until you hear a loud whistle. This is known as the "carrier wave," and indicates that you are on a station's wavelength. Adjust the tuning dial until this squeal is at its lowest pitch, then adjust the knob at the right of the panel until the station is heard at good volume. If two stations can be heard at once adjust the control at the left of the panel.

If a switch is placed in the lead to A plus it will not be necessary to remove the valve or "A" battery lead when the set is not in use.

Mr. Francis Jackson, Litterateur

WHAT to Read for the Week-end and Why to Read It will be the essence of Mr. Francis Jackson's little discussions about books every Friday; also, later, a series of sketches from Snitchler, Jacobs, and his own works. Mr. Jackson has broadcast both here and in Rugby, England, and was Master of Modern Languages at Sydney Grammar School before he left for Europe. He knows France, Italy, Switzerland, Germany, and England, and tried to obtain a permit from the Russian Ambassador, whom he interviewed in the Rue de Grenelle, to visit Krassin. The Ambassador told him laughingly that it would be possible to enter Russia, but very hard to get out. Mr. Jackson is an expert in the production of plays, particularly Shakespeare and drama. He is widely known as a journalist and as an authority on modern literature.



The Rola moving-coil speaker, which was employed by Mr. Beard.

THE usual procedure in designing an amplifier is to build the amplifier, using transformer coupling, and then add artificial arrangements to compensate for the distortion which invariably exists with this type of amplification. However, the Udisco engineers departed from this method in preferring to build an amplifier with a flat curve from 15 cycles up, and then to modify this curve as necessary to overcome the defects of electrical pickups and speakers.

When building an amplifier to function at extremely low frequencies as well as high, several difficulties were encountered, the most serious of which was the tendency to "motor-boat." This could be stopped by reducing the amplification at low frequencies, and therefore spoiling the amplifier, but this method did not appeal. Alternatively "motor-boat" could be stopped by making the filter condensers of high voltage supply arrangement large enough. It was found, however, that the resistance amplifier was so efficient at low frequencies that the "motor-boat" often had a period of three or four seconds. Under these circumstances filter condensers of the order of three or four hundred microfarads would be necessary, and these would be far too bulky to include in the amplifier. Finally, the problem was solved, after an investigation into the causes of "motor-boat," by equipping each valve with its own anode current and grid current filter, using types which would filter out fluctuations as low as twice a minute. The solving of this problem permitted the amplifier to be fed from a B eliminator, and yet reproduce frequencies so low that they can be counted.

The next problem was to arrange for the amplification of the very high frequencies. i.e., of frequencies of the order of 8000 to 10,000 cycles. The amplification curve of an audio amplifier usually falls off at frequencies higher than 6000 cycles, and although it is often stated that frequencies above 5000 cycles are unnecessary, it was proved by trial that if the higher frequencies are missing the reproduction lacks brilliancy, and operatic music no longer gives the listener that "thrill" which is experienced when listening to a high-class dramatic singer. The music becomes pleasant but without meaning.

This fall off at high frequencies was found to be due to the self capacity of the valves and wiring. The capacity between the grid and anode of a valve using resistance coupling increases the resistance of the grid circuit, and causes amplification to fall off, whereas with tuned couplings and certain types of transformer coupling it reduces the resistance of the grid circuit and causes self oscillation (hence the need for neutralising). This defect was overcome by the choice of suitable valves and coupling resistances, and by slightly reducing the gain per stage.

This reduction may have made it necessary to add another stage, but it was found that, with the pick-up used, if two stages of voltage amplification designed for maximum output were employed, the power valve would be overloaded, while with one stage it would not be working at its maximum output. Consequently it was possible to overcome the self capacity trouble with comparative ease.

The next problem was the choice of speaker. It was necessary to find a speaker which would respond to very low notes, and also to very high notes, and at the same time be compact in mechanical design in order to be placed in a phonograph cabinet. The dy-

amic cone speaker was chosen for this purpose.

It was found that dynamic cone speakers gave excellent response at the lower frequencies, but that most of them failed at the higher frequencies. This is due to the fact that a cone can vibrate in two ways. It can move backwards and forwards as a whole in a manner similar to a plunger, or it can move with a bending motion similar to an ordinary metal diaphragm. The lower notes are reproduced by the plunger motion, and the higher notes by the diaphragm motion. At certain frequencies both actions take place and the speaker distorts badly. In most dynamic speakers this distortion takes place at a frequency of four or five thousand cycles depending upon the size of the diaphragm. A large diaphragm usually distorts at a lower frequency than a small diaphragm. On the other hand, a small diaphragm, to have the same efficiency at low frequencies, must have a greater movement than a large diaphragm, and this complicates the suspension of the cone. In this instrument the Rola dynamic speaker was fitted. A cone so designed as to combine the advantages of both large and small cones by means of concentric rings embossed on the diaphragm, is used in this speaker. Metallic suspension, not affected by the atmosphere, and made with such precision that the voice coil can make large movements without touching the poles of the field magnets, are other features of it.

The next stage in the development of the Udisco phonograph was to obtain the maximum output from the power valve. It was decided to use 500 volts on the anode of the power valve, so as to make the output as large as possible. This permitted an output of about seven watts before distortion due to overloading became noticeable.

The result was an amplifier which, according to laboratory tests, gave splendid reproduction from 15 to 8000 cycles. The next process was to submit it to aural tests.

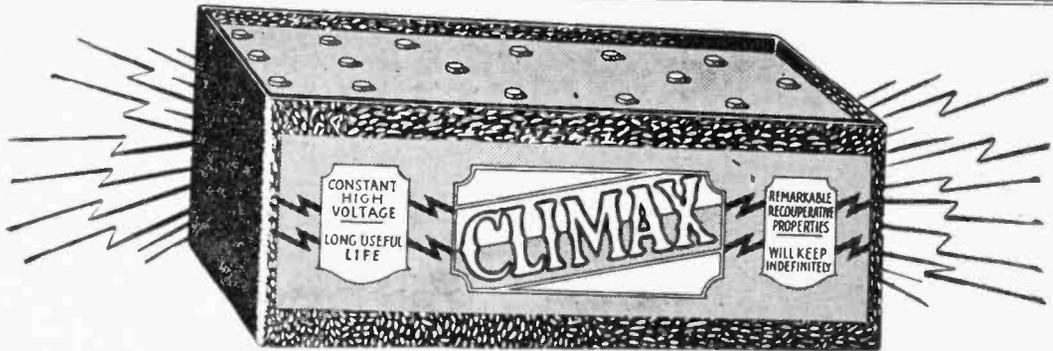
The first difficulty encountered was due to the noise of the phonograph turntable. The turntable of a motor very rarely keeps absolutely horizontal during its revolutions, but rises and falls. This varies the pressure on the pickup and so produces a frequency of a little less than twice a second. The amplifier was so efficient at low frequencies that this could be heard. It was therefore found necessary to introduce another filter, cutting off below ten cycles to remove this noise.

The next problem was due to the different ideas people have as to what sounds "pleasant." Some prefer the low notes to be accentuated and others the high. In order to solve this problem, two types of tone control were devised. These controls either cause the amplification curve to fall off at the higher frequencies or at the low frequencies as desired. The first one accentuates the low notes, while the other reduces their volume, and so makes the music less heavy. Thus, by means of these controls the user can suit his own particular fancy. It has been very interesting to watch the way people use these controls. When they first run the phonograph fitted with a control to accentuate the bass, they usually make the bass very heavy. But after a week or two they usually select a position which coincides with what laboratory tests show to be the position for linear amplification.

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RADIO PROFICIENCY

This week we conclude our remarks on magnetism by learning about magnetic field strengths, flux density, lines of force, helix, solenoid, magneto motive force, ampere turns, permeability, reluctance, direction of lines of force, etc.

LAST week I referred to the "positive" direction of the lines of force. This may be determined (see Fig. 4 (b) published last week) by Maxwell's Corkscrew Rule, which can be stated: "Imagine a right-handed screw to lie along the wire and to be twisted so as to move in the direction of the current; the direction in which the thumb rotates is the positive direction of the lines of force." There are other rules, but we shall adhere to this one, as it is widely used.

If two wires carrying currents are placed parallel to one another, the resultant magnetic field will be as indicated in Fig. 1 (a) if the currents in the two wires are in opposite directions, or as indicated in (b) if they are in the same direction.

A solenoid, helix, inductance, or coil of wire, carrying a current, has a magnetic field around it. The end of the coil from which the lines of force emerge is termed its North Pole, and the end at which they enter is the South Pole.

The strength of a magnetic field will depend upon the current and the number of turns, i.e., the ampere turns. As the number of turns in a given coil is fixed, the flux will be proportional to the current.

The flux density is the number of lines per square centimetre in any part of a cross section of the magnetic field, and is denoted by "H" lines per square centimetre if air or any non-magnetic substance fills the magnetic field. The more closely the turns are wound together the more concentrated will be the magnetic field.

If a magnetic substance, such as iron, is placed within the helix, the magnetic lines of force are assisted, and the magnetic properties are more pronounced. The presence of iron in a magnetic circuit decreases the opposition to the flow of lines of force, and the number of lines is thereby increased. Where a helix has no core, some of the lines leak out between the turns, and do not extend through it from end to end. Not only does iron decrease this magnetic leakage, but it also increases the number of lines in the magnetic circuit, because iron is a better conductor of magnetic lines of force than air.

In order to create a magnetic field, a cer-

tain "magneto motive force" (M.M.F.) has to be exerted. M.M.F. depends upon the production of a current and the number of turns through which the current flows, i.e., upon the number of "ampere turns."

When an iron rod is placed inside a helix, the flux will be increased, perhaps, a thousand times as much as with an air or non-magnetic medium only, depending on the quality of the medium, and the extent to which it fills the magnetic circuit. In other words, with iron and any magnetic substance the magnetisation is not proportional to the magnetising force only, but depends on the iron and its degree of magnetisation. This multiplying effect that the iron has on the flux is termed "permeability." It is described as the ratio of the flux density in iron ("B" lines per square centimetre) to the flux density in air ("H" lines per square centimetre), with the same M.M.F. The ratio B/H is represented by the symbol "u" (pronounced "mew"), which is the co-efficient of permeability.

Thus u equals B over H , or B equals uH .

If the flux density in a coil be 10 lines per square centimetre, and, when an iron core is introduced, it is 15,000 lines, then for this specimen of iron, with the given M.M.F. u equals B over H , equals 15,000 over 10, equals 1500.

u Equals 1 for air and for all non-magnetic substances, as previously stated.

Thus the iron under the circumstances just mentioned is 1500 times good a carrier of lines of force as air; or, the ether is strained 1500 times as much when the iron is present.

"Reluctance" is the opposition which has to be overcome in a magnetic circuit before the flux can be established, in the same way that resistance is the opposition that has to be overcome in an electrical circuit before a current will flow.

The reluctance or magnetic resistance of a piece of material depends on its length, cross section, and permeability. The formula for calculating reluctance is L over au , where L equals length of the magnetic path, u the permeability, and a the cross sectional area in which the lines of force are to be concentrated. If a M.M.F. is applied, the resulting flux is found by the formula:—

Flux equals M.M.F. over S (note symbol for reluctance is "S"), or M.M.F. x au over 1, or B x a .

For the coil or solenoid, which is always used in practice for the construction of electro-magnets, the magneto motive force is equal to $4 \times \pi \times IN$ over 10, where π equals 3.1/7, I equals current in amperes, and N is the number of turns on the solenoid. Hence flux equals: M.M.F. over S equals $4\pi IN$ au over $10L$, and from this IN equals 10 over $4\pi \times$ flux times L over au ; i.e., ampere turns equals .8 flux times L over au (taking an approximation for "pi").

Perhaps several of my readers will have noticed the similarity between all of these formulas with those of Ohm's Law for electrical circuits. You will remember that I

equals E over R , in an electrical circuit, and that flux equals M.M.F. over u in the magnetic circuit. In both cases the factors are very much alike, in so far as E and M.M.F. equal the pressure, R and u equal the opposition in the two circuits, and I and flux represent the flow.

From this it will be gathered that the laws of the magnetic circuit are similar to those of the electric circuit, but we do not use them so often in elementary work.

The magnetic field about wires and coil may be traced with a compass needle or with iron filings, as explained in "Proving Radio."

Mention has been made in this article of "ampere turns." If ten amperes flow in one turn of wire, the magnetising effect is 10 ampere turns. If one ampere flows in ten turns of wire, the magnetising effect is also 10 ampere turns.

For the benefit of those who did not closely follow "Proving Radio," it might be mentioned that a coil such as that formed by winding a single layer of turns of wire on a tubular former is known as a solenoid. If a coil of this kind is made and connected to a battery it will exhibit all the properties of a steel magnet. It will attract iron and steel filings, and it possesses a north and south pole. If the solenoid has a rod of iron thrust through the centre of it, it becomes an electro-magnet, which may be much stronger than an ordinary magnet (we have just learned how the core increases the lines of force).

The lines of force within a coil are roughly parallel to the axis or centre line of the coil, while outside they pass from the north pole around in large loops to the south pole. The north pole is the one toward which the extended thumb points when the coil is grasped with the right hand with the fingers pointing in the direction of the current in the conductor.

In order to find the direction of the lines of force in a solenoid grasp the coil as before. The lines of force will be in the direction in which the fingers point, in circles whose planes are perpendicular to the wire.

The "End Rule" or "Clock Rule" for determining the polarity of a coil is:—Look at one end of the coil; if the current flows in a clockwise direction, that end will have south polarity. If anti-clockwise, north polarity. This is illustrated in the diagram below.

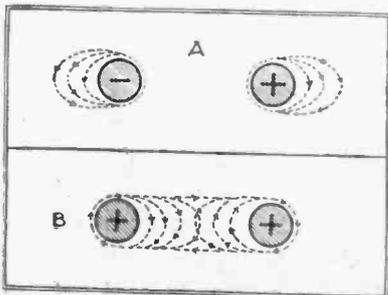


Fig. 1.

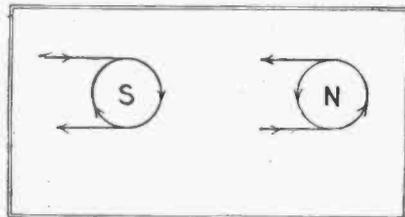
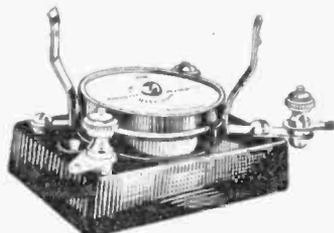


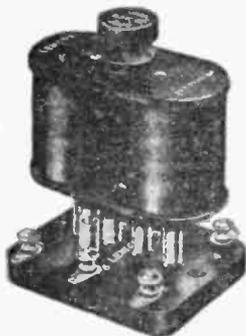
Fig. 2.

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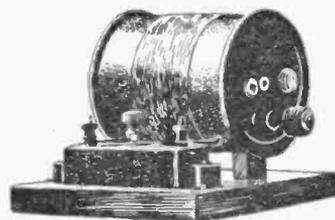


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CURVES AHEAD

The Experimenters' Department of Technical Progress
Conducted by Ross A. Hull M.I.R.E.



Building Cones for the "Magnetic" Speaker

MR. J. R. WALTON, of Bondi, enthusiastic experimenter in the field of electrical reproduction, writes:

To those experimenters who are looking for further fields of activity, the magnetic cone units, which are now making their appearance, offer wide possibilities. I have recently carried out numerous experiments in the adaption of these units to various types of cones, and have achieved results which, in my opinion, prove conclusively that they can produce a performance little short of the best types of moving-coil speaker. Taking a good quality amplifier as granted, the main points to be considered seem to be the material, size and angle of cone, method of suspension, and manner of attaching reed. A simple but effective speaker can be made by using a 7in. to 9in. diameter 90 degree cone, made of light but stiff vellum paper (obtainable at any stationers for about 9d per sheet) and suspended behind a 2ft. to 3ft. baffle board (not cabinet) on thin sheet rubber, in such a manner that the cone is free enough to sway to and fro when blown upon, before attaching the unit. It is imperative to note that reed of the unit must in no way act as a support for the apex of the cone; that the apex is fixed to the extreme tip of the reed, and that the reed is as short as possible. In addition to which all connections should be perfectly tight in order to prevent vibration. These precautions are absolutely necessary, otherwise an annoying metallic chatter is bound to make itself apparent during reproduction. If in spite of all precautions, however, this fault still makes itself apparent, a tip worth trying is the application of a few drops of molten candle-grease from a lighted candle to the external reed locking nut and washer. Though crude, this idea can be very effective, in addition to which it prevents the lock nut from becoming loose through vibration.

Apart from this one there are many other types of cones which can be tried out, all capable of producing excellent results. If an experimenter is fortunate enough to possess two units, they can be attached to different types of cone, and operated simultaneously from the set in different parts of the room, after first ascertaining whether the units should be connected to the set in series of parallel for best results. A baffle board seems to give superior results to a cabinet, owing to the absence of the rather annoying echo or booming effect which usually accompanies reproduction in the latter (and is very noticeable in many moving-coil speakers).

Another type of speaker which can produce really fine results is the linen diaphragm type, but the original idea of two tightly stretched diaphragms, suitably doped and held at the centre, had one or two rather serious faults, greatest of which was the serious damping effect on the reed caused by the tautness of the diaphragms, and the continual adjustment of the reed necessary owing to contraction and expansion of the

diaphragm. To those experimenters who have built this type, and not obtained the results expected, a big improvement can be simply effected by discarding the back diaphragm altogether. Provided the diaphragms were doped and stretched correctly in the first place, no trouble should be experienced in the matter of the front diaphragm retaining its original cone shape, and the result of this change is that a fully floating cone is available, suspended on its own material, with no joins whatever. The sensitivity of the unit is thus retained to the full, with the added advantage of louder and clearer volume.

It is desirable to use a minimum of 180 volts with these units if possible, but satisfactory results can be attained with less, provided the unit is a sensitive one, and the cone is fully floating.

Neutralising Problems

IN a recent issue of the "Wireless World" we find some apt remarks on the subject of neutralising. From discussions and correspondence received we have gained the idea that considerable misunderstanding exists in regard to this matter, and we feel that the reprinting of the remarks in question will serve a useful purpose in "clicking" the major considerations in the minds of searching and doubting experimenters. Writing anonymously, the contributor states:—

"If we wire up a tuned-anode circuit, and use for amplification an ordinary triode valve, it is found that the tendency towards oscillation, caused by the feed-back of amplified currents from plate to grid through the plate-grid capacity of the valve, its holder, and the associated wiring, makes it impossible to achieve any useful degree of amplification. In an endeavor to check oscillation we may introduce heavy damping into the grid-circuit by connecting a resistance in series or parallel with it, when there is no difficulty in allowing the valve to develop its full amplification. This gain, however, is completely offset by the low efficiency of the tuned circuit, so that while we have gained amplification we have now a far fainter signal to operate the receiver.

"By careful adjustment of the damping we may arrange that the source of reaction mentioned just keeps the effective high-frequency resistance of the grid circuit at its original value. On one wavelength only this is a complete solution of the difficulty, but since the reaction effect varies from one wavelength to another, it is a solution satisfactory only where but one station is to be received, where grid, filament, and plate voltages are all adjusted to a fraction of a volt, and where a valve is used that never alters its characteristics or grows old. It being awkward in most cases to fulfil these conditions a neutralised circuit, where the feed-back voltages are balanced out by the introduction of a special subsidiary circuit, has generally been preferred. By this means retro-action from plate to grid is completely removed.

If a screen-grid valve is used the position is a little different—but in degree only, not in kind. With such a valve the interelec-

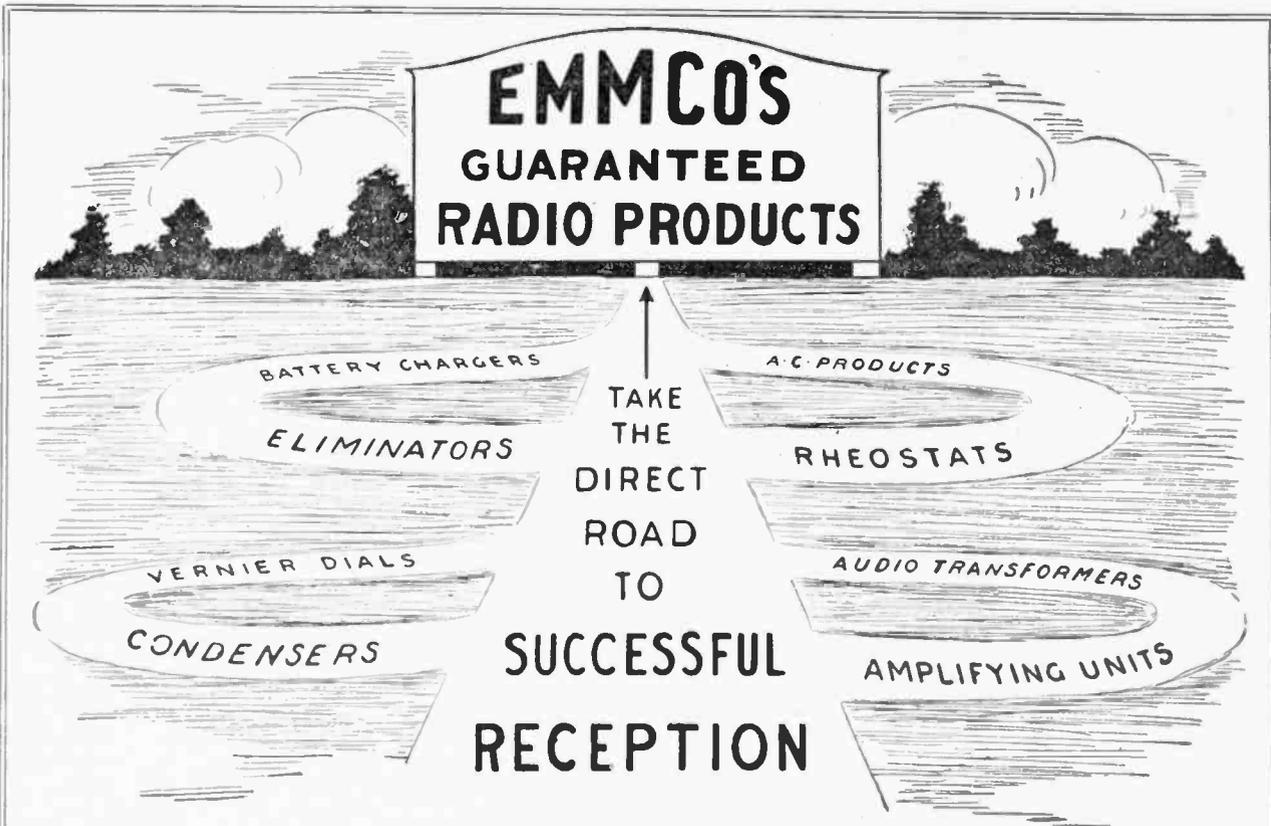
trode capacity has been reduced to an extent which permits the use of tuned circuits of moderate damping, such as is found with multi-layer coils or astatically wound solenoids of fairly fine wire, in a similar tuned-anode circuit. The tendency to oscillation in such a stage is such as to reduce appreciably the damping due to these moderately inefficient coils, so that they, with the aid of the inevitable traces of reaction that remain, are approximately equivalent over the waveband for which the set is designed to a coil of considerably lower losses. Since the amount of reaction varies with the tuning of the stage, and since valves vary slightly from one another in their characteristics, a margin of safety has to be left in designing a receiver to ensure stability, so that only at one point at most in the wave-band will the coils approach the efficiency of really low-loss coils. Owing, however, to the considerably better characteristics of the screen-grid valve as compared with the triode, such a stage is almost exactly equivalent over most of its wavelength range to a neutralised triode stage employing coils of high efficiency, and over some of the range it is better. It is on these lines that most screen-grid receivers have been designed.

If coils of high efficiency are used we return to the conditions of the triode, for the residual interelectrode capacity again causes instability to limit amplification, and we are again compelled to invoke the aid of neutralisation. It will thus be seen that neutralisation, whether of ordinary or screen-grid valves, is only required when instability limits amplification. Where, on the other hand, coil losses limit instability, the introduction of neutralisation, by wiping out the small amount of reaction that has already been allowed for in the design, will replace the coil-resistance that reaction was intended to nullify, and will, therefore, result in a serious decrease in amplification.



We just don't know how this found its way here. However, for beginners who have wanted to join in the weighty discussions which appear in "Curves," it is helpful as indicating the symbolic equivalent for the D.C. screen-grid valve.

"Neutralisation, in fact, whether used with screen-grid valves or triodes, is only useful in that it permits the use of more efficient coils than would otherwise be compatible with stability, and in itself confers no benefits whatever. On the contrary, where, as in all screen-grid receivers that have been described in these columns, stability is already achieved by setting off coil-losses against the small amount of inherent reaction that the slight incompleteness of the screening in the valve still permits, the introduction of neutralisation in any form will result in a very definite falling off in the overall efficiency of the receiver."



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RECONSTRUCTING THE BABY R. O. G.

So great has been the demand for details of the Baby R.O.G.—the first model 'plane to be described in WIRELESS WEEKLY—that it is republished below. This time, however, Mr. Lyons gives many more hints on building as a result of numerous experiments with the model since it was described.

By NORMAN LYONS

HERE is the Baby back again with just a few alterations. And now that you have a better idea of what is required, you should be able to build a R.O.G. that will fly.

It must be remembered that the type of model used indoors may be lighter and smaller than outdoor types, and that distance is not the desired result, because in these days of distributed knowledge practically anyone can make a model that will fly from end to end of the largest buildings. Consequently, duration is established as the objective; to attain it, the model must fly slowly and manoeuvre correctly.

Hundreds of letters were received asking why the model would not fly, and in almost every case the same faults existed. First, sizes were not followed accurately—all timber was oversize. Second, in carving the propeller blade, area had been reduced through careless carving, making the prop. undersize. This allowed the motor to turn over too quickly, and the flight, instead of being slow and steady, could be likened to that of a frightened bird darting right and left. So at this attempt, see that your timber is the correct size before you start assembling.

First of all these materials are necessary:—
Fuselage and Empennage—

- 1 piece of clear pine, 8 x 1-8 x 1-16 in.
- 1 piece of bamboo, 7 x 1-32 x 1-32 in.
- 1 piece of bamboo, 4 x 1-32 x 1-32 in.

Wing—

- 1 piece of clear pine, 10 x 3-16 x 1-32 in.
- 2 pieces of bamboo, 4½ x 1-32 x 1-32 in.
- 3 pieces of bamboo, 2 x 1-32 x 1-32 in.

Propeller—

- 1 piece of clear pine, 5 x ¼ x 3-8 in.
- or 1 piece of veneer, 5 x 5-8 x 1-16 in.

Metal—

- 1 propeller bearing.
- 1 can hook.
- 1 tail hook.
- 2 wing clips.
- 2 washers.
- 2 axles for wheels.

Fabric—

- 1 sheet Cellaero tissue paper.
- Silk thread for binding.
- 18in. rubber thread, 1-8 x 1-32 in. or 1-16 x 1-16 in.

Liquid—

- Aero glue for adhesive.
- Cellaero solution for surfacing.

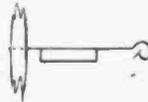
Before you start study the drawings and locate each part in your mind, being sure that you understand what purpose it serves.

We will start with the fuselage stick, or, as some boys call it, the motor stick. It is 8in. long x 1-8 x 1-16 in. Remember, the stick must be placed on its flat, it must be placed so that the rubber will lie along the narrow face. When the stick is down to size, it can be sandpapered if it is not too smooth, but avoid sandpapering if possible, for when a stick is sandpapered it tends to round the faces. If this happens, the wings will not sit squarely, and the result, of course, is an erratic performance.

Now that the fuselage stick is finished, you next prepare the thrust bearing. This can be either the single or double point type, as shown in Fig. 1. If the single point bearing is used, it can be made from a small brad by flattening the head and boring a hole with a No. 65 drill, or from a strip of brass as is used in the double point type. If you haven't a drill, punch a hole with a gramophone needle.

Now bend your thrust bearing, being careful not to make it too high, as this will tend to break your stick, and, on the other hand, if it is not high enough, the rubber will, when it is unwinding, rub against the stick and so stop the propeller from turning evenly. So you see you must strike the happy medium. When you have the thrust bearing finished, bind it in position with silk thread. Don't tie knots when you have finished the binding; just slip the end of the thread under the end of the bearing at the end of the stick.

Next bend the tail hook, making sure that the centre of the loop which is to receive the rubber is equal to the height of the hole in your thrust bearing. When this hook is made, you can fix it by making a small groove at the end of the stick and binding it in position, in the same manner as your thrust bearing.



Some beginners are under the impression that a can hook is not vitally necessary. It is, for the object of a can hook is to lead the rubber down the centre of the fuselage. By keeping it along the centre line the can hook prevents the rubber from bending the stick like a bow. You wouldn't dream of using a fishing rod without running the line through the eyelets, and yet the can hook on your fuselage stick is just as important, so never attempt to wind your motor unless the can hook is firmly in position. When you have made your can hook, place it in position, and take a sight from the tail hook to the bearing hole, making sure that the line passes through the centre of your can hook. The motor stick is now complete, and it should be painted all over with dope. This stiffens the stick and also cements the bindings.

Now we can attend to the construction of the Empennage, which is the aeronautical term meaning tail surfaces. To make these split a piece of bamboo down to 1/32in. x 1/32in. Draw on a piece of paper a full-size picture of the rudder, and bend the bamboo over a small flame to conform with the pattern, repeatedly laying the piece over the paper to be sure the bends are correct. Remember, the bamboo must be uniform in size, or the bends will be irregular. A candle will do splendidly to supply the flame. Don't be impatient; bend the bamboo slowly and gently. If you look at Fig. 3 you will notice that the rudder's bottom edge is formed with an extension 3-8in. long for fastening to the fuselage stick, which is grooved to receive it. It can now be glued in position. For the elevator a piece of bamboo 4in. long and the same size, 1/32in. x 1/32in., is glued

at the centre on the underside of the motor stick 2in. from the back end. To fix this cross-arm to the fuselage stick, make a slight nick with your penknife, you can now glue and bind it in position. For the outline, take a piece of your silk thread 15 inches long and tie it at its centre to the bottom edge of the vertical rudder, and the ends are stretched taut around the ends of the cross-arm and then tied to the fuselage stick 2in. from the end, forming a diamond-shaped area.

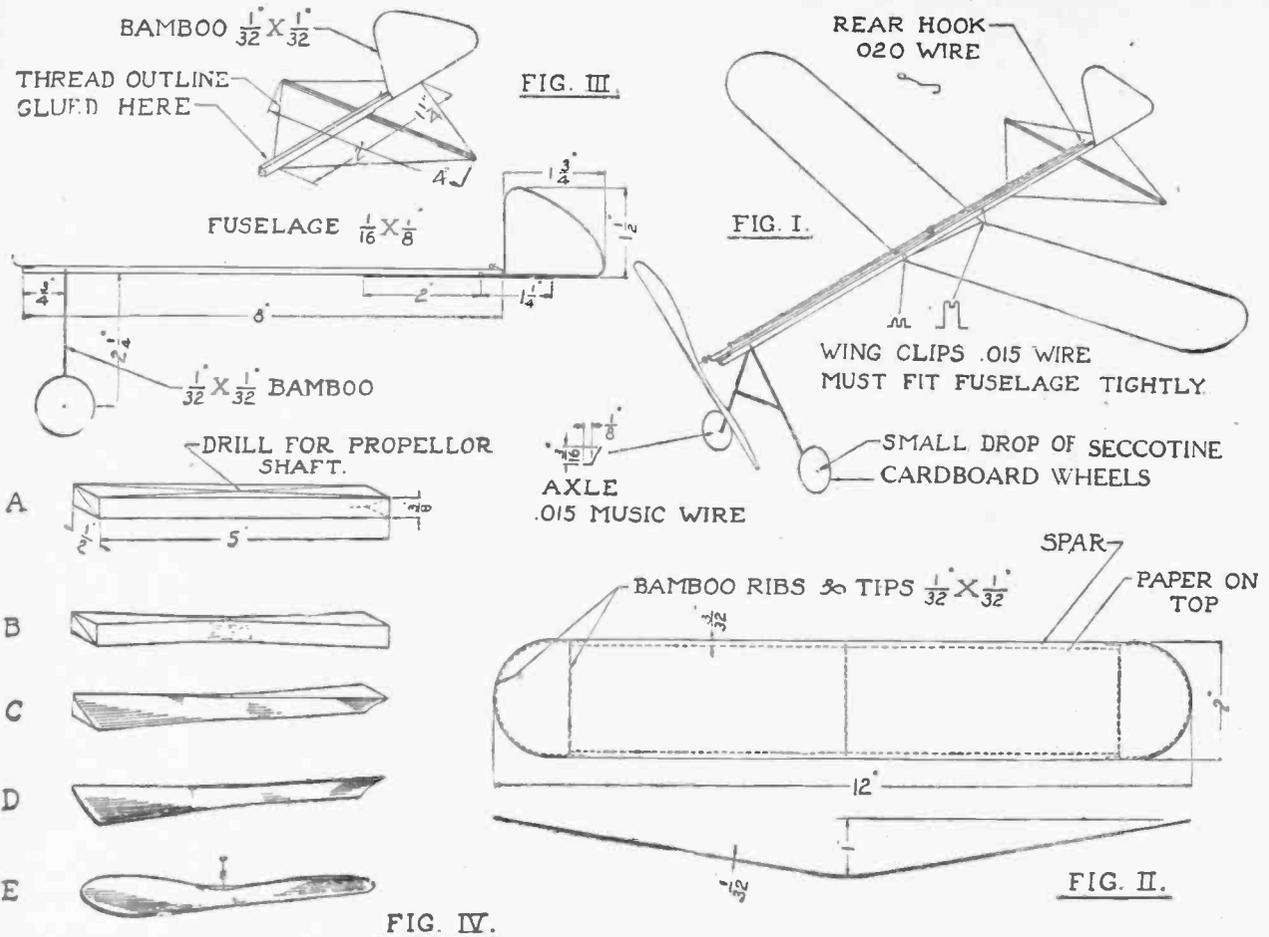
The rudder and elevator are now covered with tissue, which should be previously ironed out if wrinkled and allowed to cool to the room temperature before using. The rudder must be covered first. This is done by cutting out a piece of tissue, slightly larger than the rudder outline, which is then painted with glue, care being taken to smooth out all the wrinkles. The elevator is covered in the same manner, although the paper is not trimmed close to the thread, but at a distance of about 1-32in. margin, to allow the glue a better chance to hold. Finally, be sure the surfaces are flat and perpendicular to each other.

The wing has a slight dihedral, or upward angle, to give it stability. This is imparted to it in forming the spars, which can be bent by heating or steaming. The first method is similar to that used for bending bamboo, the second substitutes the steam issuing from a kettle spout, for the flame.

For your wing spars you will require a piece of straight-grained clear pine or spruce, 10 x 3-16 x 1-32in. This piece is your two spars in one. Bend your piece in the middle to the angle shown in Fig. 2. After it is bent, split it down the centre, and you have two wing spars. Splitting your wing spar is quite a simple job, if you are not impatient, and do it by the right method. Place one half of the wing spar flat on the table, run a centre line with your pencil, then go over this pencil mark very lightly with the point of your penknife, using a straight-edge as a guide. Make a few cuts, going a little deeper with your knife each time. Do the other half in the same way.

For the ribs a single piece of bamboo is used, and from it three straight ribs are split 2 inches long by 1-32 inch square. These are glued in place, making a ladder-like frame. The wing tips are bent from a piece of bamboo, which, after being bent a semi-circle shape, is carefully split in half to form two identical ends. A rather good method of bending wing tips is to heat a piece of round iron or a piece of pipe, and bend your strip around it. When the wing tips are bent and finished to size, they are glued in steps cut in the ends of the wing spars, completing the frame.

The next step is to bend your two wing clips, remembering that the rear hook is ½in. higher than the front, and that they must fit tightly and squarely over the fuselage. When they are finished, bind and glue each to the centre of a wing spar. They must be properly bent before attach-



ment, as they cannot be changed afterwards without endangering the wing.

Take the tissue and carefully cut out the centre of a piece to fit between the clips, but slightly over large otherwise. Beginning with the centre rib which is painted with glue and the paper attached, cover a section at a time, working outwards. When completely covered, the edges can be painted and trimmed, as was done with the rudder.

The landing gear is constructed of 1-32in. square bamboo, as shown in the drawing. The one requirement is that the gear must hold the front end of the plane at least 2½ inches off the ground, so that the propeller will turn freely without striking the ground. For the axle, bend a piece of .015 music wire L-shaped, and glue it to the end of the landing gear strut, as shown in the drawing. The wheels may be made from flat cardboard, about the size of a half-penny. Push a hole in the centre of each, and slip them on the axle. A drop of glue on the end of the axle—but not touching the cardboard—will harden and act as a nut, holding the wheel in place.

Carving the propeller is a bit tricky, and it might be well for you to practice on another piece of wood before using up your propeller block. When you start on the actual propeller, be sure to square up your piece with the block 'plane to just $\frac{1}{4} \times \frac{1}{4} \times 5$ inches. Then draw diagonal line on each $\frac{1}{2}$ -inch face, as shown in the drawing, and at the intersection of the diagonals push a pin through the block. This is the hole for the propeller shaft.

Now, at the ends of the block, draw diagonal lines, as indicated in Fig. 4. Be sure that the line on one end connects opposite corners to the line on the other. After the lines are drawn, you are ready to carve the propeller, step by step, as the drawing in-

dicates. Some boys have trouble making their first 'planes fly, because their propellers are too thick. Sandpaper them down until you can hold them up to a window and see the light shining through the wood.

There is no doubt carving the propeller is the hardest job of all. If you cannot carve one satisfactorily, try bending one. You will need a piece of veneer $5 \times \frac{1}{4} \times 1-16$ inch, on which you set out the type of blade you intend using. Cut the blank down roughly as you do the first operation of the carved propeller. Naturally, it will bend much more easily if it is narrow in the middle than it would were it the same width right through. Steam the plank over the spout of a kettle as you did the wing spars, then, holding each end, twist it slowly, until you give it the required pitch, being careful to see that each blade is bent at an equal angle. Now, on each side, at the middle, glue a small piece of the veneer ($\frac{1}{4} \times \frac{1}{4} \times 1-16$ inch). This is to form the hub.

The propeller shaft is shown in drawing E, Figure 4. Bend it from a piece of .015 music wire about 1½-inch long. Stick the straight end through the hole in the hub of the propeller, bend it into a square U, push the U back, into the wood, and glue it into place. Slip the propeller shaft through the front bearing, and you are ready to hook on your rubber motor.

The motor is a band of $\frac{1}{8} \times \frac{1}{32}$ or $\frac{1}{16} \times \frac{1}{16}$ inch rubber, long enough to reach in a double strand from the front to the rear hook, with an inch of slack.

Now you are ready to try the model. First of all the wing is fastened to the fuselage stick by the clips, placing it as shown in the drawing. You will now see that the higher wing clip at the back gives the wing an angle necessary to flight. To adjust the placement of the wing glide the model. If it dives set

the wing forward slightly, and try again. If the model tries to climb and stalls set the wing slightly farther back, when the 'plane glides evenly it is ready to be wound and flown.

To make the model curve in flight the rudder may be bent by breathing on it, and bending as the warmth of the breath warps the bamboo. The amount of curvature depends on the size of the room in which it is flown. The number of turns imparted to the rubber can best be determined by experiment, 200 being used for the first trial.

For the first flight release the model from the hand, and when you understand your model's little peculiarities you will make it rise from the ground, circle above your head for at least 30 seconds, glide gracefully to the floor, making a perfect landing.

Miss Hilda Boyle

(ONE of the best-known sopranos in Australia is Miss Hilda Boyle, who will be heard from 2BL on September 4. She first came into prominence about four years ago in the Melba Opera Company, when Miss Boyle was chosen to be one of the soloists in operatic chorus trained by Mr. Ernest Morole. Miss Boyle has played leading roles in the Rigo Opera Company and played Rosina, leading role in "The Barber of Seville," at the old Hippodrome, on which site now stands the Capitol Theatre. Miss Boyle has also had considerable experience in concert platform work as well as broadcasting. She specialises in art songs, and sings in several languages.



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- 7.0: "Big Ben" and meteorological information for the man on the land.
- 7.3: This morning's news from the "Daily Telegraph Pictorial."
- 7.8: Early-rising music.
- 7.45: Mails and shipping.
- 7.48: What's on To-day.
- 7.50: Children's birthday calls.
- 8.0: Music from the studio.
- 8.15: Close.

MORNING SESSION—10.30 to 12.30 p.m.

- 10.30: Announcements.
- 10.32: Sporting; to-morrow's sporting events; by Oscar Lind.
- 10.45: Edgar Stone at the grand organ.
- 11.0: Household helps—A talk on cooking by Miss Ruth Furst.
- 11.10: Cables—A.P.A. and "Sun"—"Herald" news service.
- 11.15: The 2FC Studio Orchestra.
- 12.0: "Big Ben"; Stock Exchange and metal quotations.
- 12.2: What to read for the week-end.
- 12.20: Midday weather forecast and weather synopsis; special produce market session for the man on the land, supplied by the State Marketing Board.
- 12.30: Close.

THE LUNCH HOUR—1 to 2.30 p.m.

- 1.0: Lunch to music with the National Broadcasting Orchestra.
- 2.0: Stock Exchange, second call.
- 2.2: A glance at the afternoon papers.
- 2.7: Popular education.
- 2.27: Announcements.

THE RADIO MATINEE—2.30 to 4.30 p.m.

- 2.30: The Radio Matinee Orchestra.
- 2.45: Phyllis Broadbent, soprano.
 - (a) "Sing, Joyous Bird" (Phillips).
 - (b) "To a Miniature" (Brahe).
- 2.52: James Walker, pianist—
"Toccata and Fugue in D Minor" (Bach-Tausig).
- 3.2: The Radio Matinee Orchestra—
- 3.17: Kathleen Logue, violinist—
 - (a) "Legende" (Wieniawski).
 - (b) "Pizzicato" from "Sylvia" (Delibes).
- 3.25: Frank Botham, baritone.
- 3.32: The Radio Matinee Orchestra.
- 3.47: Phyllis Broadbent, soprano—
 - (a) "Sometimes in My Dreams" (d'Hardelet).
 - (b) "Powder and Patches" (Phillips).
- 3.52: James Walker, pianist—
"Etude in A Flat," Op. 10 (Chopin).
- 4.2: Frank Botham, baritone.
- 4.9: Kathleen Logue, violinist.
 - (a) "Paradise" (Krakauer-Kreisler).
 - (b) "Romance" (Rudenyi).
- 4.16: The Radio Matinee Orchestra.
- 4.28: Stock Exchange, third call.
- 4.30: Close.

EARLY EVENING SESSION—5.45 to 7.55 p.m.

- 5.45: Kiddies' "Good-night" stories, told by the "Hello Man," assisted by Goodie Reeve.
- 6.45: The National Broadcasting Orchestra.
- 7.30: A.B.C. sporting service.
- 7.37: Special country session; Stock Exchange resume; markets; late news service from the "Sun."
- 7.58: Announcements.
- 8.0: From Christ Church St. Laurence—organ recital by Christian Hellemann.
- 8.20: From the studio, William Everard and Dorothy Manning in vocal duets—
 - (a) "Sentimental Moon" (Eckersley).
 - (b) "I Want to Go to Tokio" (Fischer).
 - (c) "The Stepping Stones" ("Belle of Brittany"), (Horne).
- 8.30: Lettie Keyes in a pot-pourri of comic opera memories.
- 8.44: The Two Old Cronies
In songs and Memories of the Past.
- 8.54: The Two Fosters
(a) "Coquette" (Berlin).
(b) A violin solo by Maggie Foster.
- 9.2: The Country Man's Weather Session—
 - (a) New South Wales weather forecasts.
 - (b) Inter-State weather synopsis.

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- 9.3: Herbert Batchelor, baritone—
 - (a) "The Fountains Mingle with the River" (Lambert).
 - (b) "The Forest Shrine" (Temple).
 - (c) "God's Eternity" (Johnson).
- 9.10: Charles Lawrence, entertainer—
 - (a) "The Thin Man and the Fat Man."
 - (b) "Lovers' Lane."
- 9.20: The Australian Broadcasting Dance Orchestra.
- 9.30: William Everard and Dorothy Manning in duets—
 - (a) "Moonlight" (Weeks).
 - (b) "A Paradise for Tyro" ("Maid of the Mountains"), (Tate).
 - (c) "In Our Little Canoe" (Edwards).
- 9.40: The Two Old Cronies—
In Songs and Memories of the Past.
- 9.50: The Two Fosters—
 - (a) "My Own Willow Tree" (Rhodes).
 - (b) "You Were Meant for Me" (Brown).
- 9.58: Herbert Batchelor, baritone—
 - (a) "I Love You More" (Lee).
 - (b) "She Is Far from the Land" (Lambert).
- 10.5: Charles Lawrence, entertainer—
 - (a) "The Old Child and the New."
 - (b) "Nonsense."
- 10.15: Announcements.
Late official weather forecast.
- 10.20: The Australian Broadcasting Dance Orchestra.
- 11.30: Close.
National Anthem.

2BL

Australian Broadcasting Company, Ltd., Market St., Sydney (Wavelength, 355 metres).

OPENING SESSION—8.15 to 11 a.m.

- 8.15: Music for every mood.
- 8.45: Meteorological data for the country.
- 9.50: Songs and choruses.
- 9.30: British official wireless news.
- 9.35: New music.
- 10.5: News from the "Daily Telegraph Pictorial."
- 10.10: The Ladies' Club Hour: The Australian Women's A.B.C. Association, conducted by Miss Gwen Varley.
- 10.30: Celebrity items.
- 10.45: Morning Devotion: A daily message conducted by the Council of Churches.
- 11.0: Close.

MIDDAY SESSION—12 noon to 2.30 p.m.

- 12.0: Announcements.
- 12.2: The National Broadcasting Orchestra.

- 1.0: Afternoon news from the "Sun."
- 1.5: Studio music.
- 1.15: Women's "Interest Talk."
- 1.30: The Traders "Selling the Set" music.
- 2.0: J. Knight Barnett at the Wurlitzer Organ.
- 2.12: Studio music.

AFTERNOON ENTERTAINMENT—2.30 to 5.45 p.m.

- 2.30: Business efficiency talks.
- 2.45: "The Magic Carpet."
- 3.0: From the Oriental Cafe: Sydney Simpson's Syncopaters in dance music.
- 3.12: From the Studio: Harry Jackson, baritone.
- 3.19: Dance music.
- 3.22: Ahad Duo, steel guitars—
 - (a) "Hawaiian Daisies" (Earl).
 - (b) "Medley" (Stanley and Edwards), piano, accordian, and Spanish guitar.
- 3.39: Dance music.
- 3.42: From the Oriental Cafe: Sydney Simpson's Syncopaters in dance music.
- 3.53: From the Studio: Molly Dougherty, monologues—
 - (a) "Mississippi" (Tierney).
 - (b) "Listenin'" (Hadyn Wood).
- 3.59: Popular items.
- 4.2: From the Oriental Cafe: Sydney Simpson's Syncopaters in dance music.
- 4.14: From the Studio: Harry Jackson, baritone.
- 4.19: Ahad Duo, steel guitars—
 - (a) "Hawaiian Smiles" (Earl).
 - (b) "I'm Longing to Belong to Someone" (Homan).
- 4.26: Popular items.
- 4.30: Molly Dougherty, monologues—
 - (a) "The King's Breakfast" (Milne).
 - (b) "Ain't-er-Jim."
- 4.37: From the Oriental Cafe: Sydney Simpson's Syncopaters in dance music.
- 4.45: From the Studio: "The Trade Hour."
- 5.45: Official weather forecast. Close.

THE DINNER HOUR

- 6.15: The National Broadcasting Orchestra.
- 6.45: The A.B.C. Younger Set Session—A.B.C. Boy Scouts' Club, conducted by Mr. Norman Lyons.
- 7.5: Studio music.
- 7.15: The Countryman's market session: Wool, wheat, stock, farm produce, fruit, vegetables, and poultry markets.
- 7.30: The National Broadcasting Orchestra
- 7.55: What's on the air to-night.

TO-NIGHT'S PRESENTATION—8 p.m. to 10.30 p.m.

- 8 p.m.: Maurice Balance, basso—
 - (a) "To the Forest" (Tschaiakowsky), with quintet accompaniment.
 - (b) "The Vulcan's Song" (Gounod), with quintet accompaniment.
- 8.7: Lisuscha Engels, pianist—
"Sonata, 1st Movement, Op. 31. D Minor" (Beethoven).
- 8.17: The National Broadcasting Orchestra.
- 8.31: Leonore Gotsch, soprano.
- 8.38: Muriel Lang, cellist—
 - (a) "Serenade" (Squire).
 - (b) "Solitude on the Mountain" (Bull).
- 8.45: The National Broadcasting Orchestra.
- 9.0: Arnold Ashworth, baritone—
 - (a) "Windy Nights" (Stanford).
 - (b) "Sergeant Major's on Parade" (Long-staffe).
- 9.7: Lisuscha Engels, pianist—
 - (a) "Waltz, A Flat" (Chopin).
 - (b) "Barcarolle" (Tschaiakowsky).
- 9.17: Maurice Balance, basso—
 - (a) "Lowland Sea" (Branscombe).
 - (b) "The Showman" (James).
- 9.24: Muriel Lang, cellist—
Andante from "Concerto" (Goldtman).
- 9.31: Late weather forecast for the man on the land.
- 9.47: An address by a well-known speaker.
- 10.2: Leonore Gotsch, soprano.
- 10.9: Arnold Ashworth, baritone—
 - (a) "Five Eyes" (Armstrong Gibbs).
 - (b) "Cargoes" (Coningsby Clark).
- 10.15: The National Broadcasting Orchestra.
- 10.25: Official weather forecast—metropolitan and country. Late news from the "Sun."
- 10.30: Close. National Anthem.

2GB

Theosophical Broadcasting Station, 29 Bligh St., Sydney (Wavelength, 316 metres).

MORNING SESSION.

10.0: Music. 10.10: Happiness talk by A. E. Bennett. 10.20: Music. 10.30: Women's session by Miss Helen J. Beegling. 11.30: Music. 11.45: Close down.

AFTERNOON SESSION.

2.0: Music. 2.5: Women's Radio Service by Mrs. Dorothy Jordan. 2.50: Movie Know All. 3.0: Music. 3.30: Close down.

EVENING SESSION.

5.30: Children's session by Uncle George. 7.0: Music. 7.45: Feature story. 8.0: Miss Beatrice Kendrick, contralto. 8.7: Symphony Orchestra. 8.15: Madame Betts-Vincent in an illustrated talk on the Sonatas of Beethoven. 8.30: Humorous interlude by Mr. Jack Win and Mr. Heath Burdock. 8.35: Mr. Clement Hosking, baritone. 8.45: Address. 9.0: Weather report. 9.3: Miss Gwen Selva, soprano. 9.13: Instrumental Trio. 9.23: Humorous interlude by Mr. Jack Win and Mr. Heath Burdock. 9.28: Miss Beatrice Kendrick, contralto. 9.38: Symphony orchestra. 9.43: Mr. Clement Hosking, baritone. 9.50: Instrumental Trio. 9.55: Miss Gwen Selva, soprano. 10.5: Instrumental Music. 10.30: Close down.

2UW

Radio Broadcasting, Ltd., Palling's Building, Ash St., Sydney (Wavelength, 267 metres).

MIDDAY SESSION.

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

EVENING SESSION.

5.30: Children's hour, conducted by Uncle Jack. 6.30: Close down. 7.0: G.P.O. clock and chimes. Request numbers. 8.0: Songs of the hour. 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.

2KY

Trades and Labor Council, Goulburn St., Sydney (Wavelength, 280 metres).

MORNING SESSION.

10.0: Tune in to the ticking of the clock. 10.3: Popular fox trots. 10.15: Hawaiian steel guitar selections. 10.30: Request numbers. 10.50: Vocal items. 11.0: A few laughs. 11.5: Pianoforte selections. 11.15: Calls and announcements. 11.20: Musical interlude. 11.30: Request numbers. 11.40: Music and vocal numbers. 11.55: Where to go to-night. 12.0: Closing announcements.

CHILDREN'S SESSION

6.0: Birthday calls, request numbers, and kiddies' entertainment. Aunt Jemima and Uncle Bert.

EVENING SESSION.

7.0: Musical interlude. 7.5: Birthday calls. 7.15: Sporting feature. Turf topics. Review of candidates and their prospects for tomorrow, Mr. Geo. A. Davis. 7.40: Request numbers. 8.0: Hawaiian steel guitar selections. 8.15: Request numbers. 8.30: Music and vocal items from the studio. 9.10: Sporting feature. Presented by Tooth and Co., Ltd., Kent Brewery. From ringside of M'Hugh's Leichhardt Stadium. Full description of main 15-rounds fight, Mr. Jack Dunleavy. 10.0: Closing announcements.

2UE

Broadcasting Station 2UE, Storey Street, Maroubra Junction, Sydney (Wavelength, 293 metres).

EARLY MORNING SESSION.

7.15: Breakfast Time Hour Orchestral Music. 8.30: Weather forecast; close down.

MIDDAY SESSION

11.30: Orchestral and vocal old time selections. 12.30 p.m.: Announcements; close down.

AFTERNOON SESSION

1.0: Vocal and orchestral music. 1.45: Organ selections. 2.0: Orchestral music. 2.30: Announcements; close down.

EVENING SESSION

7.15: Orchestral dinner music. 7.58: Programme announcements. 8.0: "Faust" selections. 8.10: Orchestral and vocal music. 10.15: Announcements; close down.



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Interstate Programmes, Friday, August 30

3LO

Australian Broadcasting Co., 120A Russell St., Melbourne (Wavelength, 371 metres).

MORNING SESSION.

10.30: Current happenings in sport, by Mel. Morris.
10.45: A.B.C. Orchestra, with Moran Hillford, bass.
12.0: Melbourne Observatory time signal. 12.1: Orchestra, continued. 12.15: News service, British official wireless news; Corn Exchange report; Newmarket stock sales; Associated Stock and Station Agents' official report. 12.30: Close down.

MIDDAY SESSION.

1.0: Melbourne Observatory time signal; Stock Exchange information; meteorological data; weather forecast for Victoria, New South Wales, South Australia, and Tasmania; ocean forecast; River reports; rainfall; comments on the day's news. 1.30: Reproduced music.

EDUCATIONAL SESSION.

2.0: Strange people of strange countries—Mr. N. D. Harper, M.A., Dip. Ed. 2.15: Musical interlude. 2.30: Gems of English Literature—"Milton's Paradise Lost," Prof. C. H. Cowling, M.A. 2.35: Musical interlude. 2.40: A talk in German, Mr. C. E. Green, M.A., Dip. Ed. 2.55: Musical interlude.

THE RADIO MATINEE.

Old English songs and dances. 3.0: National Broadcasting Orchestra, under direction Wm. G. James; conductor, Percy Code. Selection, "Tom Jones" (Edward German). 3.10: Frederick Earp, baritone—"Have You Seen but a White Lily Crow?" (Anon. 17th cen.). "The Jovial Miller" (1600). 3.17: Victor Stephenson, piano—Old English composers. 3.32: Marion Daniels, soprano—"Barbara Allan." "On the Banks of Allan Water." 3.39: Orchestra—Selection, "Merry England" (Edward German). 3.49: Frederick Earp, baritone—"A Moonlight Song" (Cadman). "If I Were" (Richards). 3.56: Robert Le Ben, humorous recital—"The Hymn of the Housewives." "When the Circus Comes to Town" (John O'Brien). "Jenkins' Car." 4.7: Marion Daniels, soprano—"I Wonder if Love is a Dream" (Forster). "When Song is Sweet" (Sans Souci). 4.14: Orchestra—Selection, "The Lady in Ermine" (Roxberg). 4.30: Close down.

THE CHILDREN'S CORNER.

5.45: "Billy Bunny" blows his whistle. All aboard for the Magic Carpet, with 6.5: Freda Northcott—Songs for the children. 6.15: For the older boys and girls: Brave deeds by boys and girls. 6.30: Reproduced music.

EVENING SESSION.

6.40: What's wrong with your radio—Mr. H. Kingsley Love. 6.55: Musical interlude.

COUNTRY MAN'S SESSION.

7.0: Melbourne Observatory time signal. Stock Exchange information; Corn Exchange report; Associated Stock and Station Agents' official report; Wool Exchange report; mines and metals; fish and rabbit prices; farm and dairy produce report supplied by the Interstate Dairy Produce Committee; wholesale fruit prices supplied by the Wholesale Fruit Merchants' Association; retail fruit prices supplied by the Victorian Fruitgrowers' Association; citrus fruit prices supplied by Victorian Central Citrus Association; weather synopsis; river reports; rainfall data.

THE LECTURETTE SESSION.

7.25: Gardening hints (under the auspices of the Royal Horticultural Society of Victoria)—"Western District." Mr. E. F. Cook. 7.40: News. 7.45: Marriage customs of mankind. Mr. J. R. Lyall, B.A.

NIGHT SESSION.

- 8.0: Collingwood Citizens' Band—March, "Deh or Glory." Overture, "Napoleon."
- 8.10: Claude J. Schilling, baritone—"The Lute Player" (Allitsen). "To my First Love" (Lohr).
- 8.17: Bertha Jorgensen, violin—"Romance in F" (Beethoven). "Minuet" (Beethoven).
- 8.24: Madame Elsie Davies—"Annie Laurie" "If" (Denza).
- 8.31: Collingwood Citizens' Band—Selection, "A Galaxy of Beauties." A Comedy and Musical Novelties.
- 8.41: "Marinata," Produced by Catherine Neill. Columbine..... Catherine Neill Pierrot..... Frank Pearson Harlequin..... Leslie Williams
- 8.56: Spanish Serenaders—"Serrville Nights."
- 9.3: Collingwood Citizens' Band—Humorous fantasia, "A Rural Wedding."
- 9.13: Claude J. Schilling, baritone—"The Old Mother" (Orleg). "Requiem" (Homer).
- 9.20: Spanish Serenaders—"Malaga Memories."
- 9.25: Madame Elsie Davies, soprano—"The Bitterness of Love" (Dunn). "Kate O'Shane."
- 9.32: Heady and Bartlett—"Musical Novelties."
- 9.47: Collingwood Citizens' Band—March, "Foden's Own." Gavotte, "Cherry Time."
- 10.0: Popular airs by Bob M'Queen and his Melody Boys.
- 10.20: British official wireless news; items of interest; meteorological information.
- 10.30: The "Rex" Dance Band.
- 11.30: God Save the King.

4QG

Queensland Government Radio Service, Brisbane (Wavelength, 285 metres).

EARLY MORNING SESSION.

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

MORNING SESSION.

11.0: Music, social news, cookery talk by "The Etiquette Girl." 12.0 (noon): Close down.

MIDDAY SESSION.

1.0: Market reports; weather. 1.20: From the State Insurance Lunch Hour Club, lunch-hour entertainment. 2.0: Close down.

AFTERNOON SESSION.

3.0: Records. 3.30: Mail train running times; records. 4.15: News down.

EARLY EVENING SESSION.

6.0: Mail train running times; mail information; shipping news. 6.5: Records. 6.25: Commercial announcements. 6.30: Bedtime stories conducted by the Sandman. 7.0: News in brief. 7.5: Stock Exchange. 7.6: Metal quotations. 7.7: Market reports. 7.25: Fenwick's stock report. 7.30: Weather information. 7.40: Announcements. 7.43: Standard time signals. 7.45: To-morrow's sporting fixtures reviewed.

NIGHT SESSION.

The Ipswich Vice Regal Band, Supporting artists: Marie Lethbridge (contralto), Mae Kelly (soprano), Ted Sydes (baritone), The Anglo Male Quartette.

- 8.0: From the S. S. "The Ipswich Vice Regal Band (conductor, Albert Wade):
March, "Gallito" (Lope).
Welsh hymn, "Pestilog" (arr. Wade).
Marie Lethbridge, contralto—"A Fairy Love Song" (Wilbey).
The Ipswich Vice Regal Band—"Besses of the Barn" (Carrie).
The Anglo Male Quartette—"Sylvia" (Speaks).
Ted Sydes, baritone—"A Castilian Lament" (Teresa del Riego).
The Ipswich Vice Regal Band—Selection, "Works of Liszt" (Rimmer).
Mae Kelly, soprano—"Wake Up" (Phillips).
The Anglo Male Quartette—"When Evening's Twilight" (Hatton).
The Ipswich Vice Regal Band—Fox trot, "I Ain't Never Been Kissed" (Gilbert).
Marie Lethbridge (contralto), Ted Sydes (baritone)—Vocal duet.
"It was a Lover and his Lass" (Walthew).
The Ipswich Vice Regal Band—Selection, "Adelson e Salvini" (Bellini).
- 9.0: Metropolitan weather forecast. Week-end road information for motorists, officially supplied by the R.A.C.Q.
- 9.15: The Anglo Male Quartette—"Old Mother Hubbard" (Wheeler).
Mae Kelly, soprano—"That's All" (Brahe).
The Ipswich Vice Regal Band—Humorous fantasia, "Musical Fragments" (Rimmer).
Marie Lethbridge, contralto—"My Ships" (Barratt).
The Ipswich Vice Regal Band—Selection, "Schwert's Works" (arr. Reynolds).
Ted Sydes, baritone—"Invictus" (Huhn).
The Ipswich Vice Regal Band—Selection, "Mirella" (Gounod).
Marie Lethbridge (contralto), Mae Kelly (soprano)—Vocal duet, "A Gipsy Evening" (Brahe).
The Ipswich Vice Regal Band—March, "The Mad Major" (Alford).
10.30: News supplied by the metropolitan dailies; weather information; close down.

5CL

Central Broadcasters, Ltd., 114 Hindmarsh Square, Adelaide (Wavelength, 409 metres).

MORNING SESSION.

11.15: Chimes. 11.18: Recordings. 11.45: Kitchen Craft and Menu Talk. 12.1: Recordings. 12.15: News session. 12.40: Recordings. 12.52: Railway; Stock Exchange and meteorological information. 1.1: Community singing, from the Adelaide Town Hall. 1.50: Meteorological information. 2.0: Close down.

AFTERNOON SESSION.

3.0: Chimes. 3.1: Programme review. 3.10: Studio concert. 3.15: Rupert Hazell and Elsie Day. 3.25: Studio concert. 3.30: Dr. Eleanor A. Allen, B.A., will give the last of her talks on "Psychology." 3.45: Wiltzer organ recital. 4.1: Rupert Hazell and Elsie Day. 4.25: Stock Exchange. 4.30: Close down.

EVENING SESSION.

6.0: Chimes. 6.1: Birthday greetings. 6.15: Children's request numbers. 6.30: Dinner Session. 7.0: Chimes. 7.1: Birthday greetings and 5CL's Sporting Chimes. "Silvius" gives a special late review of to-morrow's races at Morphettville and Ascendale Park. Soccer notes; results of open amateur golf championships of Australia. 7.20: Talk on "Football." 7.30: Mrs. Lynn (president of the South Australian Basketball) will introduce the captains of the Interstate teams, who will have a few words to say State teams. 7.40: Sir David Gordon, M.L.C., "Of Interest to Everybody." 7.50: Dr. Jethro Brown will speak on "Strife in Industry—Why?"

NIGHT SESSION.

- 8.0: Chimes.
- 8.10: Station Quartette (conducted by Lizette Foglia)—Suite, "Ballet Egyptienne" (Luigini).
- 8.20: Nigger Minstrel Entertainment—Characters, Wilfrid Thomas, interlocutor.

Don Wildsmith, bones.
Bert Woolley, banjo.
Dicky Bailey, tambo.
Phyllis Everett and Carmeneta Mascagni, chorus.
And two Cornermen.
The following items will be rendered during the evening:—

- Opening Chorus
- "Hello Darius Parada."
- "The Campdown Races."
- "The Old Folks At Home."
- "In De Mornin' By De Bright Light."
- "Back In Alabama."
- "Dixieland."
- "Good Old Jeff."
- "There's Gold in the Mountain."
- "Polly Wolly Doodle."
- 8.50: Station Quartette—"Sanctuary of the Heart" (Ketelby).
- 8.55: Dr. P. Ray Newling—"The Three Fishers" (John Hullah). "You'll Git Heaps 'o' Lickins."
- 9.0: G.P.O. chimes.
- 9.1: Meteorological information, including Semaphore tides.
- 9.2: Overseas grain report.
- 9.3: Extracts from the "Advertiser"—general news service.
- 9.10: Station Quartette (conducted by Lizette Foglia)—Suite, "Coppelia" (Delibes).
- 9.20: Dr. P. Ray Newling—"Where My Caravan Has Rested" (Herman Lohr). "My Treasure" (John Travalsa).
- 9.27: Nigger Minstrel entertainment, continued.
- 9.57: Station Quartette—Selection, "Hit the Deck."
- 10.7: Lizette Foglia, violinist—"Serenade" (Leoncavallo).
- 10.15: General news service; British official wireless news; meteorological information; 5CL's Sporting Service—"Silvius" gives a special late review of to-morrow's races at Morphettville and Ascendale; Soccer notes; results of Open Amateur Golf Championships of Australia.
- 10.30: Recordings.
- 11.0: Close down.

6WF

Commonwealth Government Broadcasting Station, Perth (Wavelength, 100 metres).

10.0: Gramophone records. 11.0: Close down. 12.30: Markets, news, etc. 1.1: Weather bulletin. 1.3: Music by the Radio Trio. 2.0: Close down. 3.30: Afternoon concert. 4.30: Close down. 6.45: Bedtime stories by Uncle Duffy. 7.5: Light music by the Radio Trio. 7.30: Commercial and general information. 7.45: Talk on "Racing." 8.0: Time signal. 8.1: First weather bulletin. 8.3: Popular programme. 8.50: Late news; ships within range announcement; late weather bulletin. 8.58: "Gardening" talk by Mr. James Conarty. 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

Tasmanian Broadcasters Pty., 95 Elizabeth St., Hobart (Wavelength, 518 metres).

6.15: Selections. 6.30: "The Story Lady," 6.45: Selections. 7.0: Answers to letters and birthday greetings. 7.10: News session. 7.15: Sid Jones will speak on "Football." 7.30: A Studio concert by 7ZL artists (interspersed with instrumental numbers). 7.37: Lella Read, piano solo, selected. 7.43: Miss C. Burridge, soprano, (a) "Come to the Fair" (Taylor), (b) "Mother Machree." 7.57: C. Robinson, baritone, "The Heart of Oak," (b) "Home Isn't Home Without You" (Lohr). 8.11: Miss C. Burridge (b) "The Better Land" (Jude); (d) "Annie Laurie" (Scott). 8.25: C. Robinson, baritone, (c) "The Harp That Once," (d) "Invictus." 8.40: Lella Read, piano solo, selected. 8.45: J. M. Counsel, "The History and Development of Music." 9.45: News session. 10.0: G.P.O. clock chimes the hour. Close down.

TRANSFORMERS

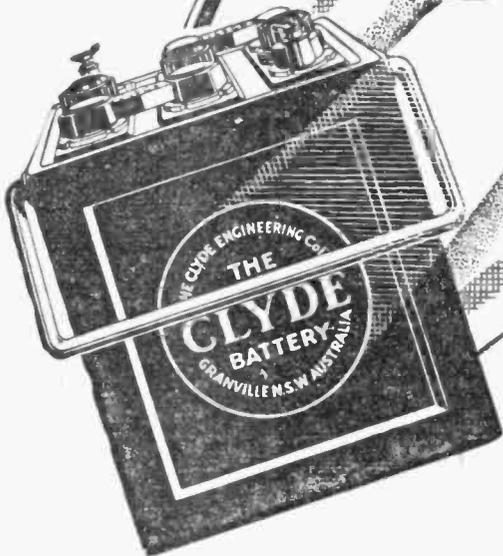
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Local Programmes, Saturday, August 31

2FC

Australian Broadcasting Company, Ltd., Market St., Sydney (Wavelength, 112 metres).

EARLY SESSION—7 to 8.15 a.m.

- 7.0: "Big Ben" and meteorological information for the man on the land.
 7.3: This morning's news from the "Daily Telegraph Pictorial."
 7.8: Early-rising music.
 7.45: Mails and shipping.
 7.48: What's on to-day?
 7.50: Children's birthday calls.
 8.0: Music from the studio.
 8.15: Close.

MORNING AND AFTERNOON SESSIONS

- 10.30: Announcements.
 10.32: A.B.C. Racing Observer.
 10.45: Edgar Stone at the grand organ.
 11.0: Week-end suggestions.
 11.10: Cables—A.P.A. and "Sun"—"Herald" news service.
 11.15: The 2FC Studio Orchestra.
 12.0: "Big Ben," Stock Exchange and metal quotations.
 12.2: Music.
 12.20: Midday weather forecast and weather synopsis; special produce market session for the man on the land, supplied by the State Marketing Board.
 12.30: Music.
 12.50: From Warwick Farm: Description of the races in the running. During the intervals dance music from the Oriental Cafe, played by Sydney Simpson's Syncopaters.
 4.35: Complete sporting resume.
 4.45: Close.

EARLY EVENING SESSION—5.45 to 7.45 p.m.

- 5.45: Kiddies' "Good-night" stories told by the "Hello Man," assisted by Aunt Willa.
 6.45: The National Broadcasting Orchestra.
 7.25: A.B.C. sporting service.
 7.37: Special country session. Stock Exchange resume. Markets. Late news service from the "Sun."
 7.58: Announcements.

EVENING PRESENTATION—8 p.m. to 11.30 p.m.

- 8.0: Charles Zoli's Revue—
 Note: At 9.0 the Countryman's weather session—
 (a) "New South Wales Forecasts."
 (b) "Interstate Weather Synopsis."
 9.30: The 2FC Instrumental Trio
 9.40: Gwladys Fimister, soprano—
 (a) "Boat Song" (Ware).
 (b) "A Head of Rose Leaves" (Willeby).
 9.47: The 2FC Instrumental Trio.
 9.57: Gwladys Fimister, soprano—
 (a) "There is a Flower That Bloometh" (Wallace).
 (b) "The Snow Man" (Pepper).
 10.1: From the Oriental Cafe: Sydney Simpson's Syncopaters in dance music.
 10.15: From the Studio: Announcements. Late official weather forecast.
 10.20: From the Oriental Cafe: Sydney Simpson's Syncopaters in dance music.
 11.30: Close. National Anthem.

2BL

Australian Broadcasting Company, Ltd., Market St., Sydney (Wavelength, 353 metres).

OPENING SESSION—8.15 to 11 a.m.

- 8.15: Music for every mood.
 8.45: Meteorological data for the country.
 8.50: A musical pot pourri.
 9.30: British official wireless news.
 9.35: New music.
 10.5: News from the "Daily Telegraph" Pictorial."
 10.10: Gardening talk.
 10.30: Celebrity items.
 10.45: Morning Devotion—a daily message conducted by the Council of Churches.
 11.0: Close.

MIDDAY SESSION—12 noon to 2.30 p.m.

- 12.0: G.P.O. chimes. Announcements.
 12.2: The National Broadcasting Orchestra.
 1.0: Afternoon news from the "Sun."
 1.5: Studio music.
 1.15: Women's "Interest Talk."

- 1.30: A recital of Instrumental Music, reproduced on the radio metre.
 2.0: J. Knight Barnett at the Wurlitzer.
 2.12: Studio Music.

AFTERNOON ENTERTAINMENT—2.30 to 5.45 p.m.

- 2.30: The Radio Matinee Orchestra.
 2.45: From the Studio: George Manuel, tenor—
 (a) "Una Furtiva Lagema," from "L'Elisier d'Amore" (Donizetti).
 (b) "Castilian Lament" (Teresa Del Riego).
 2.52: David McKissock, 'cellist—
 (a) "Romance" (Ychereshnyeff).
 (b) "Au Bord de la Mer" (Dunkler).
 3.0: The Radio Matinee Orchestra.
 3.15: Lotys Lescout, soprano—
 (a) "Oiseaux Legers" (Gumbert).
 (b) "Were I a Moth" (Phillips).
 3.22: Joe Cahill, entertainer—
 (a) "A Reel Thrill" (Thomson).
 (b) "Dafferdil" (Riverina).
 3.29: The Radio Matinee Orchestra.
 3.44: George F. Manuel, tenor—
 (a) "My Dream" (Tosti).
 (b) "Tired Hands" (Sanderson).
 (c) "If I Might Come to You" (Squire).
 3.52: David McKissock, 'cellist.
 (a) "Gavotte" (Squire).
 (b) "Serenade," from "Les Millions d'Arlequin" (Drigo).
 4.0: The Radio Matinee Orchestra.
 4.15: Joe Cahill, entertainer—
 (a) "Danny M'Shane" (Walters).
 (b) "Horn Rimmed Specs."
 4.22: The Radio Matinee Orchestra.
 4.37: Popular music.
 5.0: Complete sporting resume.
 5.15: Close.

THE DINNER HOUR.

- 6.15: The National Broadcasting Orchestra.
 6.45: The A.B.C. Younger Set Session: The Captain to his Comrades.
 7.5: Studio music.
 7.15: The Countryman's market session: Wool, wheat, stock, farm products, fruit, vegetables, and poultry markets.
 7.30: National Broadcasting Orchestra.
 7.55: What's on the air to-night.

TO-NIGHT'S PRESENTATION—8 p.m. to 12 Midnight.

- 8.0: G.P.O. chimes. The Mellow Fellows in a scena specially prepared for broadcasting.
 8.10: Fred Bluett, comedian—
 "Medley" (Bluett).
 "He's a Jolly Good Fellow" (Vaude).
 8.23: Stella Collyer, popular vocalist.
 8.33: To-night's big sporting event.
 9.33: Late weather forecast for the man on the land.
 9.34: The Australian Broadcasting Dance Orchestra.
 9.46: The Mellow Fellows.
 9.56: The Australian Broadcasting Dance Orchestra.
 10.8: Stella Collyer, popular vocalist.
 10.15: The Australian Broadcasting Dance Orchestra.
 10.25: Official weather forecast—metropolitan and country. Late news from the "Sun."
 10.30: The Australian Broadcasting Dance Orchestra.
 11.30: Romano's Dance Orchestra, conducted by Bennie Abrahams.
 12.0: Close. National Anthem.

2GB

Theosophical Broadcasting Station, 29 Bugh St., Sydney (Wavelength, 316 metres).

- 3.0: Musical Session. 5.30: Children's session by Uncle George. 7.0: Request hour.
 8.0: Dance programme by Sutton's Orchestra. 10.30: Close down.

2UW

Radio Broadcasting, Ltd., Palling's Building, Ash St., Sydney (Wavelength, 267 metres).

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

2KY

Trades and Labor Council, Goulburn St., Sydney (Wavelength, 280 metres).

CHILDREN'S SESSION

- 6.0: Birthday calls, request numbers, and kiddies' entertainment. Aunt Jemima and Uncle Bert.

EVENING SESSION.

- 7.0: Musical interlude. 7.5: Birthday calls. 7.15: Sporting feature. Turf topics. How they ran to-day. 7.50: Request night. 10.0: Closing announcements.

2UE

Broadcasting Station 2UE, Storey Street, Maroubra Junction, Sydney (Wavelength, 295 metres).

EARLY MORNING SESSION.

- 7.15: Breakfast Time Hour Orchestral Music. 8.30: Weather forecast; close down.

EVENING SESSION

- 7.15: Orchestral dinner music. 7.58: Programme announcements. 8.0: Overture. "Light Cavalry." 8.10: Orchestral and vocal items. 10.30: Close down.

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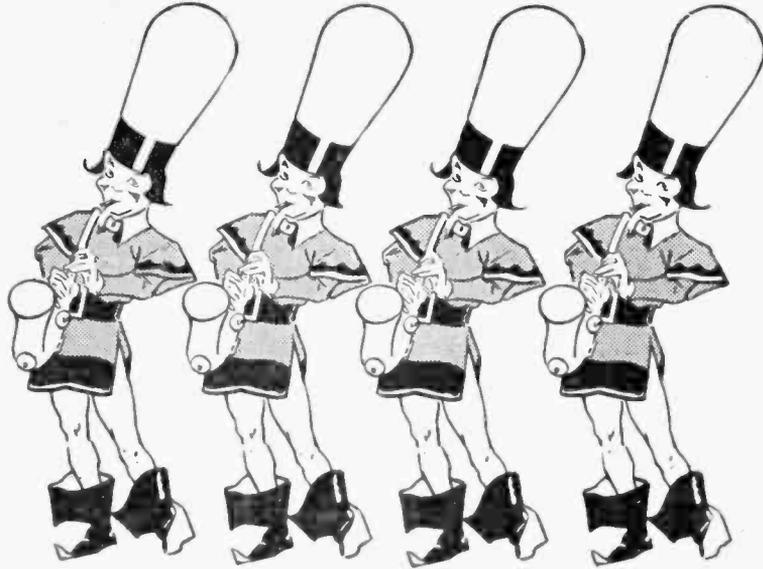
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RCA Radiotron

Interstate Programmes, Saturday, August 31

3LO

Australian Broadcasting Co., 120A Russell St., Melbourne (Wavelength, 371 metres).

EARLY MORNING SESSION.

7.0: Melbourne Observatory time signal. 7.1: Shipping news. 7.3: Physical exercises set to music. 7.20: Reproduced music. 7.40: Mail notices. 7.43: What's on to-day. 7.45: Market reports. 7.53: Weather forecast. 7.55: News. 8.0: Melbourne Observatory time signal. 8.1: Arrival times of express trains. 8.2: Birthday greetings. 8.15: Close down.

MORNING SESSION.

10.30: Current happenings in sport, by Eric Welch. 10.45: A.B.C. Studio Orchestra, with Russell Callow. 12.0: Melbourne Observatory time signal. 12.1: Orchestra, continued. 12.15: News. 12.15: British official wireless news: Corn Exchange, midday report. Newmarket stock sales; Associated Stock and Station Agents' Official report. 12.30: Close down.

MIDDAY SESSION.

1.0: Melbourne Observatory time signal. 1.1: Stock Exchange information; meteorological data; weather forecast for Victoria, New South Wales, South Australia, and Tasmania; ocean forecast; river reports; rainfall; comments on the day's news.

EDUCATIONAL SESSION.

2.0: "Hiawatha" (Longfellow), Rev. W. Bottomley. 2.15: Musical Interlude. 2.20: "If I Had Read no Books," Mr. Howlett Ross. 2.25: Reproduced music. 2.40: Personal adventures while exploring, Lieut.-Col. Eldred Pottinger, D.S.O. F.R.G.S. 2.55: Musical interlude.

THE RADIO MATINEE.

3.0: National Broadcasting Orchestra—"La Paloma" ("Yradler"), "Graces and Laces" (Dannenberg), "Star Blossom" (Logan). 3.10: Tom Sople, tenor—"Flutes of Arcady" (William James), "O Primavera" (1.17). 3.15: Mariana Trio, steel guitars—"Mississippi Ripples, Love in your Eyes. 3.24: Gwen Hart, soprano—"Sing, Sing, Blackbird" (Montague Phillip), "Butterfly Wings" (Montague Phillip). 3.31: Orchestra—"Ballet Music" (Lugini). 3.38: Melbourne Male Quartette—"Swing Along" (Cook), "Old Black Joe" (Foster). 3.45: Alfred Ackland, violin—Sonata in F, First and Second Movement (Handel). 3.52: Robert Gillard, bass—"Within these Sacred Borders" (Mozart), "Myself when Young" (Lehmann). 3.59: Mariana Trio—"Star and Rose," "Sheridan's Rags" (Gwen Hart, soprano). 4.0: "Down in the Forest" (Landon Ronald). "Birds in the Night" (Sullivan). 4.13: A.B.C. Quartette—Number XVI. (Mozart). 4.20: A one-act play, by R. B. Taylor, produced by Frank Hatherley—Period, the Present, Time, Events; Scene, the back parlor of a small general shop. Characters: George, Hopkins, Henry, Robert (his sons), Mrs. Williams. 4.40: Walter Smith, trumpet, selected. 4.45: Melbourne Male Quartette—"The Land of the Sky Blue Water" (Cadman), "You're a Real Sweetheart" (Friend). 4.52: Orchestra—Selection, Sunnyside (Korn). Close down.

THE CHILDREN'S CORNER.

5.45: "Little Miss Kookaburra"—A new serial. "The Guides at Calamity Hill" 6.5: Pat MacLean, child impersonations. 6.15: The Older Boys and Girls—"Jobs for the Young Carpenter." 6.30: Musical interlude.

EVENING SESSION.

6.40: The Golfer's World, Mr. A. W. Jackson. 6.55: Musical interlude.

COUNTRYMEN'S SESSION.

7.0: Melbourne Observatory time signal; Stock Exchange information; Corn Exchange report; Associated Stock and Station Agents' official report; Wool Exchange report; mines and metals; fish and rabbit prices; farm and dairy produce report, supplied by the Inter-State Dairy Produce Committee; wholesale fruit prices; the Wholesale Fruit Merchants' Association; retail fruit prices, supplied by the Victorian Fruitgrowers' Association; citrus fruit prices, supplied by the Victorian Central Citrus Association; weather synopsis; river reports; rainfall, data.

THE SECURITE SESSION.

7.25: Stories of our mining fields—"Bendigo," Mr. Charles Daley. 7.40: "Herald" news service. 7.45: Come with us round the world—4. "The Kutchin Indians," Mr. H. J. O. Esmonde. 8.0: Melbourne Observatory time signal.

NIGHT SESSION.

8.1: A special programme has been arranged. 10.15: Meteorological information; British official wireless news; items of interest. 10.30: The "Rex" Dance Band. 11.30: God Save the King.

4QG

Queensland Government Radio Service, Brisbane (Wavelength, 385 metres).

EARLY MORNING SESSION.

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

AFTERNOON SESSION.

3.0 Records. 3.30: Train times. 4.15: News. 4.30: Close down.

EARLY EVENING SESSION.

6.10: Bi-weekly news service for distant listeners. 6.30: Bedtime stories conducted by "Uncle Ben." 7.0: To-day's race results in detail. 7.20: General sporting notes. 7.30: Sailing notes by Mr. Fred Smith.

NIGHT SESSION.

8.0: Mixed Octette (conductor, Mr. Sydney May)—Part song, "The Dashing White Sergeant" (Patterson). 8.5: Harry Borradaie, entertainer—"A Courtship in Leather." 8.9: Jack Land, tenor—"On with the Motley" (Leoncavallo). 8.15: B. F. Kelly, haust—"La Cinquantaine" (Gabriel Marie). 8.20: Mixed Octette—Part song, "I Waited for the Lord" (Mendelssohn). 8.25: Lou Lambert, baritone—"Pretty Kitty Kelly" (Pesse and Nelson).

3.30: The Studio Orchestra—Selection, "Tangled Tunes" (Kettelby). 8.40: Vera Parker, contralto—"The Dear Homeland" (Slaughter). 8.45: John Steele, tenor—"Wayfarers' Night Song" (Morton). 8.50: Mixed Octette—Part song, "London Town" (German). 8.54: Harry Borradaie, entertainer—"The Absent Prompter." 9.0: Metropolitan weather forecast. 9.1: W. L. Burch, bass—"The Drum Major" (Newton). 9.6: B. E. Kelly, haust—"Dainty Dance" (Lemmon). 9.12: Jack Land (tenor), Jack Atkinson (bass)—Vocal duet, "The Lovers" (Lane Wilson). 9.17: Mixed Octette—Part song, "Alice, Where Art Thou" (Ascher). 9.20: Harry Borradaie, entertainer—"When You Care for a Girl." 9.25: The Studio Orchestra—Waltz, selected. 9.30: Jack Atkinson, baritone—"Ho, Jolly Jenkin" (Sullivan). 9.35: Mabel Gowen, pianiste—"Witches' Dance" (McDowell). 9.40: Mixed Octette—"The Skippers of St. Ives." 9.44: John Steele, tenor—"The English Rose" (German). 9.50: W. L. Burch, bass—"Rose of my Heart" (Lohr). 9.55: Mixed Octette—Part song, "Lullaby" (Brahms). 10.0: The Studio Orchestra—Half an hour's dance music. Between dances Muriel M'Hugh will sing—"Wayside Songs" (Ralph Raymond). 10.30: News supplied by the metropolitan dailies; weather information; close down.

5CL

Central Broadcasters, Ltd., 114 Hindmarsh Square, Adelaide (Wavelength, 409 metres).

AFTERNOON SESSION.

12.0: Chimes. 12.1: Special late selections for Ascendale Park by "Blivius." 12.3: Probable start-ers and selections for races at Morphettville to-day. 12.5: General news service. 12.45: Recordings. 1.15: Morphettville—Riders and positions for Handicap Hurdle Race (two miles and 358 yards). 1.20: Ascendale Park race results. 1.30: Morphettville—Running description of Handicap Hurdle Race, by Mr. Arnold Treloar. 1.35: Morphettville—Riders and positions for Tattersall's Stakes (four and a half furlongs). 2.0: Resume of Ascendale Park race results. 2.10: Morphettville—Running description of Tattersall's Stakes. 2.35: Morphettville—Riders and positions for August Handicap (one mile and a half). 2.50: Morphettville—Running description of August Handicap. 2.55: Resume of Ascendale Park race results. 3.1: Description of League football, by "Mo" Menning. 3.15: Morphettville—Riders and positions for Steeplechasers' Flat Race (one mile and five furlongs). 3.20: League football. 3.30: Running description of Steeplechasers' Flat Race. 3.35: League football. 3.55: Morphettville—Riders and positions for Handicap Welter (nine furlongs). 4.0: Resume of Ascendale Park race results and League football scores. 4.1: Morphettville—Running description of Handicap Welter. 4.15: League football. 4.30: League football scores. 4.35: Morphettville—Riders and positions for Spring Handicap (two furlongs). 4.40: League football. 4.50: Morphettville—Running description of Spring Handicap. 4.55: League football. 5.5: Dividend of Spring Handicap; resume of Ascendale Park and Morphettville race results, and final League football scores. 5.10: Close down.

EVENING SESSION.

6.0: Chimes. 6.1: Birthday greetings. 6.15: Children's request numbers. 6.30: Dinner Session. 7.1: Birthday League greetings. 7.10: Rev. G. E. Hale, B.A., will speak on "Is the Married Man Happier Than a Bachelor." 7.25: Mr. C. G. Riley, will speak on "Items of Interest." 7.40: Sporting service, including Ascendale and Morphettville race results; League football scores; country sporting; open amateur golf championships of Australia; Soccer, three grades; Inter-State basketball scores; hockey, cycling, lacrosse, and result of League 50 mile cycling championship, and other sporting results.

NIGHT SESSION.

8.0: Chimes. 8.10: Salvation Army Band—Selection, "American Melodies." 8.20: Dino Pelard, tenor—Selected. 8.7: Luigi Patrucco—Will play the Harmonica to you. 8.34: Rupert Hazell and Elsie Day will entertain you. 8.44: Salvation Army Band—Chorus, "The Hallelujah Chorus." 8.54: Mary Edson, soprano—"The Wind" (Stross). "A Sprit Flower" (Stanton). 9.0: Chimes. 9.1: Salvation Army Band—Selection, "Love's Manifestation." 9.11: A one-act play (produced by Rebi Saunders), entitled "Within the Law"—Characters: Mary Turner, Edward Gilder, Rebi Saunders, Jack Burgess. 9.26: Luigi Patrucco will play his Harmonica to you again. 9.33: Mary Edson, soprano—"Down in the Forest" (Landon Ronald). "You and I" (Lehmann). 9.40: Salvation Army Band—March, "Under Two Flags."

9.50: Rupert Hazell and Elsie Day will entertain you again. 10.0: Salvation Army Band—"Meditation" (Warcham). 10.10: Dino Pelard, tenor—Selected. 10.15: Sporting service. 10.30: Modern dance records. 11.0: Close down.

6WF

Commonwealth Government Broadcasting Station, Perth (Wavelength, 160 metres).

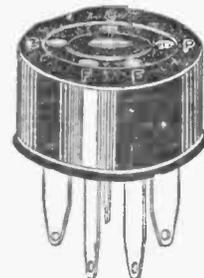
10.0: Gramophone records. 11.0: Close down. 12.0: Racing anticipations. 12.7: Pianoforte solos by Miss Audrey Dean. 12.44: Markets; news, etc. 1.0: Time signal; weather bulletin. 1.3: Close down. 3.30: Sporting session, race results and quarter-time scores of the football matches; musical items from the Studio. 5.30 (approx.): Close down. 8.45: Bedtime stories by Aunt Amy. 7.12: Sports results. 7.30: Commercial information. 7.45: Music. 8.1: First weather bulletin. 8.3: Variety programme. 8.30: Dance music. 8.50: Late news; ships within range; late weather bulletin. 10.30: Close down. 104.5 metre Transmission.—Simultaneous broadcast on 104.5 metres of programme given on 1260 metres commencing at 6.45 p.m.

7ZL

Tasmanian Broadcasters Pty., 95 Elizabeth St., Hobart (Wavelength, 516 metres).

11.30 a.m.: Record recital. 11.34: Midlands weather forecast. 11.35: Record recital. 11.55: Tasmanian stations 9 a.m. weather report. 12.0: G.P.O. clock chimes the hour. 12.1: Shipping information; housewives' guide; mail notices. 12.8: Record recital. 12.30: News service; announcements. 12.40: Record recital. 1.5: British official wireless news; railway auction sales. 1.10: Record recital. 1.30: Close down. 2.45: Transmission from the North Hobart Oval, football match, Ghanore v. New Town, described by Sid Jones. 4.50: All sporting results to hand. 5.0: Close down. 6.10: All sporting results to hand. 6.30: Children's Hour, with "Uncle David." 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. 8.1: Record recital. 8.6: A request programme of popular records, specially arranged by Paton's Music Warehouse. 9.30: British official wireless news. 9.35: Request programme (continued). 10.20: Close down.

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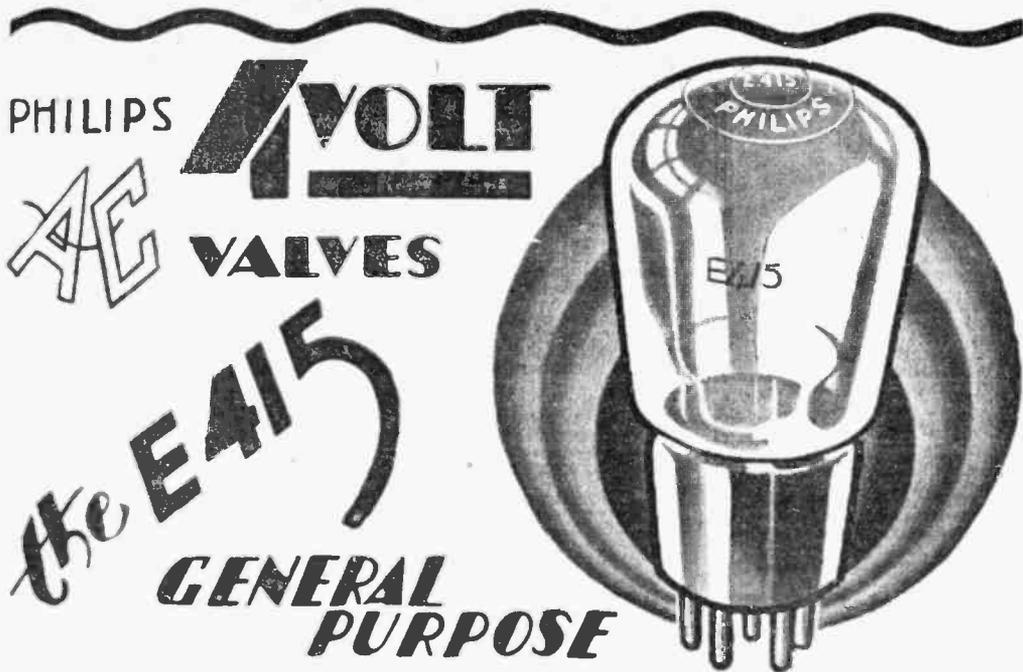
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Local Programmes, Sunday, September 1

2FC

Australian Broadcasting Company, Ltd., Market St., Sydney (Wavelength, 442 metres).

THE CHURCH PROGRAMME—10 a.m. to 12.30 p.m.

10.0: Announcements.
10.5: Studio music.
10.30: This morning's news.
10.35: Rugby wireless news.
10.45: Studio music.
11.0: From St. David's, Haberfield: Morning service conducted by Rev. W. J. Gray, B.A.

Prayer.
Hymn 193. "Jesus, Lover of My Soul."
Reading.
Solo, Robert Scott, tenor.
Psalm 103.
Intimations.
Offering, Voluntary, William Howe.
Anthem, "Seek Ye the Lord."
Soloist, Robert Scott, tenor.

Prayer.
Hymn 207. "O, Love That Will Not Let Me Go."
Solo, Maurice Ballance, basso.
Sermon, "God's Claim." Psalm 24 : 1. Rev. W. J. Gray, B.A.
Hymn 415. "Here, O My God, I See Thee Face to Face."
12.10: From the Studio: Studio music.
12.30: Close.

AFTERNOON CONCERT—3 p.m. to 4.30 p.m.

3.0: From Pitt Street Congregational Church: Organ and pianoforte recital, arranged by Lillian Frost and Esther Kahn.

Organ solo, Lillian Frost—
"March Militaire" (Schubert).
Organ and pianoforte—
(a) "Larghetto."
(b) "Allegretto."
(from the Coronation Concerto, by Mozart).
Song, Jean Derrin—
"How Lovely Are Thy Dwellings" (Liddle).

Piano Solos, Esther Kahn—
(a) "Pastorale" (Scarlatti).
(b) "Gavotte" in Rondo Form (Lully).
(c) "Minuet" (Rameau).

Organ and Pianoforte—
"Meditation," from "Thais" (Massenet).
Organ Solos, Lillian Frost—
"Andante in G" (Batiste).

Organ and Pianoforte—
"Two Movements from Concerto" (Bethoven)—
1. Largo.
2. Rondo.

Song, Jean Derrin—
"Consider the Lilies" (Glover).
Piano Solo, Esther Kahn—
"On Wings of Song" (Mendelssohn).

Organ and Pianoforte—
"Pastorale" (Cullmant).
Song, Jean Derrin—
"Teach Me to Pray" (Jewett).

Organ and Pianoforte—
"Semiramide" (Rossini).
4.30: Close.

EVENING PROGRAMME—6 p.m. to 10.20 p.m.

6.0: A classical programme arranged by Dagmar Thompson.

7.40: An address by the Hon. D. R. Hall. "Prisons and Prisoners."

8.0: Ted Henkel's Capitollans, with Fred Scholl at the Wurlitzer.

Note:—The Countryman's weather session at 9 p.m.—

(a) "New South Wales Forecasts."
(b) "Inter-State weather synopsis."

10.0: Meditation music.
Note: A message of greeting to 6WF, Perth.

10.30: Close. National Anthem.

2BL

Australian Broadcasting Company, Ltd., Market St., Sydney (Wavelength, 353 metres).

MIDDAY SESSION—10.55 to 3 p.m.

10.55: Announcements.
11.0: From Bourke Street Congregational Church: Morning Service, conducted by Rev. S. H. Cox; organist, Mr. Penn Hughes—
Organ Prelude.

Call to Worship.

Doxology.

Prayer of Invocation.

Hymn 135.

Pastoral Prayer, and Lord's Prayer

(chanted).

Duet, "Love Divine" (Maunder).

Notices and Offertory.

Anthem, "Sing, O Heaven" (Maunder).

Scripture Lesson.

Boys' and Girls' Story.

Hymn 721.

Sermon.

Hymn 332.

Benediction.

Organ Postlude.

12.15: Musical items

12.30: News.

1.28: Studio presentation of a specially arranged programme of music: the "Cheer-Up" Society, conducted by Mr. Frank Grose.

2.30: Half an hour's music from the Great Masters.

3.0: Close.

LATE AFTERNOON SESSION—4.30 to 6.0.

4.30: Addison Brass Band—

(a) "Mephistopheles" (Douglas).

(b) "The Bohemian Girl" (Balfe Rimmer).

4.45: Roy Scrivener, baritone—

(a) "Melsande in the Wood" (Goetz).

(b) "Passing By" (Purcell).

(c) "The Star" (Rogers).

4.52: Addison Brass Band, Cornet Solos—

(a) "Parted" (Tosti).

(b) "Silver Threads".

5.7: Suzanne Ennes, contralto.

5.14: Addison Brass Band, Selections—

(a) "Maid of the Mountains" (Hume).

(b) "Tancredie" (Rossini).

5.30: Roy Scrivener, baritone—

(a) "At Dawning" (Cadman).

(b) "If Thou Wert Blind" (Johnson).

(c) "I Know a Lovely Garden" (D'Harlelot).

5.37: Suzanne Ennes, contralto.

5.44: Addison Brass Band—

(a) "La Reine De Saba" (Gounod).

(b) "Collingwood" (Pettee).

EVENING PROGRAMME—6.0 to 10.0.

6.0: For the Children in the Hospital, conducted by Mr. Stevens.

6.40: From the Newtown Congregational Church: Organ and Orchestral Recital by—

Organist: Alan Weekly.

Orchestral Leader: Miss Howsen.

Sacred Wreath, No. 2 (Volti).

Sacred Wreath, No. 26 (Volti).

Sacred Wreath, No. 29 (Volti).

Organ Solo: "Vision" (Byford).

Call to Worship.

Doxology.

Short Prayer: Gloria (chanted).

Hymn No. 7. "O For a Thousand Tongues."

Scripture Lesson, Mark 1, Verse 35.

Healing Prayer, The Pastor.

Solo, Miss Jessie Davies.

Hymn No. 10. "Jesus, Lover of My Soul."

Messages to Sick Friends.

Solo by Sam Wood. "The Eternal City" (Mascheroni).

Announcements; Question for September.

Offertory Anthem, "Evening and Morning" (Oakley).

Hymn No. 29. "Yield Not to Temptation."

Silent Prayer.

Sermon, "A Popular Person."

Hymn No. 43. "Look, Ye Saints."

Benediction.

Retiring, "Count Your Blessings."

8.30: Relay from 3LO Melbourne.

The State Theatre's Sunday Night Musical Ensemble.

Stan Porter's Symphony Orchestra.

Bob M'Quentzen's Band.

Frank Lanterman at the Grand Organ.

And Company of Broadcasting Vocalists and Instrumentalists.

10.30: Close.

National Anthem.

2GB

Theosophical Broadcasting Station, 29 Bligh St., Sydney (Wavelength, 316 metres).

MORNING SESSION.

9.0: Address by Miss Mary Rivett: "Know Thyself." 9.30: Address by Mr. Victor E. Cromer: Economics and the Kingdom of

God. 10.0: Music from Studio. 10.15: Organ music from St. Alban's Church, Regent St., Sydney. 10.30: Morning service from St. Alban's Church. 12 noon: Music from studio. 12.30: Close down.

AFTERNOON SESSION.

3.0: Musical session. 5.30: Children's session, by Uncle George.

EVENING SESSION.

7.0: Lecture from St. Alban's Church. 7.35: Lecture from Adyar House. 8.15: Sacred concert from Adyar House. Player piano solo. 8.23: Miss Mary Neal, contralto. 8.30: Mr. Gregory Valentine, violinist. 8.38: Mr. Cecil Houghton, tenor. 8.45: Miss Elsie Peerless, soprano. 8.52: Player piano solo. 9.0: Weather report. 9.1: Miss Mary Neal, contralto. 9.8: Mr. Gregory Valentine, violinist. 9.16: Mr. Cecil Houghton, tenor. 9.23: Miss Elsie Peerless, soprano. 9.30: Address by Miss Mary Rivett: Personality. 9.45: Close down.

2UW

Radio Broadcasting, Ltd., Paling's Building, Ash St., Sydney (Wavelength, 267 metres).

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

2UE

Broadcasting Station 2UE, Storey Street, Maroubra Junction, Sydney (Wavelength, 295 metres).

11 a.m.: Mass. 12.15 p.m.: Announcements. 12.18: Orchestral music. 1.0: Close down. 6.0: Music from Catholic Studio. 6.10: Session arranged by Rev. Father T. Walsh, S.J. 6.30: Music. 6.35: "Question Box" talks arranged by Dr. L. Rumble, M.S.C. 7.30: Evening devotions. 8.15: Music. 8.30: Overture. 8.43: Orchestral and vocal concert. 10.15: Announcements; close down.

Sunday Wireless Talks From Station 2GB

FOR SEPTEMBER

by VICTOR E. CROMER, and MARY RIVETT, M.A.

Sept. 1: 9 a.m.: Know Thyself.
9.30 a.m.: Economics and The Kingdom of God.

9.30 p.m.: Personality.

.. 15: 9 a.m.: Be Thyself.

9.30 a.m.: Politics and The Kingdom of God.

9.30 p.m.: The Kingdom Within.

.. 22: 9 a.m.: Concerning Reals.

9.30 a.m.: Religion and The Kingdom of God.

9.30 p.m.: Individuality.

.. 29: 9 a.m.: Concerning Ideals.

9.30 a.m.: Prophecy and The Kingdom of God.

9.30 p.m.: The Spiritual Kingdom.

Religious experience and scientific thought deal with but two aspects of one and the same reality. Hence, rightly understood, there can be no conflict between the conclusions to which they respectively lead. Their complete reconciliation, however, is dependent upon a recognition that the workings of spiritual forces, whether it be within the individual life or within human society, are according to laws whose nature and modus operandi may be submitted to careful analysis.

The concern of these series of Wireless Talks is to promote such a reconciliation.

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by VICTOR E. CROMER,

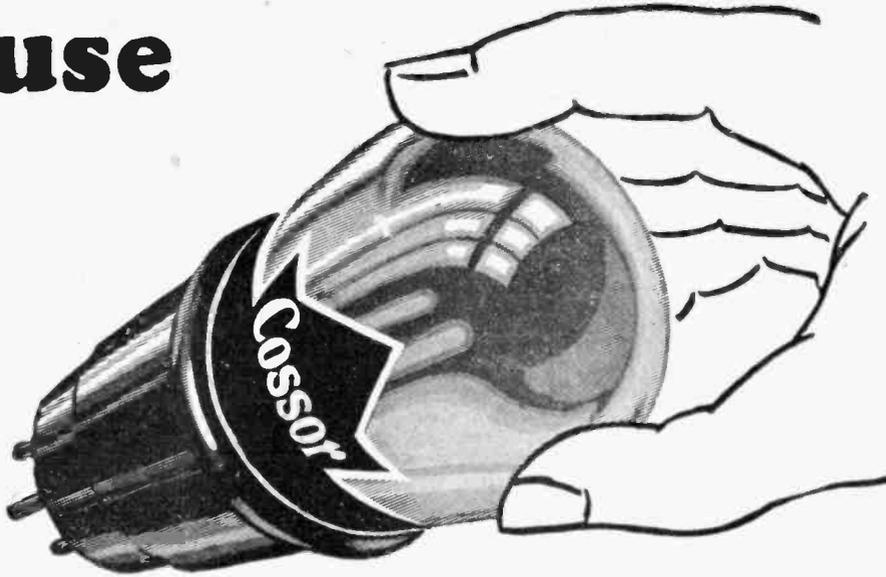
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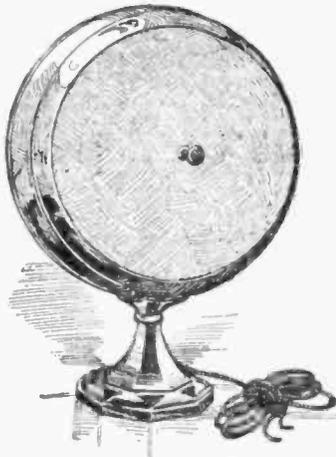
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Interstate Programmes, Sun., Sept. 1

3LO

Australian Broadcasting Co., 120A Russell St.,
Melbourne (Wavelength, 571 metres).

MORNING SESSION.

10.0 Melbourne Observatory time signal. 10.1: Birthday greetings. 10.15: A special programme of reproduced music. 10.40: British official wireless news. Items of interest. 10.44: Express train information. 10.45: Bells of St. Paul's Cathedral. 11.0: Morning Service from Scots Church, Collins Street, Melbourne. Preacher, Rev. Dr. W. Borland. Subject, "A Look From Jesus." Organist and Choir. Director, Mr. W. F. G. Steele. 12.30: Close down.

AFTERNOON SESSION.

3.0: Pleasant Sunday afternoon service from Wesley Church Central Mission. Speaker, Rev. A. T. Holden. Subject, "My Experiences in the Never Never Country." Soloist, Muriel Check. 4.30: Close down.

THE CHILDREN'S CORNER.

6.0 to 7.0: An hour's happiness with "Billy Bunny" and "Brother Bill."

THE EVENING SESSION.

7.0: The Victorian String Quartette.—Quartette in C Minor Opus 18 No. 4 (Beethoven). Allegro ma non cante. Scherzo. Allegro. 7.15: Marie Magan, soprano—"Solo Gia al solo del Ganges" (Scarletti). "Papille dormite" (Bassani). 7.22: Cecil Parkes and May Broderick, violin and piano—"On Wings of Song" (Mendelssohn). "La Cap Capricieuse" (Elgar). "The Troubadour" (Moussorgsky). "The Girl With the Flaxen Hair" (Debussy-Parkes). "Turkish March" (Beethoven). 7.37: Marie Magan, soprano. 7.44: The Victorian String Quartette—"Russian Theme and Variations" (Viel). "Gavotte" (Handel). "Largo" (Handel). "Rondo from Quartette" (Beethoven).

NIGHT SESSION.

Special programme will be arranged.

3AR

Australian Broadcasting Co., 120A Russell St.,
Melbourne (Wavelength 481 metres).

MORNING SESSION.

11.0: G.P.O. chimes. 11.1: Divine service from the Australian Church. Preacher, Dr. Charles Strong. Subject: "The Good Fight of Christian Faith Today." Anthem. Quartette and Chorus. "God, Thou art Great."

MIDDAY SESSION.

12.30: A Studio programme of specially selected reproduced music. 2.0: Frank Lanterman at the Wurlitzer. 3.0: Close down.

AFTERNOON SESSION.

4.30: Half an hour with great piano masters. Recital. 5.0: "The Passion Play of Ober-Ammergau." 5.15: Musical interlude. 5.20: The week's good cause. 5.40: Cornet solo, "The Lost Chord." 5.48: Bright music from Electric Reproducing Piano. 5.58: Organ solo. Jesse Crawford. 6.10: Reproduced music. 6.30: Organ recital from Wesley Church by William G. James. 6.45: What's on the Air To-night? 6.47: St. Paul's Cathedral bells.

NIGHT SESSION.

7.0: Divine service from St. Paul's Cathedral.—Preacher: Canon Bagley. Anthem, "Blessed are They That Mourn" (Brahm's Requiem).

8.30: Rossignol String Quartette—Quartette No. 4 (Mendelssohn). First movement, "Allegro."

8.40: Annie Caddell, soprano—"Hear Ye, Israel" (Mendelssohn). "The Charm of Spring" (Coningsby Clarke).

8.47: A story from County Kerry—"Jerry O'Fisherty," William Tainsh.

9.0: David Sissermann, Russian "cellist"—Selected.

9.10: A. C. Bartleman, baritone.

9.20: Rossignol String Quartette—"Nocturne" (Borodine). "Scherzo" (Borodine).

9.30: Annie Caddell, soprano—"A Song of Thanksgiving" (Allitsen). "Farewell to Summer" (Johnson).

9.37: Mabel Nelson, piano—"Rakocsky March" (Liszt).

9.44: Rossignol String Quartette—American Negro Melody, "Deep River" (Fisher). "Oriental" (Glazounow).

9.55: Weather information and news.

10.0: God Save the King.

3DB

The "Herald" Broadcasting Station, Flinders Street,
Melbourne (255 metres).

AFTERNOON SESSION.

3.0: A special concert programme. 4.30: Close down.

EVENING SESSION.

6.30: Children's session. 7.0: Requests. 8.0: The Astor session, with Eddie Fitch at the Wurlitzer Organ, playing requests, interspersed with request items on records. 10.0: God Save the King.

4QG

Queensland Government Radio Service, Brisbane
(Wavelength, 385 metres).

MORNING SESSION.

10.30: The complete ceremony in connection with the consecration of the Rt. Rev. Jas. Byrne, D.D., as Bishop of Toowoomba, by the Apostolic Delegate (the Most Rev. B. Cattaneo, I.D.). The occasional sermon will be preached by the Most Rev. James Duhig, D.D. (Archbishop of Brisbane), from St. Patrick's Toowoomba. 12.15: Close down.

AFTERNOON SESSION.

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

EARLY EVENING SESSION.

6.0: Greetings to little listeners and replies to letters. 7.30: Conclusion.

NIGHT SESSION.

7.30: The complete evening service will be relayed from St. Stephen's Roman Catholic 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

Central Broadcasters, Ltd., 114 Hindmarsh Square,
Adelaide (Wavelength, 409 metres).

MORNING SESSION.

10.45: Carillon of bells from Adelaide Town Hall. 11.1: Service from Black Forest Baptist Church. 12.10: British official wireless news. 12.15: Close down.

AFTERNOON SESSION.

3.0: Chimes. 3.1: A pleasant Sunday afternoon service, from Maughan Methodist Church. 4.0: Close down.

EVENING SESSION.

6.0: Chimes. 6.1: Children's Happy Moments. 6.45: Church choir numbers. 7.1: Service, from St. Bartholomew's Church, Norwood; preacher, Rev. Archdeacon Moyes; organist, Mr. Frank Bowden.

NIGHT SESSION.

8.20: Announcements. 8.30: The Station Quartette, conducted by Lizette Foglia—Selection, "Aida" (Verdi).

8.37: Linda Wald, soprano—"Norah's Vow" (Horace Perkins). "The Owl" (Horace Perkins).

8.44: Vern Rogers, cornetist—"Still as the Night" (Carl Bohm). "Song Without Words" (Hans).

8.51: The Madrigal Singers (under the direction of Horace Perkins)—

"Ave Verum." "Will Ye No' Come Back Again."

9.8: The Station Quartette—Suite, "Moon Moths" (Kussner).

9.15: Wilfrid Thomas, bass—A recital of humorous classical songs.

9.22: Tom King, pianist—"Rhapsodie" (Brahms).

9.28: The Madrigal Singers—"Loch Lomond." "The Sea Hath Its Pearls."

9.35: The Station Quartette—Extrac, "Two Guitars" (Horlick).

9.40: Norman Morphet, tenor—"I Heard You Singing" (Coates).

"The Living God" (Geoffry O'Hara).

9.47: The Station Quartette—"First Movement Concerto" (Grieg).

9.55: General news service; announcements. 10.0: Close down.

6WF

Commonwealth Government Broadcasting Station,
Perth. (Wavelength, 100 metres).

10.25: "Adapting of receivers to the new wavelength of 6WF." 11.0: Morning service. 12.15: Close down. 3.30: Tune in. 3.35: Music and song. 4.30: Close down. 6.45: Tune in. 6.48: Bedtime stories for the kiddies. 7.15: Music. 7.30: Evening service. 8.45: After church concert by the Perth City Band. 10.5: Close down. 104.5 Metre Transmission.—Simultaneous broadcast on 104.5 metres of programmes given on 1250 metres, commencing at 6.45 p.m.

7ZL

Tasmanian Broadcasters Pty., 95 Elizabeth St.,
Hobart (Wavelength, 516 metres).

10.45 a.m.: Bells from Trinity Church, Hobart. 11.0: Morning service from Davey Street Methodist Church, Hobart. 12.15: Close down. 3.30: A concert arranged by the Pleasant Sunday Afternoon Association. 4.30: Close down. 6.15: Children's chorus singing; conductor, Trevor M. Morris. 6.45: Bertha Southey Bramhall will read a poem to the wee folk. 7.0: Evening service from Memorial Congregational Church, Hobart. 8.25: From the Studio, a sacred and classical programme, arranged by James Council. 9.45: News session. 9.50: Close down.



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Local Programmes, Monday, September 2

2FC

Australian Broadcasting Company, Ltd., Market St., Sydney (Wavelength, 412 metres).

EARLY SESSION—7 to 8.15 a.m.

- 7.0: "Big Ben" and meteorological information for the man on the land.
7.3: This morning's news from the "Daily Guardian."
7.8: Early rising music.
7.45: Mails and shipping.
7.48: What's on to-day?
7.50: Children's birthday calls.
8.0: Music form the studio.
8.15: Close.

MORNING SESSION—10.30 a.m. to 12.30 p.m.

- 10.30: Announcements.
10.32: A.B.C. racing observer.
10.45: Edgar Stone at the Grand Organ.
1.0: Household Helps: A talk on Cooking, by Miss Ruth Furst.
11.15: The 2FC Studio Orchestra.
12.0: "Big Ben" Stock Exchange and metal quotations.
12.2: Fiction talk.
12.20: Midday weather forecast and weather synopsis. Special produce market session for the man on the land, supplied by the State Marketing Board.
12.30: Close.

THE LUNCH HOUR—1 to 2.30 p.m.

- 1.0: Lunch to music with the National Broadcasting Orchestra.
2.0: Stock Exchange, second call.
2.2: A glance at the afternoon papers.
2.7: Popular education.
2.27: Announcements.

THE RADIO MATINEE—2.30 to 4.30 p.m.

- 2.30: The Radio Matinee Orchestra.
2.45: Roger Jones, baritone—
(a) "Home Isn't Home Without You" (Lohr).
(b) "Friendships" (Lohr).
2.52: Annie Hughes in a sketch entitled—"Nice People" (Hughes).
3.0: The Radio Matinee Orchestra
3.15: Irene Duncan, soprano—
(a) "Villa" (Lehar).
(b) "Laugh and Sing" (Drummond).
3.22: Gladys M'Master, pianist—
"Ballade, Op. 25" (Grieg).
3.32: The Radio Matinee Orchestra.
3.45: Roger Jones, baritone—
(a) "I Love to Hear You Singing" (Wood).
(b) "Beside the Sea" (Lohr).
3.52: Annie Hughes in a sketch—"Busted Proverbs" (Hughes).
4.0: Gladys M'Master, pianist—
(a) "Melody in E" (Schutt).
(b) "Menuetto and Trio in B Minor" from "Sonata, Op. 78" (Schubert).
(c) "Les Deux Alouettes" (Leschetizky).
4.7: Irene Duncan, soprano—
(a) "Horo Mhairi Dhu" ("Turn Ye to Me") (Wilson).
(b) "Pale Moon" (Logan).
4.14: The Radio Matinee Orchestra.
4.28: Stock Exchange, third call.
4.30: Close.

EARLY EVENING SESSION—5.45 to 7.55 p.m.

- 5.45: Kiddies' "Goodnight" stories told by the "Hello Man," assisted by Aunt Eily.
6.45: The National Broadcasting Orchestra.
7.30: A.B.C. Sporting Service.
7.37: Special country session. Stock Exchange resume. Markets. Late news service from the "News."
7.58: Announcements.

THE EVENING PRESENTATION—8 p.m. to 11.30 p.m.

- 8.0: Studio production of "Martha," produced by Leo Packer—
"Overture."
Duet, "Every Heart With Love Inflaming." Chorus, "This Way Come My Gentle Lasses."
"Come in, Each Gentle Maiden." Spinning Quartet.
Romance, "The Last Rose of Summer."
"Quartet, "Goodnight."
"Drinking Song."
Aria, "Fore so Fair."
Quinte and Finale.
9.0: The Countryman's weather session—
(a) "New South Wales Forecasts."

- (b) "Inter-State weather synopsis."
9.1: The National Broadcasting Orchestra.
9.15: Ernest M'Kinlay, tenor—
(a) "Cavatina," from "Faust" (Gounod).
(b) "Questa O Quelle," from "Rigoletto" (Verdi).
9.23: The National Broadcasting Orchestra.
9.33: Margaret James, soprano—
(a) "La Seranata" (Tosti).
(b) "Love's Whisper" (Willerby).
9.40: Ernest M'Kinlay, tenor.
(a) "Dream Girl" (Miggeridge).
(b) "The Road to the Isles" (Kennedy-Fraser).
(c) "Haere Ra" (Kaihau).
9.47: The National Broadcasting Orchestra.
10.0: A dialect story by C. N. Baeyertz.
10.15: Announcements. Late official weather forecast.
10.20: From the Oriental Cafe: Sydney Simpson's Syncopaters in dance music.
11.30: Close. National Anthem.

2BL

Australian Broadcasting Company, Ltd., Market St., Sydney (Wavelength, 353 metres).

OPENING SESSION—8.15 to 11.0.

- 8.15: G.P.O. Chimes.
Music for every mood.
8.45: Meteorological data for the country.
8.50: A musical interlude.
9.30: British Official Wireless news.
9.35: New music.
10.2: News from the "Daily Guardian."
10.10: The Australian Broadcasting Company's Women's Association, conducted by Miss Gwen Varley.
10.30: Celebrity items.
10.45: Morning Devotion—A Daily Message, conducted by the Council of Churches.
11.0: G.P.O. Chimes. Close.

MIDDAY SESSION—12 noon to 2.30 p.m.

- 12.0: G.P.O. Chimes.
Announcements.
12.2: The National Broadcasting Orchestra.
1.0: Afternoon news from the "Evening News."

- 1.5: Studio music.
1.15: Women's Interest Talk.
1.30: A Recital of Instrumental Music, reproduced on the Radio Metre.
2.0: J. Knight Barnett at the Wuriltzer.
2.12: Studio music.

AFTERNOON ENTERTAINMENT—2.30 to 5.45.

- 2.20: Business Efficiency Talk.
2.45: "The Magic Carpet."
3.0: From the Oriental Cafe: Sydney Simpson's Syncopaters in dance music.
3.12: From the Studio: Esther Gunton, soprano—
(a) "It's Only a Tiny Garden" (Wood).
(b) "The False Prophet" (Prindle Scott).
(c) "If I Might Come to You" (Squire).
3.19: Dance items.
3.22: From the Oriental Cafe: Sydney Simpson's Syncopaters in dance music.
3.29: From the Studio: Douglas Graham, Scottish Comedian—
(a) "First Wee Drappie" (Fyffe).
(b) "I Love My Mary" (Fyffe).
3.39: Popular items.
3.42: Oriental Cafe: Sydney Simpson's Syncopaters in dance music.
3.52: From the Studio: David Burt, violinist—
(a) "Serenata" (Drigo).
(b) "The Song is Ended" (Berlin).
(c) "If I Had You" (Conelly).
3.59: From the Oriental Cafe: Sydney Simpson's Syncopaters in dance music.
4.10: From the studio: Esther Gunton, soprano—
(a) "My Curly-headed Babby" (Clutsam).
(b) "The Market" (Carew).
(c) "Keep on Hopin'" (Heron-Maxwell).
4.17: Douglas Graham, Scottish Comedian:—
(a) "Sailing up the Clyde" (Fyffe).
4.24: David Burt, violinist—
(a) "Jeannine" (Shilbert).
(b) "A Precious Little Thing Called Love" (Brown).
(c) "The Wedding of the Painted Doll" (Freed).
4.31: From the Oriental Cafe: Sydney Simpson's Syncopaters in dance music.
4.45: "The Trade Hour." Close.

THE DINNER HOUR.

- 4.45: "The Trade Hour." Close.
4.51: The National Broadcasting Orchestra.

- 6.45: The A.B.C. Younger Set—A.B.C. Boys' Aero Club, conducted by Mr. Norman Lyons.
7.5: Studio music.
7.15: The Country Man's Market Session—Wool, wheat, stock, farm produce, fruit, vegetables, and poultry markets.
7.30: What's on the air to-night.

TO-NIGHT'S PRESENTATION—8.0 to 10.30.

- 8.0: G.P.O. Chimes. Sonny Miller, the Crooning Song Writer—
(a) "That's How I Feel About You" (Davis).
(b) "How About Me" (Berlin).
(c) "Girl of My Dreams" (Clapp).
8.10: Frank Ryan, comedian—
"Wedding Whispers" (Newman).
8.20: Palmistra, the Wizard of the Piano—
(a) "Chopinatta" (Ducet).
(b) "Monkey Biznez" (Jonson).
(c) "Up and Down the Keys" (Ohman).
(d) "One Night in Andalusia" (Palmistra).
8.30: From the Stadium—
Description of the Wrestling Contest, by the A.B.C. Wrestling Expert.
10.0: From the Studio—
Sonny Miller, the Crooning Song Writer—
(a) "You Were Meant for Me" (Brown).
(b) "My Sin" (De Sylva).
(c) "Place in the Sun" (Green).
10.10: Frank Ryan, comedian—
"The Mooch o' Life" (Dennis), from "The Sentimental Bloke."
10.18: Palmistra, the Wizard of the Piano—
(a) "Jazz Paster" (Mayerl).
(b) "Got No Time" (Whiting and Kahn) (arr. Palmistra).
(c) "Hot Ivories" (Sinatra).
10.25: Official weather forecast—Metropolitan and country.
Late news from the "Evening News."
10.30: Close. National Anthem.

2GB

Theosophical Broadcasting: Station, 29 Birch St., Sydney (Wavelength, 316 metres).

MORNING SESSION.

- 10.0: Music. 10.10: Happiness talk by A. E. Bennett. 10.20: Music. 10.30: Women's session by Miss Helen J. Beegling. 11.30: Music. 11.45: Close down.

AFTERNOON SESSION.

- 2.0: Music. 2.5: Women's Radio Service by Mrs. Dorothy Jordan. 2.50: Movie Know All. 3.0: Address. 3.30: Close down.

EVENING SESSION.

- 5.30: Children's session, by Uncle George.
7.0: Music. 7.45: Feature story. 8.0: Miss Ethel Muller, contralto. 8.7: Symphony orchestra. 8.15: Mr. Cecil Chaseling, baritone. 8.22: Instrumental Trio. 8.30: Humorous interlude by Mr. Jack Win and Mr. Heath Burdock. 8.35: Miss Elsie Brown, soprano. 8.45: Address. 9.0: Weather report. 9.1: Symphony orchestra. 9.10: Miss Ethel Muller, contralto. 9.20: Mr. Heath Burdock, Shakespearean Recital. 9.30: Mr. Cecil Chaseling, baritone. 9.40: Instrumental Trio. 9.50: Miss Elsie Brown, soprano. 10.0: Instrumental music. 10.30: Close down.

2UW

Radio Broadcasting, Ltd., Pallings Building, Ash St., Sydney (Wavelength, 267 metres).

MIDDAY SESSION.

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

EVENING SESSION.

- 5.30: Children's hour, conducted by Uncle Jack. 6.30: Close down. 7.0: G.P.O. clock and chimes. Request numbers. 7.45: Radio talk by Mr. E. Homfrey. 8.0: Organ recital. 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.

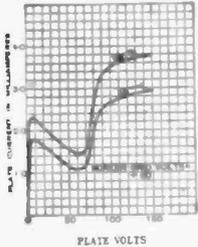
FOR 2KY, SEE PAGE 49.
FOR 2UE, SEE PAGE 57.



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Interstate Programmes, Monday, September 2

3LO

Australian Broadcasting Co., 120A Russell St., Melbourne (Wavelength, 371 metres).

EARLY MORNING SESSION.

7.0 to 8.15: See Friday.
MORNING SESSION.
 10.30: Current happenings in sport, by Mel. Morris. 10.45: A.B.C. Orchestra, with Freda Trewick, mezzo-soprano. 12.0: Melbourne Observatory time signal. 12.1: Orchestra, continued. 12.15: News service. British official wireless. Corn Exchange, midday report. Newmarket stock sales. Associated Stock and Station Agents' official report. 12.30: Close down.

MIDDAY SESSION.

1.0: Melbourne Observatory time signal. Stock Exchange information. Meteorological data. Weather forecast for Victoria, New South Wales, South Australia, and Tasmania. Ocean forecast. 1.30: Relay from Constitutional Club luncheon.

EDUCATIONAL SESSION.

2.0: "Boys and Girls of Other Days." Mr. N. D. Harper, M.A., Dip.Ed. 2.15: Musical interlude. 2.20: Forecasting the weather, Mr. E. Barkley. 2.35: Musical interlude. 2.40: "Our Australian Writers." 5.—James Hebblethwaite, Mr. Percival Serie. 2.45: Musical interlude.

THE RADIO MATINEE.

3.0: National Broadcasting Orchestra (under Direction of Wm. C. James; Conductor, Percy Code)—"Jolly Robbers" (Suppe). "La Colombe" (Gounod). 3.10: Ivy Davis, soprano. "Kiss Me Again." "Weary River." 3.17: Bertha Jorgensen, violin. "Slow Movement—Czardas" (Tschakowsky). 3.24: Edward Beecher, tenor. "She Is Fat From the Land" (Thos. Moore). "Do Not Go, My Love" (Hageman). 3.31: A Farce in One Act. "A Sister to Assist" (er.). Produced by Betty Rae. Scene: A Shabby Bed-sitting Room. Characters: Mrs. Millie May (a monthly nurse), Betty Rae, Mrs. M. Muller (her landlady), Ruby May. 3.45: National Broadcasting Orchestra, "Dream Melody" (Victor Herbert). 3.55: Gordon Ireland, "The Apostle of Pep." "Making Whoopee" (Donaldson). "Just a Night for Meditation." 4.2: Agnes St. Clair, recital. "Extracts from the celebrated novel, "Handy Andy" (Lover). 4.7: The Black and White Pierrots, in "Lively Line." 4.20: Orchestra, Selection. "The Show Boat" (Kern). 4.30: Close down.

THE CHILDREN'S CORNER.

5.45: Travel of the Magic Carpet with "Billy Bunny," with incidental music by Rita Hilton, at the piano. 6.20: For the Older Boys and Girls, "Girl Guide Doings."

EVENING SESSION.

6.40: Public School activities, Mr. R. C. H. Taylor. 6.55: Musical interlude. 7.0: Melbourne Observatory time signal. 7.1: Coudryman's Session.—Stock Exchange information. 7.40: News. 7.45: The World's Kaleidoscope, Prof. K. N. Bailey, B.A., L.B.

NIGHT SESSION.

8.0: National Broadcasting Orchestra—"Chanson Triste" (Tschakowsky). "The Dance of the Tumbler" (Korsakov). "Three Dances—Nell Gwynne" (Eduard German). 8.9: Charles Nuttall. 8.18: Melona Llewellyn, Harpist—"The Harp That Once Through Tara's Halls"—"Humoresque" (Liszt). "The Bell of Abergovny." 8.25: Millicent Osmond, Mezzo-soprano—"Derbyshire Song" (Rowley). "Mandolin" (Debussy). "Elf and Fairy" (Disnoeur). 8.35: Orchestra—"Merry Wives of Windsor" (Nicola). "Schon Rosmarin" (Kreisler). 8.45: Alan Adcock, Potted Humor—"The Rest of the Day Your Own." 8.52: Harry Bennett, Xylophone—"Flapperette" (notly (Green). "You Were Meant For Me" (N. C. Brown). "Girl of My Dreams" (Davis). 9.2: Orchestra Selection, "The Love Song" (Offenbach). 9.12: A One-act Play, "A Flash of Truth." 9.15: Jimmy Bray, a Journalist.—Gerald Heathcote Richard Cumberland, an Actor. Thomas Leslie. 9.30: The Royal Victorian Liedertafel.—Unaccompanied part songs: (a) "Die Vesper" (Beethoven). (b) "The Image of the Rose" (G. Reihardt). "The Blue Danube Waltzes," arranged for male voices by C. G. Klense. Unaccompanied part songs: "The Night" (F. Schubert). (b) "Soldier's Farewell" (J. Kinkel). Scene IV, from the Cantata, "Fritthof" (Max Bruch), for duet, quartet and chorus—Fritthof goes into Exile.—Part Song: "At Andernach in Rhineland" (Franz Abt). 10.0: British official wireless news. Meteorological information. Items of interest. 10.10: National Broadcasting Orchestra—Selection, "Little Nelly Kelly." 10.20: The "Rex" Dance Band. 11.30: Close down.

3AR

Australian Broadcasting Co., 130A Russell St., Melbourne (Wavelength 384 metres).

MORNING SESSION.

8.15 to 11.0: See Friday.
MIDDAY SESSION.
 12.0: G.P.O. chimes. 12.1: Food and Cookery, the cooking of fish, Miss K. Benningfield. 12.15: Fifteen minutes synopsis. 12.30: Luncheon music, supplied by the National Broadcasting Orchestra, under direction Wm. C. James; conductor, Percy Code. 2.0: G.P.O. chimes.

AFTERNOON SESSION.

2.1: Victory Brass Band—Selection, "The Show Boat." 2.10: Edward Beachcroft, tenor—"Angels, Guard Thee" (Godard). "We'll Know, We'll Understand" (Henry). 2.17: Tasma Tiernan, "cello—"Serenade." 2.24: Gordon Ireland, "The Apostle of Pep," will entertain at the piano. 2.21: Victory Brass Band, "Estudiantina Waltz." 2.38: Ivy Davis, soprano—"Lone Boat." "I Faw Down and Go Boom." 2.45: Agnes St. Clair, recital, a sketch, "The New Church Organ" (own arrangement). 2.52: Victory Brass Band—Cornet duet, polka, "Two Brothers." Fox trot, "My Sin." 3.0: Reproduced music. 3.30: Your Clothes—What to Do and Not to Do in Dress. Miss M. Nicholson. 3.45: Musical interlude. 3.50: Your Garden (under the auspices of the Royal Horticultural Society), how and when to use artificial manures. 4.—Musical interlude. 4.10: Travelling abroad. "Through Feminine Eyes." Mrs. Maurice Posner.

TRADERS' DEMONSTRATION SESSION.

4.25: Reproduced music. 5.0: G.P.O. chimes. 5.30: Weather data. 5.45: Close down.

EVENING SESSION.

6.15: Dinner music, supplied by the A.B.C. Studio Orchestra. 7.30: What's on the Air To-night? 7.32: Latest musical releases. 7.50: Works for forthcoming musical examinations, illustrated by Lindsay Biggins. 8.0: G.P.O. chimes.

NIGHT SESSION.

8.1: "The Jesters," half an hour of Jazz and Jollity. 8.30: The Moscow Trio—"Golden Light" (Biset). "Le Passe" (Chaminade). 8.32: Madame Gregor Wood, contralto—"L'Esclave" (Lalo). "Souvenir" (Lalo). "Si Mas Vera" (Hahn). 8.45: Vassili Hlster, piano—"Ballade" A Flat Major (Chopin). 8.52: Madame Gregor Wood, contralto—"Lamento" (Montwerde). "Amariyllis" (Caccini). "Maman Dites Moi" (Meckarlin). 9.0: Mariens Llewellyn, harp—"March of the Men of Harlech." "Ye Banks and Braes." 9.5: Millicent Osmond, soprano—"April is a Pedlar" (Newton). "A Soft Day" (Stanford). 9.12: The Moscow Trio—"The Christmas Tree" (Rebekoff). "Romance" (Denau). "Polish Dance" (Sharvorka). 9.27: Harry Kitts, tenor. 9.30: Recent Books of Note. Prof. G. H. Cowling, M.A. 9.45: Allan Adcock, entertainer—"Education." "The Three Trees." 9.57: Transmission from the Bijou Theatre. 10.25: Weather report and news service. 10.30: God Save the King.

3DB

The "Herald" Broadcasting Station, Flinders Street, Melbourne (253 metres).

MORNING SESSION.

11.0: Thelma Ready's Orchestra, transmitted from King's Theatre. 1.0: Community singing, conducted by Mr. G. J. Mackay, transmitted from King's Theatre; accompanist, Mr. Reg Browne. 1.45: Close down.

AFTERNOON SESSION.

2.15: Albert Sadler and his orchestra—"Challita" (Scherzinger). 2.30: New Light Symphony Orchestra "Hunt in the Black Forest" (Voelker). 3.0: Atwater Kent Radio Hour, sponsored by A. G. Healing, Ltd., and E. T. Muir. 4.0: Close down.

EARLY EVENING SESSION.

5.20: Thelma Terry and her playboys—"Lady of Havana." 6.0: Billy Bunny and the Queen of Hearts. 6.30: William Murdoch (piano)—"Liebestraum" (Liszt). 7.0: Grand Symphony Orchestra—"Polonaise No. 1" (Chopin). 7.15: Market reports by John M'Namara and Co. Pty., Ltd. 7.25: Irmel Ladies' Quartette—"In this House of Softened Splendor." 7.30: Market reports by Gippsland and Northern Co-operative Co., Ltd. 7.40: Nora Blaney (comedienne)—"Roses of Yesterday" (Berlin).

EVENING SESSION.

8.0: The Aeolian Company's programme. 8.30: Band of the Royal Air Force—"Colonel Boney." 9.0: Herald hour. 10.0: Mendel and his Meshpoché Band—"A Kosher Fox-Trot Medley." 10.30: Edith Lorand Orchestra—"Vienna by Night." 10.40: News. 10.45: God Save the King.

4QG

Queensland Government Radio Service, Brisbane (Wavelength, 385 metres).

For day sessions see Friday.

NIGHT SESSION.

8.0: The Studio Orchestra (conductor, A. R. Featherston). 8.7: "Coppelia" (Delibes). 8.7: Kennedy Allen, the tenth of a series of talks on Shakespeare and his Works, "The Interpretation of Shylock." 8.17: The Rio Grande Serenaders—Hawaiian music. 8.21: Margaret Sinclair-Anderson, soprano—"In the Summer Evening" (Grieg). 8.25: Jack Land, tenor—"Goodnight, Beloved" (Baife). 8.30: The Studio Orchestra—"Waltz, 'L'Estudiantina'" (Waldteupel). 8.35: Nibbe Pegus, soprano—"Like to the Damask Rose" (Elgar).

8.40: The Rio Grande Serenaders—More Hawaiian music. 8.45: Jack Land, tenor—"The Queen of Loveliness" (Clarke). 8.50: "The Studio Orchestra"—"March, "Brass Buttons" (Cobb). 8.55: Margaret Sinclair-Anderson, soprano—"Three Women" (Rivers). 9.0: Metroopolitan weather forecast. 9.1: Descriptions of the bouts held in connection with the Queensland Amateur Boxing and Wrestling Association's championship meeting will be relayed from the Stadium. The Studio Orchestra will broadcast from 4QO between bouts. 10.30: From the Studio: news, weather, close down.

5CL

Central Broadcasters, Ltd., 111 Hindmarsh Square, Adelaide (Wavelength, 409 metres).

MORNING SESSION.

11.15 to 2.0: See Friday.
AFTERNOON SESSION.
 3.0 to 4.30: See Friday.

EVENING SESSION.

6.0 to 7.0 see Friday. 7.1: Cycling notes and training hints. "How to Keep Fit" (Talk No. 2). Planning the Work a Week Ahead, by Hubert Opperman (Australia's champion cyclist), specially arranged for 5CL Adelaide; billiard notes; results of open amateur golf championship of Australia; general market reports. 7.20: Mr. A. H. Codrington (Wool) Instructor, School of Mines. 7.35: Twinkler Boys' Club. **NIGHT SESSION.**
 8.0: Chimes. 8.10: Walter Barratt and his Maison Masters of Melody—"Miss Maudie Gras" (Best). "The Best Things in Life Are Free" (de Sylva). "Don't Keep Me in the Dark, Bright Eyes" (Wendley). 8.20: Mrs. Leslie Matthews, contralto—"The Venetian Carnival" (Bronte). 8.24: Walter Barratt and his Maison Masters of Melody—"I Kiss Your Hand, Madam" (Erwin). "Collegianna" (M'Hugh). "The Toymaker's Dream" (Golder). 8.34: Rupert Hazell. 8.40: Walter Barratt and his Maison Masters of Melody—"Sweet Sue, Just You" (Harris). "You're Wonderful" (Fields). "Sally of My Dreams" (Kernell). 8.50: Elsie Day, soprano. 8.53: Walter Barratt and his Maison Masters of Melody—"Tell Her in the Moonlight" (Davis). "Happy Days and Lonely Nights" (Fisher). 9.1: Meteorological information, including Semaphore tides. 9.2: Overseas grain report. 9.7: Walter Barratt and his Maison Masters of Melody—"Love Sings a Song in My Heart" (Cherniavsky). "Ten Little Miles From Town" (Kahn). "When Sweet Sue Goes Steppin' By" (Kaufman). 9.17: Mrs. Leslie Matthews, contralto—"Love Is Meant to Make Us Glad" (German). 9.21: Walter Barratt and his Maison Masters of Melody—"Chilly-Pom-Pom-Pee" (Bryan). "Good Little, Bad Little You" (Green). "Love's Dream" (Aktst). 9.31: Rupert Hazell. 9.37: Walter Barratt and his Maison Masters of Melody—"Old Man Sunshine" (Dixon). "Yo Te Amo" (Whiting). "Let's Talk About My Sweetie" (Donaldson). 9.47: Elsie Day, soprano. 9.50: Walter Barratt and his Maison Masters of Melody—"All By Yourself in the Moonlight" (Wallis). "A Precious Little Thing Called Love" (Davis). "I'm On Top of the World Alone" (Whiting). 10.0: Mrs. Leslie Matthews, contralto—"Ring, Bells, Ring" (Day). 10.5: Walter Barratt and his Maison Masters of Melody—"Louise" (Whiting). "You Were Meant for Me" (Brown). "The Kinkajou" (Tierney). 10.15: News service. 10.30: Recordings. 11.0: Close down.

6WF

Commonwealth Government Broadcasting Station, Perth. (Wavelength, 100 metres).

10.0: Gramophone records. 11.0: Close down. 12.30: Markets, news, etc. 1.0: Time signal. 1.1: Weather bulletin. 1.3: Panatrophe Hour. 2.0: Close down. 3.30: Musical programme. 4.30: Close down. 6.45: Bedtime stories by Uncle Duffy. 7.5: Light music. 7.30: Commercial information. 7.45: Talk by Lieut.-Colonel Le Souef, Director, Zoological Gardens, South Perth. 8.0: Time signal. 8.1: First weather bulletin. 8.3: Programme by the "Specialty Four." 8.50: Late news items; ships within range announcement. 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.

(For 7ZL Programme, see Friday. Day and night schedules same.)

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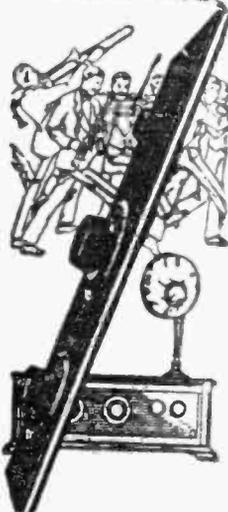
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Local Programmes, Tuesday, September 3

2FC

Australian Broadcasting Company, Ltd., Market St., Sydney (Wavelength, 442 metres).

EARLY SESSION—7 to 8.15 a.m.

- 7.0: "Big Ben" and meteorological information for the man on the land.
 7.3: This morning's news from the "Daily Guardian."
 7.8: Early rising music.
 7.45: Mails and shipping.
 7.48: What's on To-day.
 7.50: Children's birthday calls.
 8.0: Music from the Studio.
 8.15: Close.
MORNING SESSION—10.30 to 12.30 p.m.
 10.30: Announcements.
 10.32: A.B.C. racing observer.
 10.45: Edgar Stone at the Grand Organ.
 11.0: Household helps. Hints to Housewives by Miss Ruth Furst.
 11.10: Cables. A.P.A., and "Sun"—"Herald" news service.
 11.15: The 2FC Studio Orchestra.
 12.0: "Big Ben." Stock Exchange and metal quotations.
 12.2: Literary talk.
 12.20: Midday weather forecast and weather synopsis. Special produce market session for the man on the land, supplied by the State Marketing Board.
 12.30: Close.

THE LUNCH HOUR—1 to 2.30 p.m.

- 1.0: Lunch to music with the National Broadcasting Orchestra.
 2.0: Stock Exchange, second call.
 2.2: A glance at the afternoon papers.
 2.7: Popular education.
 2.27: Announcements.

THE RADIO MATINEE—2.30 to 4.30 p.m.

- 2.30: The Radio Matinee Orchestra.
 2.45: Anne Luciano, soprano—
 (a) "Butterfly" (Wood).
 (b) "A Leafand Lullaby" (Wood).
 2.52: Bernice Arthur, pianist—
 (a) "Poco a Poco" (Franchetti).
 (b) "Tango" (Albeniz).
 (c) "Moto Perpetuo" (Weber).
 3.2: Dorothy Nall, songs at the piano—
 "At a Society Wedding."
 3.10: The Radio Matinee Orchestra.
 3.25: Anne Luciano, soprano—
 (a) "If My Songs Were Only Winged."
 (b) "Chain of Spring" (Clarke).
 3.32: David McKissock, cellist—
 (a) "Chanson" (In Love) (Friml).
 (b) "Liebesfreud" (Kreislner).
 3.40: Bernice Arthur, pianist—
 (a) "Butterfly" (Grieg).
 (b) "Gavotte" (Scambati).
 (c) "Valse in E Minor" (Chopin).
 3.47: The Radio Matinee Orchestra.
 4.2: Dorothy Nall, songs at the piano—
 (a) "Kisses" (Longstaffe).
 (b) "Eldest in the Family."
 4.9: David McKissock, cellist—
 (a) Melodie (Pachulsky).
 (b) Ave Maria (Gounod).
 4.16: The Radio Matinee Orchestra.
 4.28: Stock Exchange, third call.
 4.30: Close.

Note: Race results from Gosford will be transmitted as received.

EARLY EVENING SESSION—5.45 to 7.55 p.m.

- 5.45: Kiddies' "Goodnight" stories told by Aunt Willa, assisted by Cousins Marjory and Gwen.
 6.45: The National Broadcasting Orchestra.
 7.30: A.B.C. sporting service.
 7.37: Special country session. Stock Exchange resume. Markets. Late news service from the "News."
 7.58: Announcements.

THE EVENING PRESENTATION—8 p.m. to 11.30 p.m.

- 8.0: Fun from Pullers.
 8.15: State-wide Radio Dance Night, featuring the Australian Broadcasting Dance Orchestra.
 8.27: R. A. Bartleman, baritone—
 (a) "Tramping" (Lehmann).
 (b) "I Am Fate" (Hamblen).
 8.34: The Australian Broadcasting Dance Orchestra.
 8.46: Willie Shine, comedian—
 (a) "The Good Little Boy and the Bad Little Boy" (Lee).
 (b) "Such a Good Boy Am I" (Wood).

8.54: The Australian Broadcasting Dance Orchestra.

- 9.6: The Countryman's weather session—
 (a) New South Wales forecasts.
 (b) Inter-State weather synopsis.
 9.7: The Australian Broadcasting Dance Orchestra.
 9.19: David Burt, violinist—
 (a) "Indian Love Call" (Friml).
 (b) "Kiss Me Again" (Herbert).
 (c) "Canzonetta" (D'Ambrosia).
 9.26: The Australian Broadcasting Dance Orchestra.
 9.38: Vera Wright, in popular ballads—
 (a) "Homing" (Del Riego).
 (b) "Ah, Sweet Mystery of Life" (Herbert).
 9.45: The Australian Broadcasting Dance Orchestra.
 9.57: Harrison White, banjo solos—
 (a) Mandoline solo, unaccompanied, "Bandurria" (Stauffer).
 (b) Banjo solo, "Banshee" (Grimshaw).
 10.6: The Australian Broadcasting Dance Orchestra.
 10.15: Announcements. Late official weather forecast.
 10.20: The Australian Broadcasting Dance Orchestra.
 11.30: Close. National Anthem.

2BL

Australian Broadcasting Company, Ltd., Market St., Sydney (Wavelength, 353 metres).

OPENING SESSION—8.15 to 11 a.m.

- 8.15: G.P.O. Chimes.
 Music for every mood.
 8.45: Meteorological data for the country.
 8.50: A musical interlude.
 9.30: British Official Wireless news.
 9.35: New music.
 10.2: News from the "Labor Daily."
 10.5: News from the "Daily Guardian."
 10.10: The Australian Broadcasting Company's Women's Association, conducted by Miss Gwen Varley.
 10.30: Celebrity items.
 10.45: Morning Devotion—A Daily Message conducted by the Council of Churches.
 11.0: G.P.O. Chimes. Close.

MIDDAY SESSION—12 noon to 2.30 p.m.

- 12.0: G.P.O. Chimes.
 Announcements.
 12.2: The National Broadcasting Orchestra.
 1.0: Afternoon news from the "Evening News."
 1.5: Studio music.
 1.15: Women's Interest Talk.
 1.30: A Recital of Instrumental Music, re-produced on the Radio Metre.
 2.0: J. Knight Barnett at the Wurlitzer.
 2.12: Studio music.

AFTERNOON ENTERTAINMENT—2.30 to 5.45.

- 2.30: Business Efficiency Talk.
 2.45: "The Magic Carpet," a story of Travel and Adventure.
 3.0: From Romano's Cafe. Danche Orchestra, conducted by Bennie Abrahams.
 3.12: From the Studio: Len Maurice, popular vocalist—
 (a) "Little Pal" (Hanley).
 (b) "Blueberry Lane" (Paley).
 3.19: Dance numbers.
 3.22: Romano's Cafe Dance Orchestra.
 3.32: From the Studio: Bob Graham, steel guitar—
 (a) "Rainbow Round My Shoulder" (Jolson, Rose, and Dryer).
 (b) "Sing Me a Baby Song" (Kahn and Donaldson).
 (c) "Old Man Sunshine" (Dixon and Warren).
 3.39: From Romano's Cafe. Dance Orchestra.
 3.49: From the Studio: Googs Hanlon, novelty pianist.
 3.56: Popular number.
 4.0: Romano's Cafe Dance Orchestra.
 4.12: From the Studio: Len Maurice, popular vocalist—
 (a) "Happy Day and Lonely Night" (Fisher).
 (b) "That's How I Feel About You" (Davis).
 4.19: Bob Graham, steel guitar—
 (a) "My Mother's Eyes" (Gilbert and Baer).

- (b) "Sweethearts on Parade" (Newman and Lombardo).
 (c) "Ten Little Miles from Town" (Schoebel).
 4.26: Romano's Cafe Dance Orchestra.
 4.32: From the Studio: Googs Hanlon, novelty pianist.
 4.39: Romano's Cafe Dance Orchestra.
 4.45: The Trade Hour. Close.

THE DINNER HOUR.

- 6.15: The National Broadcasting Orchestra.
 6.45: The A.B.C. Younger Set Session—A.B.C. Girl Guides' Club, conducted by Miss Gwen Varley.
 7.5: Studio music.
 7.15: The Country Man's Market Session—Wool, wheat, stock, farm products, fruit, vegetables, and poultry markets.
 7.30: The National Broadcasting Orchestra.
 7.55: What's on the air to-night.

TO-NIGHT'S PRESENTATION—8 p.m. to 10.30 p.m.

- 8.0: G.P.O. chimes. Classical programme arranged by G. Vern Barnett. Welsh Male Voice Choir—
 (a) "Awn I Ben Y Wydda Fawr" (Richards).
 (b) "Dafydd Y Gareg Wen" (Richards).
 (c) "Twilight" (Buck).
 (d) "Wanderer" (Elgar).
 8.12: An Instrumental Trio—
 G. Vern Barnett, piano.
 Moore MacMahon, violin.
 Athos Martelli, cello.
 8.22: Etta Field in a group of German lieder—
 (a) "All Soul's Day" (Strauss).
 (b) "Devotion" (Strauss).
 8.30: Athos Martelli, cello solos.
 8.37: Welsh Male Voice Choir—
 (a) "Evening Lullaby" (Shaw).
 (b) "Feasting I Watch" (Elgar).
 8.45: Ilma Merska Barnes, elocutionist.
 8.55: An Instrumental Trio.
 9.5: Etta Field, soprano—
 (a) "The Engineer" (Schubert).
 (b) "Love Eternal" (Brahms).
 9.12: Moore MacMahon, violin solos.
 9.19: Welsh Male Voice Choir—
 (a) "Crossing the Plains" (Price).
 (b) "The Little Church" (Becker).
 (c) "The Mulligan Musketeers" (Atkinson).
 9.29: Official weather forecast for the man on the land.
 9.30: Ilma Merska Barnes, elocutionist.
 9.40: An Instrumental Trio.
 9.50: R. A. Bartleman, baritone—
 (a) "The Little Ships" (Loughborough).
 (b) "The Battle of Stirling" (Chisholm).
 9.57: Willie Shine, comedian—
 (a) "Househunting" (Squiers).
 (b) "My Pal Jim" (Harrison).
 10.4: David Burt, violin solos—
 (a) "Reflection" (Burt).
 (b) "Honey" (Simons).
 (c) "Hungarian Dance" (Hauser).
 10.11: Vera Wright, popular ballads—
 (a) "At Sunset" (Coates).
 (b) "The Lover's Curse" (Herbert Hughes).
 10.18: Harrison White, banjo solos, mandolin—
 (a) Banjo solo, "Just a Wearyin' For You" (Jacobs-Bond).
 (b) "Mandoline and piano, "Dance Espanolo" (Selbini).
 (c) Banjo solo, "In a Persian Market" (Ketelbey).
 10.25: Official weather forecast—metropolitan and country. Late news from the "Evening News."
 10.30: Close. National Anthem.

2GB

Theosophical Broadcasting Station, 29 High St., Sydney (Wavelength, 316 metres).

MORNING SESSION.

- 10.0: Music. 10.10: Happiness talk by A. E. Bennett. 10.20: Music. 10.30: Women's session by Miss Helen J. Beegling. 11.45: Close down.

AFTERNOON SESSION.

- 2.0: Music. 2.5: Women's Radio Service by Mrs. Dorothy Jordan. 2.50: Movie Know All. 3.0: Music. 3.30: Close down.

EVENING SESSION.

5.30: Children's session by Uncle George.
7.0: Music. 7.30: Talk on Sutton's 2GB Service Dept. by Mr. Stan. Crittenden. 7.45: Feature story. 8.0: Miss Heather Kinnaird, contralto. 8.7: Instrumental Quintette. 8.15: Mr. Tom Harrison. 8.22: Symphony Orchestra. 8.30: Humorous interlude by Mr. Jack Win and Mr. Heath Burdock. 8.35: Miss Gladys Verona, soprano. 8.45: Violin solos. 9.0: Weather report. 9.3: Address. 9.15: Instrumental Quintette. 9.25: Mr. Tom Harrison, baritone. 9.35: Humorous interlude by Mr. Jack Win and Mr. Heath Burdock. 9.40: Symphony orchestra. 9.50: Miss Gladys Verona, soprano. 10.0: Instrumental music. 10.30: Close down.

2UW

Radio Broadcasting, Ltd., Paling's Building, Ash St., Sydney (Wavelength, 267 metres).

MIDDAY SESSION.

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

EVENING SESSION.

5.30: Children's hour, conducted by Uncle Jack. 6.30: Close down. 7.0: G.P.O. clock and chimes. Request numbers. 8.0: Piano recital. 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.

2KY

Trades and Labor Council, Goulburn St., Sydney (Wavelength, 280 metres).

MORNING SESSION.

10.0: Tune in to the ticking of the clock. 10.3: Popular fox trots. 10.15: News items. 10.30: Vocal items. 10.50: Hawaiian steel guitar selections. 11.0: A few laughs. 11.5: Pianoforte selections. 11.15: Calls and announcements. 11.20: Musical numbers. 11.30: Request numbers. 11.40: Music and vocal items. 11.55: Where to go to-night. 12.0 noon: Closing announcements.

CHILDREN'S SESSION

6.0: Birthday calls, request numbers, and kiddies' entertainment. Aunt Jemima and Uncle Bert.

EVENING SESSION.

7.0: Musical interlude. 7.15: Sporting feature. Turf topics. How they should run tomorrow. Mr. Geo. A. Davis. 7.45: Request numbers. 8.0: Novelty numbers. 8.10: Soprano solos. Miss Billie Underwood. 8.18: Baritone solos. Mr. Higgins. 8.26: Pianoforte solos. Mr. Hancock. 8.30: Music and request numbers from the studio. 9.0: Sporting feature. Presented by Tooth and Co., Ltd. Kent Brewery. From the rinside of M'Hugh's Leichhardt Stadium: Results of early events and full description of main 15-rounds event. 9.40: Dance music from the Studio. 10.0: Closing announcements.

2KY

Monday, September 2.

Trades and Labor Council, Goulburn St., Sydney (Wavelength, 280 metres).

MORNING SESSION.

10.0: Tune in to the ticking of the clock. 10.3: Popular fox trots. 10.15: Hawaiian steel guitar selections. 10.30: Request numbers. 10.50: Vocal items. 11.0: A few laughs. 11.5: Pianoforte selections. 11.15: Calls and announcements. 11.20: Musical interlude. 11.30: Request numbers. 11.40: Where to go to-night. 12.0 noon: Closing announcements.

CHILDREN'S SESSION

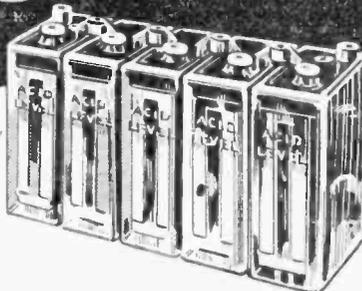
6.0: Birthday calls, request numbers, and kiddies' entertainment. Aunt Jemima and Uncle Bert.

EVENING SESSION.

7.0: Musical interlude. 7.15: Dance music. 7.45: Militant Women's Group. 8.0: Overture. 8.8: Tenor solos, Mr. A. Hillman. 8.15: Dance music. 8.30: Request numbers. 8.45: Soprano solos. Miss Wright. 9.0: Novelty interlude. 9.10: Request numbers. 9.30: Selection of latest Parlophone, Columbia, Regal, Brunswick, and Golden Tongue Records. 10.0: Closing announcements.

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Interstate Programmes, Tuesday, September 3

3LO

Australian Broadcasting Co., 120A Russell St., Melbourne (Wavelength, 371 metres).

MORNING SESSION.

10.30: Current happenings in sport by Eric Welch.
10.45: A.B.C. Studio Orchestra. 12.0: Melbourne Observatory time signal. 12.1: Orchestra. 12.15: News service. British official wireless news. Corn Exchange midday report. Newmarket stock sales. Associated Stock and Station Agents' official report.

MIDDAY SESSION.

1.0: Melbourne Observatory time signal. 1.1: Stock Exchange Information. Meteorological data. Weather forecast for Victoria, New South Wales, South Australia, and Tasmania. Ocean forecast. River reports. Rainfall. Comments on the day's news. 1.30: Musical interlude.

EDUCATIONAL SESSION.

2.0: Stories from the Operas. Miss A. Babington.
2.15: Musical interlude. 2.25: Science in everyday life. Dr. Loftus Hills. D.Sc. 2.40: Musical interlude. 2.45: A talk in French, Mons. Th. Rouel, B.A.

THE RADIO MATINEE.

3.0: National Broadcasting Orchestra—Overture, "Der Freischütz" (Weber), "Guitare" (Moskowsky).
3.10: Rita Fleming, Monologues. 3.15: Alfred Ackland, violin. "Rohline" (Kreisl).
3.20: "The Lorne" (Moussorgsky). 3.25: James Fraser, baritone. "Dedication" (Franz), "The Border Ballad" (Cowan). 3.27: Orchestra—"Land of Hope and Glory" (Elgar), "Scherzo" (Mendelssohn). 3.35: Violet Jackson, Soprano—"The Holly Gog, Its Thorns" (Besly), "The Cuckoo Clock" (Schaefer). 3.42: Morfyn Jones, "B Minor Scherzo" (Chopin), "Rigendon" (Raft). 3.54: Violet Jackson, Soprano—"The Sandman" (Brahms), "The Smiths" (Brahms). 4.0: Orchestra—Suite, "By the Blue Hawaiian Waters" (Ketelby), "Slavonic Dance" (Dvorak). 4.10: Syd. Hollister, Entertainer, "The Elusive Eggs". 4.22: Orchestra—Selection, "Queen High" (Gensler). 4.30: Close down.

THE CHILDREN'S CORNER.

5.45: "Bobby Bluegum." Further Adventures with Ector and Orce. 6.5: "Clever Clive," in "Catching Cadences." 6.15: Musical interlude. 6.25: A talk for the Older Boys and Girls "An Adventure Story." 6.35: Musical interlude.

EVENING SESSION.

6.40: Careers for Our Boys and Girls—4. Vocational Guidance in Britain. Mr. J. M. Rae, M.A. 6.58: Musical interlude. 7.0: Melbourne Observatory time signal. 7.1: Country session.

THE LECTURETTE SESSION.

7.25: For the Man on the Land—"Milk Fever in Dairy Cows." R. J. de C. Talbot. 7.40: Herald News. 7.45: "The Things We Drink, Light Wines." Mr. Francois de Castella. 8.0: Melbourne Observatory time signal.

NIGHT SESSION.

8.1: A Musical Sketch. National Broadcasting Orchestra (under Direction Wm. G. James; Conductor, Percy Code)—

Overture, "La Gazza Ladra" (Rossini).

8.7: Will Davies, Bass—"The Little Ships" (Sanderson).
"The Singer of St. Ives" (Rieckel).
8.14: G. and J.—The Confidential Two—in "Nimble Numbers."

8.21: De Raine and Dixie—Banjo solo, "Chestnut March" (F. Chester).
Soprano solo, "Here's to Love" (Rubens).
Banjo Duet, "Popular Airs."
8.28: Martin La Matt, Tenor—"Thank God for a Garden" (Del Riego).
"Believe Me If All Those Endearing Young Charms." Selected.

8.38:—Orchestra—"Northern Dances" (Grieg).
8.45: "The Story of 'Peer Gynt'" (Henrick Ibsen) Retold by Rev. William Bottomley. Incidental music by National Broadcasting Orchestra.

"Peer Gynt Suites Nos. 1 and 2" Selected.
9.15: Interlude.
University Extension Series.
"The King's English." Prof. G. H. Cowling, M.A.

POPULAR PROGRAMME.

9.30: Orchestra—"Martini Moments" (Alford).
9.40: Will Davies, Bass—"The Cinchy Road" (Edward).
"Invictus" (Hahn).
9.47: Joe Brennan and Ida Newton in "A Riot of Riddle-me-Rees."

9.55: Orchestra—"Fox-trot, 'Fascinating Vamp'" (Nausbaum).
10.5: J. Howlett Ross—"A Mystery Story, 'The Fall of the House of Fisher'" (E. A. Poel).
10.20: Orchestra—Selection, "Oh, Kay." (Gershwain).

10.30: Meteorological information. British official wireless news. Items of interest.
10.40: Take partners—"The Rex" Dance Band.
11.30: God Save the King.

3AR

Australian Broadcasting Co., 120A Russell St., Melbourne (Wavelength, 484 metres).

MORNING SESSION.

8.15 to 11.0: See Friday.

MIDDAY SESSION.

12.0: G.P.O. chimes. 12.1: Beautifying the Home—Furniture: Its Characteristics and Development, Mr. F. M. Carey-Smith, F.C. (London) 12.15: Fifteen minutes syncopation. 12.30: Luncheon music, supplied by the National Broadcasting Orchestra, under direction Wm. G. James; conductor, Percy Code. 2.0: G.P.O. chimes.

AFTERNOON SESSION.

2.1: Stephens' Dance Band. 2.10: Madoline Knight, contralto—"Once in the Long Twilight," "Cheer Up, Do." 2.17: Rita Fleming, monologue. 2.24: Stephens' Dance Band. 2.33: James Fraser, baritone—"A Little Town in Old County Down" (Sanders), "When the Sergeant Major's on Parade" (Longstaffe). 2.40: William Stephens, piano. 2.45: Madoline Knight, contralto—"Spring Sang a Song," "Bird Songs at Eventide." 2.52: Stephens' Dance Band. 3.0: Half an hour of reproduced music. 3.30: The Baby—Teething Time, Sister Anne Purcell. 3.45: Musical interlude. 3.50: Useful Crafts at Home—Home-made Carpets, Mrs. Henriette Walker. 4.5: Musical interlude. 4.10: The latest fashions—Madame La Mode.

TRADERS' DEMONSTRATION SESSION.

4.25: Reproduced music. 5.0: G.P.O. chimes. 5.30: Weather data. 5.45: Close down.

EVENING SESSION.

6.15: Dinner music, supplied by the A.B.C. Studio Orchestra. 7.30: What's On the Air To-night? 7.32: Latest musical releases. 8.0: G.P.O. chimes.

NIGHT SESSION.

8.1: Coburg City Band—Overture, "Rustic Festival" (Raynor).
8.10: The Regal Quartette—"Sea Fever" (Ireland).
"The Mosquitoes" (Bliss).
"Coquette" (Berlin).
8.17: Coburg City Band—Cornet and Euphonium: "Home to our Mountains" (Verdi).
3.22: Dawn Harding, soprano—"The Princess" (Henriks).
"May Morning" (Denza).
8.29: Coburg City Band—March, "King of the Air."
Dance, "Queen Bess" (Rimmer).
8.40: The Wanderers—In Song and Story.
9.10: Coburg City Band—Selection, "The Flower of Penance."
9.20: Joe Brennan and Ida Newton will entertain.
9.27: De Raine and Dixie—Banjo selection, "Bonnie Scotland" (Kennedy).
Soprano solo, "The Garden of my Heart" (Ernest Ball).
Banjo duet, "Plantation Melodies" (De Raine).
9.34: The Regal Quartette—"Absence" (Buck).
"The Bee Song" (Wendling).
"The Limousine" (Kratz).
9.40: Coburg City Band—Selection of favorite melodies (Raymond).
9.50: Martin La Matt, tenor—"Absent."
"If I Built a World for You" (Lehmann).
9.57: J. and G., the Confidential Two—"Where is the Song of Songs for Me?"
"The Wedding of the Painted Doll."
10.4: Weather information and "Herald" news.
10.14: Dawn Harding, soprano—"Joy of a Rose" (Tarbox).
"As Ever" (Lock).
10.20: Coburg City Band—Selection, "The Daughter of the Regiment" (Donizetti).
10.30: God Save the King.

3DB

The "Herald" Broadcasting Station, Flinders Street, Melbourne (255 metres).

MORNING SESSION.

11.0: Berlin State Opera House Orchestra—"Fiedermans Overture." 11.30: Ignace Freedman (piano)—"Hark, Hark the Lark!" 12.0: Ernest Hastings (humorist)—"Wireless." 12.30: St. Eilda, Colbery Band—"Death or Glory March." 1.0: John Priora (tenor)—"Moonlight and You." 1.30: J. H. Squire Celeste Octet—"Christa." 1.45: Close down.

AFTERNOON SESSION.

2.15: Black Diamonds Band—"The Boatmen." 2.30: Amy Castle—"By the Water of Minnetonka." 3.0: Atwater Kent Radio Hour, sponsored by A. G. Healing, Ltd., and E. T. Muir. 4.0: Close down.

EARLY EVENING SESSION.

5.30: Elwin's Quartette—"Picardy." 6.0: Uncle Ned's story for the children. 6.30: Harry Lauder—"Waggle o' the Kilt." 7.0: Singing Sophomores—"Chloe." 7.15: Market reports by John M'Namara and Co. Pty., Ltd. 7.25: B.C. Symphony Orchestra—"Overture Miniature." 7.30: Market reports by Tippisland and Northern Co-operative Co., Ltd. 7.40: Kenneth Ellis and Cathedral Choir—"Land of Hope and Glory."

EVENING SESSION.

8.0: Halle Orchestra—"Carnaval Overture." 8.30: Walter Clyne (tenor)—"There is a Flower." 9.0: Layton and Johnstone—"If I Had You." 9.30: Frank Westfield's Orchestra—"Flower Suite." 10.0: H.M. Grenadier Guards—"Hop Scotch." 10.30: Rudy Valee and his Yankers—"Deep Night." 10.40: News. 10.45: God Save the King.

4QG

Queensland Government Radio Service, Brisbane (Wavelength, 385 metres).

For day sessions see Friday.

NIGHT SESSION.

A choral and solo programme (including seven Fisk Jubilee Spirituals) rendered by the Kingsholme Methodist Church (augmented) 45 voices. Organist, Mr. Eric Butler. Conductor, Mr. E. W. H. Fowles.
8.0: The Choir—Anthem, "God of Israel." (Solo by Mr. G. Horne).
Fisk Jubilee Spirituals (with introduction)—(a) "Steal Away."
(b) "My Good Lord's Been Here."
(Solo, Mrs. A. J. Bradfield).
(c) "Reign Massa Jesus."

(Solo, Mrs. F. Lather).
3.25: The Choir—Anthem, "The King of Love" (Sheeler).
Miss Ruby Massey, elocutionist—Selected.
8.40: The Choir—Anthem, "Make a Joyful Noise" Leslie Little, bass—"I Got a Robe."
8.50: The Choir—Anthem, "Saviour, Thy Children Keep" (Sullivan).
Mr. D. White, vocalist—"The Lord is my Light" (Allitton).
The Choir—Dramatic Choral, "When I Think."
9.5: Fisk Jubilee Spirituals (with introduction)—(a) "Swing Low, Sweet Chariot."
(b) "He Rose." (Solo, Mrs. Bushby).
(c) "Go Down, Moses." (Solo, Mr. L. Little).
9.15: Miss Ruby Massey, elocutionist—Selected.
The Choir—Hymn (unaccompanied).
"Lead Kindly Light" (Rev. J. B. Dykes).
9.25: The Choir—Anthem, "Vital Spark" (Harwood).
9.30: A recital of electrically reproduced records.
10.0: News; weather, close down.

5CL

Central Broadcasters, Ltd., 114 Hindmarsh Square, Adelaide (Wavelength, 469 metres).

AFTERNOON SESSION.

3.0 to 4.30: See Friday.

EVENING SESSION.

5.45: Port Adelaide acceptances. 6.0: G.P.O. chimes. 6.1: Birthday greetings. 6.30: Dinner session. 7.1: Birthday League greetings; Sporting Service, including hockey and lacrosse news; Stock Exchange information; general market reports. 7.20: Under the auspices of the Workers' Educational Association, Mr. H. Burton, B.A., will speak on "Side-lights on Early Australian History." 7.35: Mr. R. C. Bald, Ph.D. (Assistant Lecturer in English at the Adelaide University), will continue his series of talks. 7.45: Dr. Herbert Basedow, in an interesting Australian talk.

NIGHT SESSION.

8.0: Chimes. 8.1: Programme review. 8.10: A presentation of comic opera, in which the following artists will take part—The Station Quartette. Linda Wald, soprano. Wilfrid Thomas, bass. Phyllis Everett, contralto. Norman Morphet, tenor, and Rupert Hazell and Elsie Day. 9.0: Chimes. 9.1: Meteorological information, including Semaphore tide. 9.2: Overseas grain report. 9.3: General news service. 9.5: Continuation of Comic Opera. 10.15: News session; Sporting Service, including Port Adelaide acceptances. 10.30: Recordings. 11.0: Close down.

6WF

Commonwealth Government Broadcasting Station, Perth. (Wavelength, 100 metres).

10.0: Gramophone records. 11.0: Close down. 12.30: Markets, news, etc. 1.0: Time signal. 1.1: Weather bulletin. 1.3: Luncheon music. 2.0: Close down. 3.30: Tune tin. 3.35: Piano-forte solos by Miss Audrey Dean, violin solos by Mr. Frank Romaine. 4.30: Close down. 4.45: Weather bulletin. 10.30: Close down. 10.45: 5 Metre Transmission—Simultaneous broadcast on 104.5 metres of programme given on 1250 metres, commencing at 6.45 p.m.

7ZL

Tasmanian Broadcasters Pty., 95 Elizabeth St., Hobart (Wavelength, 516 metres).

11.30 a.m.: Selections. 11.34: Midlands weather forecast. 11.35: Adeline Eager will speak on "Household Hints." 11.50: Selections. 11.55: Tasmanian stations 9 a.m. weather report. 12.0: Chimes. 12.1: Shipping information; mail notices; housewives' guide. 12.8: Selections. 12.30: News service; announcements. 12.40: Selections. 1.5: British official wireless news; railway auction sales. 1.10: Selections by the Melody Masters. 1.30: Close down. 3.0: G.P.O. clock chimes the hour. 3.1: Selections. 3.4: Weather information. 3.5: Selections. 3.45: Miss Joyce Walker will speak on "Homecraft." 4.0: Selections. 4.15: An educational talk on "Mica—World's Mica Production." 4.30: Close down. 6.15: Children's Hour, with "Uncle David" and "The Story Lady." 7.15: News session. 7.30: G. Roberts, of the Government Tourist Bureau, will speak on "Tasmania's Lakes, Mountains, and Waterfalls." 7.45: W. E. Fuller will speak on "Literary Lapses and Library Lists." 8.0: G.P.O. clock chimes the hour. 8.1: Selections by the Melody Masters. 8.15: A programme of dance music by the Dileasa Dance Ensemble. 8.27: Billy Merson, "Why Shouldn't We?" 8.30: Dance numbers. 8.42: George Robey, "The Face." 8.45: Dance numbers. 9.12: Len White, "Rose of Yesterday." 9.15: Dance numbers. 9.27: Duet, Edith Day and Derek Oldham, "Indian Love Call." 9.30: News session. 9.40: Dance numbers. 9.52: Slumber. 10.0: G.P.O. clock chimes the hour. 10.1: Close down.

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RADIO BATTERIES
 GREATEST CLARITY, VOLUME & DISTANCE

Local Programmes, Wednesday, September 4

2FC

Australian Broadcasting Company, Ltd., Market St., Sydney (Wavelength, 342 metres).

EARLY SESSION—7 to 8.15 a.m.

- 7.0: "Big Ben," meteorological information for the man on the land.
7.3: This morning's news from the "Daily Guardian."
7.8: Early rising music.
7.45: Mails and shipping.
7.48: What's on to-day?
7.50: Children's birthday calls.
8.0: Music from the studio.
8.15: Close.

MORNING SESSION—10.30 to 12.30 p.m.

- 10.30: Announcements.
10.32: A general sporting talk by Oscar Lind.
10.45: Edgar Stone at the Grand Organ.
11.0: Household Helps: A talk on Cooking by Miss Ruth Furst.
11.10: Cables, A.P.A. and "Sun"—"Herald" news service. British official wireless press.
11.15: The 2FC Studio Orchestra.
12.0: "Big Ben," Stock Exchange and metal quotations.
12.2: A "Dickens Story."
12.20: Midday weather forecast and weather synopsis. Special produce market session for the man on the land, supplied by the State Marketing Board.
12.30: Close.

THE LUNCH HOUR—1 to 2.30 p.m.

- 1.0: Lunch to music with the National Broadcasting Orchestra.
2.0: Stock Exchange, second call.
2.2: A glance at the afternoon papers.
2.7: Popular education.
2.27: Announcements.

THE RADIO MATINEE—2.30 to 4.45 p.m.

- 2.30: Tom King, jazz pianist—
(a) "When Summer is Gone" (Wilhite).
(b) "Celia," from "The Man I Love" (Whiting).
2.38: Nea Hallett, popular vocalist—
(a) "Honey" (Whiting).
(b) Selected.
2.45: A Dance Number.
2.53: Sydney Simpson, saxophonist—
(a) "Millicent" (Sannella).
(b) "Saxannella" (Sannella).
3.0: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
3.12: From the Studio: Sydney Simpson, saxophonist—
(a) "Aileen" (Sannella).
(b) "Saxarella" (Wiedoefft).
3.19: Popular music.
3.22: Romano's Cafe Dance Orchestra.
3.32: From the Studio: Nea Hallett, popular vocalist—
(a) "Russian Moon" (Kendis).
(b) "You Were Meant for Me" (Brown).
3.39: A Dance Number.
3.42: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
3.50: From the Studio: Tom King, jazz pianist—
(a) "To-day's Favourites" (arr. Tom King).
(b) "Because I'm Fond of You" (Tenent).
3.57: The latest dance music.
4.0: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
4.12: From the Studio: Popular music.
4.22: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
4.28: From the Studio: Stock Exchange, third call.
4.30: Popular music.
4.45: Close.

EARLY EVENING SESSION—5.45 to 7.55 p.m.

- 5.45: Kiddies' "Goodnight" stories told by the "Hello Man," assisted by the Farmyard Five.
6.45: The National Broadcasting Orchestra.
7.30: A.B.C. sporting service.
7.37: Special country session. Stock Exchange resume. Markets. Late news service from the "News."
7.58: Announcements.

8.0: An hour from the State Theatre.

- 9.0: The Countryman's weather session—
(a) New South Wales Forecasts.
(b) Inter-State weather synopsis.
9.1: From the Studio: The Sydney University Players.
9.31: The 2FC String Quintet.
9.41: Dulcie Starkey, soprano—
(a) "Se tu M'ami," "The Coquette" (Pergolesi).
(b) "The Cloths of Heaven" (Dunhill).
(c) "Charity" (Hageman).
9.47: The 2FC String Quintet.
9.54: Dulcie Starkey, soprano—
(a) "In the Deep Silence of the Night" (Phillips).
(b) "My Dreamland Rose" (Phillips).
10.4: Romano's Cafe Dance Orchestra.
10.15: From the Studio: Announcements.
Late official weather forecast.
10.20: Romano's Cafe Dance Orchestra.
11.30: Close. National Anthem.

2BL

Australian Broadcasting Company, Ltd., Market St., Sydney (Wavelength, 353 metres).

OPENING SESSION—8.15 to 11 a.m.

- 8.15: G.P.O. chimes. Music for every mood.
8.45: Meteorological data for the country.
8.50: A musical interlude.
9.35: New music.
10.5: News from the "Daily Guardian."
10.10: The Australian Broadcasting Company's Women's Association, conducted by Miss Gwen Varley.
10.30: Celebrity items.
10.45: Morning Devotion—a daily message conducted by the Council of Churches.
11.0: G.P.O. chimes. Close.

MIDDAY SESSION—12 noon to 2.30 p.m.

- 12.0: G.P.O. chimes. Announcements.
12.2: The National Broadcasting Orchestra.
1.0: Afternoon news from the "Evening News."
1.5: Studio music.
1.15: Women's "Interest Talk."
1.30: A recital of instrumental music, re-produced on the Radio Metre.
2.0: J. Knight Barnett at the Wurlitzer.
2.12: Studio music.

AFTERNOON ENTERTAINMENT—2.30 to 5.45 p.m.

- 2.30: Business efficiency talks.
2.45: "The Magic Carpet"—a story of travel and adventure.
3.0: The Radio Matinee Orchestra.
3.15: Alfred Wilmore, tenor—
(a) "Romance from Mignon" (Thomas).
(b) "Some Perfect Rose" (Fletcher).
(c) "Midst the Petals in Your Tresses" (Amy Woodforde-Finden).
3.22: Marcus Burkitt, pianist—
(a) "Impromptu in B Flat" (Schubert).
(b) "Etude in E Flat" (Bergmuller).
3.32: The Radio Matinee Orchestra.
3.42: Eleanor Stanton, contralto—
(a) Four Songs by Esther Kahn).
3.54: Warwick M'Kenzie, violinist—
(a) "Andante," from "Concerto" (Mendelssohn).
(b) "Toy Soldier March" (Kreislser).
4.0: The Radio Matinee Orchestra.
4.16: Alfred Wilmore, tenor—
(a) "Melanie" (Eric Coates).
(b) "The Devout Lover" (Maud Valerie White).
4.23: Marcus Burkitt, pianist—
(a) "Raindrop Prelude" (Chopin).
(b) "Impromptu in F Sharp" (Chopin).
4.32: Eleanor Stanton, contralto—
(a) "Slumber Song of the Madonna" (Michael Head).
(b) "As I Went a'Roaming" (May Brahe).
4.39: Warwick M'Kenzie, violinist—
(a) "Zigeunerweisen" (Sarasate).
(b) "Hungarian Dance No. 2" (Brahms).
4.45: "The Trade Hour." Close.

THE DINNER HOUR.

- 6.15: The National Broadcasting Orchestra.
6.45: The A.B.C. Younger Set—A.B.C. Boys' Radio Club, conducted by Mr. Norman Lyons.

7.5: Studio music.

- 7.15: The Countryman's market session: Wool, wheat, stock, farm products, fruit, vegetables, and poultry markets.
7.30: The National Broadcasting Orchestra.
7.55: What's on the air to-night?

TO-NIGHT'S PRESENTATION—8 p.m. to 10.30 p.m.

- 8.0: G.P.O. chimes. A night of Comic Opera. The Wireless Singers, a chorus of specially trained voices for broadcasting. Conductor: Mr. Harry Sherlock—
(a) "The Sea Hath Its Pearls" (Pinsuti).
(b) "The Joy of Life" (Monckton).
(c) "True Love" (Monckton).
8.10: The New South Wales Tramway Band—
(a) "Tesoro Mio" (Becucci).
(b) "Trumpeter Bob" (Southwell).
8.25: Hilda Boyle and Robert Gilbert in duets—
(a) "My Very Own Pierette" (Allingham).
(b) "The Voyagers" (Sanderson).
(c) "Moon Dream Shore" (Lockhart).
8.33: Lettie Keyes in a pot pourri of comic opera melodies.
8.48: The Wireless Singers—
(a) "O. Peaceful Night" (German).
(b) "Venetian Song" (Tosti).
(c) "Of in the Stilly Night" (Vincent).
8.58: The New South Wales Tramway Band—
(a) "Fantasie," "American Beauties" (Greenwood).
(b) March "Dusky Dancers" (Eden).
9.13: Hilda Boyle and Robert Gilbert in duets—
(a) Duet from Rigoletto, "Piangi Piangi" (Verdi).
(b) "Once I in Maiden Folly" (Marillier), from "The Rose and the Ring."
(c) "Just a Memory" (Sanderson).
9.20: The New South Wales Tramway Band—
"La Militaire" (Raymond).
9.27: Robert Gilbert, baritone—
9.34: Late weather forecast for the man on the land.
9.35: Victor M'Mahon, flautist.
9.42: Norman Hestelow, bass—
(a) "Star of Eve," from "Tannhauser" (Wagner).
(b) "Invictus" (Huhn).
9.49: Victor M'Mahon, flautist.
10.6: Norman Hestelow, bass—
(a) "The Red Star of the Romany" (Sanderson).
(b) "Blow Blow, Thou Winter Wind" (Sargeant).
10.13: 2FL Studio Quintet.
10.25: Official weather forecast—metropolitan and country. Late news from the "Evening News."
10.30: Close. National Anthem.

2GB

Theosophical Broadcasting Station, 29 Bigh St., Sydney (Wavelength, 316 metres).

MORNING SESSION.

- 10.0: Music. 10.10: Happiness talk by A. E. Bennett. 10.20: Music. 10.30: Women's session by Miss Helen J. Beegling. 11.45: Close down.

AFTERNOON SESSION.

- 2.0: Music. 2.5: Women's Radio Service by Mrs. Dorothy Jordan. 2.50: Music. 3.0: Music. 3.30: Close down.

EVENING SESSION.

- 5.30: Children's session by Uncle George. 7.0: Music. 7.30: Feature story. 8.0: Miss Edna Lister, contralto. 8.7: "Cello solos. 8.15: Mr. Clement Hosking, baritone. 8.22: Symphony Orchestra. 8.30: Humorous interlude by Mr. Jack Win and Mr. Heath Burdock. 8.35: Miss Ivorna Kyla, soprano. 8.45: Instrumental music. 8.50: Miss Edna Lister, contralto. 9.0: Weather report. 9.3: Address. 9.15: "Cello solos. 9.25: Mr. Clement Hosking, baritone. 9.35: Humorous interlude by Mr. Jack Win and Mr. Heath Burdock. 9.40: Symphony orchestra. 9.50: Miss Ivorna Kyla, soprano. 10.0: Instrumental music. 10.30: Close down.

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Interstate Programmes, Wednesday, September 4

3LO

Australian Broadcasting Co., 120A Russell St., Melbourne (Wavelength, 371 metres).

MORNING SESSION.

10.30: Current happenings in sport by Mel Morris. 10.45: A.B.C. Studio Orchestra. 12.0: Melbourne Observatory time signal. 12.1: Orchestra. 12.15: "Sun Pictorial" news service. British official wireless. Corn Exchange midday report. Newmarket stock sales. Association Stock and Station Agents' official report. 12.30: Close down.

MIDDAY SESSION

1.0: Melbourne Observatory time signal. 1.1: Stock Exchange Information. Meteorological data. Weather forecast for Victoria, New South Wales, South Australia, and Tasmania. Ocean forecast. River reports. Rainfall. Comments on the day's news. 1.35: Transmission from the Rotary Club luncheon.

EDUCATIONAL SESSION.

2.0: Reading Aloud, Miss Alice Smith. 2.15: Musical interlude. 2.20: Rambles in the bush, Mr. Chas. Daley. 2.35: Musical interlude. 2.40: The Early Days of Our Commonwealth, Hon. J. H. Keating. LLB.

THE RADIO MATINEE.

3.0: National Broadcasting Orchestra (under direction Wm. G. James, Percy Code). Medley selection from Gilbert and Sullivan's Operas. 3.10: Gertrude Hutton, Contralto—"The Nightingale" (Kjerulff). "Longing" (Kjerulff). 3.17: Orchestra—"Floods of Spring" (Rachmaninoff). "Recurdo" (Scrofo). 3.22: Russell Callow, Tenor—"A Little Fairy Tale" (Moltes). "A Birthday Song" (MacFadyen). 3.25: Jessie Clark—Songs at the piano. "Aunt Mary Says." "The Wind in the Chimney." 3.38: One-act play, "The Evidence." Produced by Dulcie Hall. Characters: Lester Shannon, Shirley Rogers, Convict 803, Police Officer. 3.45: Hutton, Mezzo-Contralto—"Devotion" (Strauss). "To-morrow" (Strauss). 4.0: Orchestra—Selection, "Mary" (Hirschi). 4.10: Russell Callow, Tenor—"Crying Water" (Hamblen). "Ah, Moon of My Delight" (Lehmann). 4.17: Jessie Clark—Songs at the piano. 4.21: Orchestra—"Bullet Music from Faust." Part 2. 4.30: Close down.

THE CHILDREN'S CORNER.

5.45: "Little Miss Kookaburra" has a story for the Tiny Tots. "The Little Girl and the Chickens." 6.0: Musical interlude. 6.3: Birthday greetings. 6.20: For the Older Boys and Girls. Tustala—"The Teller of Tales." 6.35: Musical interlude. 6.40: The Romance of History, Mr. J. R. Lyall. 6.55: Musical interlude. 7.0: Melbourne Observatory time signal. 7.1: Courtroom's Session. 7.25: Technical Talks for Mechanics. "Simple Mechanical Operations." "Mr. F. S. Ward." 7.40: Herald News. 7.45: How to attain and retain good health.

NIGHT SESSION.

8.0: Melbourne Observatory time signal. 8.1: Grand Opera. Studio presentation of "Faust" (Gounod).

Cast of Characters.

Marguerite William Bossence
Valentine Colin Craig
Wagner Bessie Banks
Sichel Alexander Ross
"ephistophiles Victor Baxter
Faust
Chorus of Peasants, Soldiers, etc.
Act 1.—Faust's Study.
Act 2.—The Market Place.
Act 3.—Bourgeois Garden.
Act 4.—Outside Church.
Act 5.—Interior of Prison.

Accompanied by the National Broadcasting Orchestra.

VAUDEVILLE.

10.0: Joe Brennan and Ida Newton, in "A Hurricane of Humor."
10.7: "The Smart Set."
10.15: Weather information. British official wireless news. Items of interest.
10.25: The "Rev. Dance Band"
11.30: God Save the King.

3AR

Australian Broadcasting Co., 120A Russell St., Melbourne (Wavelength 484 metres).

MIDDAY SESSION.

12.0: G.P.O. chimes. 12.1: Food and Cookery—Avoiding Waste in Cooking. Miss Aving MacLachlan. 12.15: Fifteen minutes syncopation. 12.30: Luncheon music, supplied by the National Broadcasting Orchestra, under direction Wm. G. James; conductor, Percy Code. 2.0: G.P.O. chimes.

AFTERNOON SESSION.

2.1: The Melody Three—Voice, Cello, and Piano. 2.10: Mrs. John Hopkins, dramatic recital—"The First Settler's Story" (Carlton). 2.19: Reg. Brown, piano. 2.25: Tom Temple, tenor—"The Knight's Song" (Martin Shaw). "Pleading" (Kramer). 2.32: The Melody Three—Voice, Cello and Piano. 2.40: A.B.C. String Quartette—First Movement (Mozart). 2.45: Gertrude Hutton, contralto—"Margaret at the Spinning Wheel" (Schubert). "We Wandered" (Brahm). 2.52: A.B.C. String Quartette—Adagio (Haydn). "Finale" (Haydn). 3.0: Reproduced music. 3.30: The Fresh Child (4) An English Nursery School, Miss M. Lush. 3.45: A musical interlude. 3.50: The Wrong and Right Thing to Say, Miss Reva Leon. 4.5: A musical interlude. 4.10: Home Life in other Countries (3) France, Miss A. Babington.

TRADERS' DEMONSTRATION SESSION.

4.25: Reproduced music. 5.0: G.P.O. chimes. 5.30: Weather data. 5.45: Close down.

EVENING SESSION.

6.15: Dinner music, supplied by the A.B.C. Studio Orchestra. 7.30: On the Air To-night? 7.52: Latest musical releases. 8.0: G.P.O. chimes.

NIGHT SESSION.

- 8.1: National Broadcasting Orchestra—Under direction, Wm. G. James. Conductor, Percy Code. Excerpts from the Nutcracker Suite (Tschai-kowsky).
- 8.10: Dorothy Humphries, soprano—"Demon" (Max Stange). "Pleading" (Elgar).
- 8.17: Gwen Procter, cello—"Sonata in A Major" (Boccherini). "Adagio" (Allegro) (Bellini).
- 8.24: John Hobbs, bass-baritone—"The Erl King" (Schubert). "I Will Not Grieve" (Schumann).
- 8.31: Orchestra—"Allegro Con Grazia," from Sixth Symphony—(Tschai-kowsky).
- 8.36: Headley and Bartlett—The Musical Tramps.
- 8.43: Gus Quinn—Radio Magic. Have your pack of cards, pencil, and paper in readiness!
- 8.50: Melbourne Male Quartette, with Graham Howatt—"The Dusky Stevedore" (Johnson). "The Spider and the Fly" (O'Hara). "A Fair Alarm" (Bellini).
- 9.0: Why We Behave as Human Beings—(4) Pleasure for Pleasure's Sake, Professor J. A. Gunn, M.A., B.Sc., Ph.D.
- 9.15: Orchestra—"Melodious Melodies" (Finck).
- 9.25: Dorothy Humphries, soprano—"My Heart's Desire" (Coningsby Clarke). "Bird of Love, Divine" (Haydn Wood). 9.32: Gwen Procter, cello—"Le Cygne" (Saint Saens). "Gavotte" (Paderewski).
- 9.40: Doreen Berry—"A selection from "The Sign of the Cross." 9.50: John Hobbs, bass-baritone—"The Fortune Hunter" (Willeby). "Moorings" (Sanderson).
- 9.57: Headley and Bartlett, The Musical Tramps. 10.4: Gus Quinn—More Radio Magic. 10.10: Orchestra—Selections. "No, No, Nanette." 10.20: Weather information and news. 10.30: God Save the King.

3DB

The "Herald" Broadcasting Station, Flinders Street, Melbourne (255 metres).

MORNING SESSION.

11.0: Ted Lewis and his Band—"When the Curtain Comes Down." 11.30: "Lay Vogue." "The World's Fashions and Fables." 11.35: Fritz Kreisler (violin) "Gypsy Serenade." 12.0: Rhythm Boys—"Rhythm King." 12.30: Hugo Kortschak (violin)—"Tumorousque" (Dvorak). 1.0: Harold Williams (baritone)—"The Gulch Road." 1.15: Pioneer Motors sponsored programme. 1.45: Close down.

AFTERNOON SESSION.

2.15: Robert Easton—"Song of Bybrius the Orestan." 2.30: Mrs. Dorothy Sill—"Homesteads." 2.45: Parlophone Military Band—"The Middy March." 3.0: Atwater Kent Radio Hour, sponsored by A. G. Healing, Ltd., and E. T. Muir. 4.0: Close down.

EARLY EVENING SESSION.

4.45: Choral Evensong, transmitted from St. Paul's Cathedral. 5.30: La Scala Chorus of Milan—"Soldiers' Chorus" (Faust-Gounod). 6.0: Billy Bunny's Children's Hour. 6.30: Robert Harper (tenor)—"O Vision Entangling" (Thomas). 7.0: Edith Lorand Orchestra—"Was just a Dream." 7.15: Market reports by John M'Nara and Co., Pty., Ltd. 7.25: Robert Watson and Anne Ballantyne—"When ye Gonn Awa, Jamie." 7.30: Market reports, Gippsland and Northern Co-operative Co., Ltd. 7.40: Royal Harmonic Orchestra—"A Village Romeo and Juliet." 7.45: Mr. Harman of Burns, Philp, and Co.—"A Travel Talk."

EVENING SESSION.

8.0: The Victorian Professional Orchestra concert, conducted by M. Gustav Sliapoffski, transmitted from the Auditorium. 8.30: Rhodes Motors sponsored programme. 9.0: Victorian Professional Orchestra concert, conducted by M. Gustav Sliapoffski, transmitted from the Auditorium. 10.30: Ted Lewis and his Band—"Russian Lullaby." 10.40: News. 10.45: God Save the King.

4QG

Queensland Government Radio Service, Brisbane (Wavelength, 385 metres).

For day sessions see Friday.

NIGHT SESSION.

- 8.0: Alf Featherstone and his Orchestra—Fox trots, "The Wedding of the Painted Doll" (Brown). "Honey" (Whiting).
- 8.10: Muriel M'Hugh, soprano—"Thoughts Have Wings" (Lehmann). "Collect's Wedding" (Harty).
- 8.20: Alf Featherstone and his Orchestra—Fox trots, "Blue Hills of Pasadena" (Herbert). "Love Tales of Alsace Lorraine" (Davis).
- 8.30: The Hood Owls—Twenty minutes fun.
- 8.50: Alf Featherstone and his Orchestra—Fox trots, "Some Sweet Day" (Pollock). "I Kiss your Hand, Madame" (Erwin).
- 9.0: Metropolitan weather forecast. Movements of Lighthouse steamers.
- 9.5: Kenyon, the Entertainer.
- 9.15: Alf Featherstone and his Orchestra—Jazz waltz, "Underneath the Russian Moon" (Cushman).
- 9.20: Dorothy Sanders—"Serenade" (Strauss). "I Love the Moon" (Rubens).
- 9.30: The main bouts in connection with the Bris-

bane Boxing and Wrestling Association amateur championship meeting will be described from the Stadium. Dance numbers will be played between bouts. 10.30: News supplied by the metropolitan dailies. Weather information. 10.45: Alf Featherstone and his Orchestra—A quarter of an hour's dance music. 11.0: Close down.

5CL

Central Broadcasters, Ltd., 114 Hindmarsh Square, Adelaide (Wavelength, 409 metres).

AFTERNOON SESSION.

3.0 to 4.30: See Friday.

EVENING SESSION.

6.0: Resume of Werribee race results. 6.1: Birthday greetings. 6.30: Dinner session. 7.1: Birthday League greetings; general market reports. 7.20: Rev. E. B. Kiek, M.A., B.D., will speak on "Cromwell and his Ironsides." 7.35: An address to Boy Scouts. 7.45: 5CL Bluebird Girls' Club.

NIGHT SESSION.

8.10: An All-Irish Night, by the Irish National Association. Introduction by the president, Mr. P. E. O'Leary, and honorary secretary, Mr. P. A. Greene. 8.14: Adelaide Irish Pipe Band—Overture, "Let Erin Remember." "Wicklow Air." "Little House Under the Hill." 8.18: Florence Brown, elocutionist—"The Old Mass Shanrydan." 8.22: Glem Duggan, tenor—"The Minstrel Boy." "Love's Young Dream." 8.29: Barry Curtis, cornet solo—"The Foggy Dew." 8.32: Frank Siebert, humorist—"Conversations." 8.35: Ed. Farrell, dancer—"Irish Jig." 8.38: Margaret M'Faul, soprano—"Erin, the Tear, and the Smile." "Siewanamon." 8.45: Elsie O'Leary, pianoforte solo—"Simple Arrangement of Irish Melodies." 8.48: Florence Brown, elocutionist—"Donal Kenny." 8.51: James Glennon, violin solo—"Londonderry Air." 8.54: Frank McCabe, baritone—"For the Green." "Dark Rosaleen." 9.1: Meteorological information, including Semaphore tides. 9.2: Overseas grain report. 9.3: General news service. 9.5: Barry Curtis, cornet solo—"Kathleen Mavourneen." 9.6: Adelaide Irish Pipe Band—"Wearing of the Green." "Dawning of the Day." "Rakes of Malloy." 9.13: Waddy O'Leary, soprano—"The Kerry Dance." "Carraig Donn." 9.21: Ed. Farrell, dancer—"Irish Hornpipe." 9.24: Frank Siebert, humorist—"Moses Ritornel." 9.25: Walter Harman, tenor—"The Bard of Armagh." "She is Far From the Land." 9.36: Elsie O'Leary, pianoforte solo—Simple arrangement of Irish Melodies. 9.41: Dominic Laurence, humorist—"The West Clare Railway." 9.44: Rosie M'Mahon, soprano—"The Meeting of the Waters." 9.51: P. E. O'Leary, pianoforte solo—Irish Traditional Dance Music. 9.54: Florence Brown, elocutionist—"The Trimmins on the Rosary." 9.57: James Glennon, violinist—"The Hop That Once." 10.0: Gerald O'Leary, baritone—"Kelly of Kilmann." "Ireland's Flag." 10.9: Barry Curtis, cornet solo—"Bantry Bay." 10.13: Frank Siebert, humorist—"Kitty O'Toole." 10.18: Adelaide Irish Pipe Band—"Boys of Wexford." "Kelly of Kilmann." "Nora Creina." 10.28: The Company—"God Save Ireland." (Accompanied, Miss E. O'Leary.) 10.31: General news service; Sporting service. 10.46: Dance recordings. 11.0: G.P.O. chimes. Close down.

6WF

Commonwealth Government Broadcasting Station, Perth (Wavelength, 100 metres).

10.0: Gramophone records. 11.0: Close down. 12.30: Markets, news, etc. 1.0: Time signal. 1.1: Weather bulletin. 1.3: Music. 1.30: Close down. 3.30: Afternoon programme. 4.30: Close down. 6.45: Bed-time stories by Uncle Duffy. 7.5: Light music. 7.50: Commercial information. 7.45: Talk by Mr. Hal M'Kell. 8.0: Time signal. 8.1: First weather bulletin. 8.3: A relay. 8.50: Late news; ships within range; late weather bulletin. 10.30: Close down. 10.4: 5 metre Transmissions—Simultaneous broadcast on 1250 metres of programme given on 1250 metres, commencing at 6.45 p.m.

(FOR 7ZL PROGRAMME SEE TUESDAY.)

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0005 Ball Bearing Low Loss S.L.F. Condensers	6/9	Philips Special Audio Transformers	27/6
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Copper Adjustable Earth Clips	3d	40 amp.	14/6
Bababa Plugs and Sockets, with side screw	6d	Exide 2v. Glass Accumulator Cells, 100 amp.	25/-
Eca Plugs and Sockets	6d	Radio Drills, 4 and 7 on card, to ¼in.	1/- and 1/6
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PRICE'S RADIO SERVICE,

WINGELLO HOUSE, ANGEL PLACE,
BOX 3326PP, G.P.O.

Local Programmes, Thursday, September 5

2FC

Australian Broadcasting Company, Ltd., Market St., Sydney (Wavelength, 442 metres).

EARLY SESSION—7 to 8.15 a.m.

7.0: "Big Ben" and meteorological information for the man on the land.
7.3: This morning's news from the "Daily Guardian."

- 7.8: Early rising music.
- 7.45: Mails and shipping.
- 7.48: What's on to-day?
- 7.50: Children's birthday calls.
- 8.0: Music from the studio.
- 8.15: Close.

MORNING SESSION—10.30 a.m. to 12.30 p.m.

10.30: Announcements.
10.32: A.B.C. racing observer.
10.45: Edgar Stone at the Grand Organ.
11.0: Household Helps: A talk on "Domestic Helps." by Miss Ruth Furst.
11.10: Cables, A.P.A., and "Sun"—"Herald" news service and British official wireless news.
11.15: The 2FC Studio Orchestra.
12.0: "Big Ben," Stock Exchange and metal quotations.
12.2: With the poets.
12.20: Midday weather forecast and weather synopsis. Special produce market session for the man on the land, supplied by the State Marketing Board.
12.30: Close.

THE LUNCH HOUR—1 to 2.30 p.m.

1.0: Lunch to music with the National Broadcasting Orchestra.
2.0: Stock Exchange, second call.
2.2: To-day's acceptances by the A.B.C. racing observer.
2.7: A glance at the afternoon papers.
2.12: Popular education.
2.27: Announcements

THE RADIO MATINEE—2.30 to 4.30 p.m.

2.30: The Radio Matinee Orchestra.
2.45: Aldyth Hern, soprano—
(a) "The Wood Pigeon" (Lehmann).
(b) "The Starling" (Lehmann).
(c) "The Owl" (Lehmann).
2.52: Dorothy Farmer, pianist—
(a) "Prelude in C Minor" (Chopin).
(b) "Nocturne" (Bowen).
3.2: William Squires, baritone—
(a) "Cloze Props" (Charles).
(b) "For You Alone" (Zahl).
3.9: The Radio Matinee Orchestra.
3.19: Phillipa Alston, contralto—
(a) "Who is Sylvia" (Schubert).
(b) "A Summer Night" (Thomas).
3.26: The Radio Matinee Orchestra.
3.41: Aldyth Hern, soprano—
(a) "Tiptoe" (Carew).
(b) "Somewhere in This Summer Night" (Carew).
(c) "Love's a Merchant" (Carew).
3.48: Dorothy Farmer, pianist—
(a) "Prelude in B Flat Minor" (Pachulsky).
(b) "Etude in G Flat Major" (Arensky).
3.58: William Squires, baritone—
(a) "So Fair a Flower" (Lohr).
(b) "Invictus" (Huhn).
4.5: The Radio Matinee Orchestra.
4.13: Phillipa Alston, contralto—
(a) "My Heart's Desire" (Clarke).
(b) "The Hawk" (Clarke).
(c) "So Fair a Flower" (Lohr).
4.20: The Radio Matinee Orchestra.
4.28: Stock Exchange, third call.
4.30: Close.

EARLY EVENING SESSION—5.45 to 7.55 p.m.

5.45: Kiddies' "Goodnight" stories told by Aunt Willa, assisted by Cousins Marjory and Gwen and Uncle Ted and "Sandy."
6.45: The National Broadcasting Orchestra.
7.30: A.B.C. sporting service.
7.37: Special country session. Stock Exchange resume. Markets. Late news service from the "News."
7.58: Announcements.

THE EVENING PRESENTATION—8 p.m. to 11.30 p.m.

8.0: From the Graythwaite Convalescent Home; The Radio Cheer Bringers; Hospital concert party, under the direction of Charles Lawrence.

9.15: The Countryman's weather session—"New South Wales Forecasts."

"Inter-State Weather Synopsis."

9.16: To-night's big surprise by C. R. Hall.
9.35: The 2FC String Quintet.
9.45: Jack Lumsdaine, the Radio Rascal.
9.55: From the Hotel Australia: Cec. Morrison's Dance Band.
10.7: From the Studio: Jack Lumsdaine, the Radio Rascal.
10.15: Announcements. Late official weather forecast.
10.20: From the Hotel Australia: Cec. Morrison's Dance Band.
11.30: Close. National Anthem.

2BL

Australian Broadcasting Company, Ltd., Market St., Sydney (Wavelength, 353 metres).

OPENING SESSION—8.15 to 11 a.m.

8.15: G.P.O. chimes. Music for every mood.
8.45: Meteorological data for the country.
8.50: A musical interlude.
9.30: British official wireless news.
9.35: New music.
10.5: News from the "Daily Guardian."
10.10: The Australian Broadcasting Company's Women's Association, conducted by Miss Gwen Varley.
10.30: Celebrity items.
10.45: Morning Devotion—a daily message conducted by the Council of Churches.
11.0: G.P.O. chimes. Close.

MIDDAY SESSION—12 noon to 2.30 p.m.

12.0: G.P.O. chimes. Announcements.
12.2: The National Broadcasting Orchestra.
1.0: Afternoon news from the "Evening News."
1.5: Studio music.
1.15: Women's interest talk.
1.30: A recital of Instrumental Music, reproduced on the radio metre.
2.0: J. Knight Barnett at the Wurlitzer.
2.12: Studio music.

AFTERNOON ENTERTAINMENT—2.30 to 5.45 p.m.

2.30: Business efficiency talks.
2.45: "The Magic Carpet"—a story of travel and adventure.
3.0: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
3.12: From the Studio: Olga Le Gray, popular vocalist—
(a) "Roses of Yesterday" (Irving Berlin).
(b) "Was It a Dream" (Coslow and Spier).
3.19: Latest Dance Music.
3.22: Romano's Cafe Dance Orchestra, conducted by Hilda Grace, novelty pianist—
(a) "Make It Snappy" (De Rlenzo).
(b) "The Man I Love" (Gershwin).
3.39: Popular items.
3.41: Romano's Cafe Dance Orchestra.
3.50: From the Studio, Ahad Duo, steel guitars—
(a) "Kawaihau Waltz" (Hopkins).
(b) "Hawaii, I'm Lonesome for You" (Cunha).
3.57: Latest dance music.
4.0: Romano's Cafe Dance Orchestra.
4.12: From the Studio: Olga Le Gray, popular vocalist—
(a) "Kiss Me Again" (Victor Herbert).
(b) "I Know a Lovely Garden" (Guy D'Hardelot).
4.19: Hilda Grace, novelty pianist—
(a) "What a Pity" (De Rlenzo).
(b) "Pipes of Pan" Suite (Knight Logan).
4.26: Ahad Duo, steel guitars—
(a) "Medley" (Lawrence and Young), piano, accordion, and Spanish guitar.
(b) "Hawaiian March" (Cunha).
4.33: Romano's Cafe Dance Orchestra.
4.45: "The Trade Hour." Close.

THE DINNER HOUR.

6.15: The National Broadcasting Orchestra.
6.45: The A.B.C. Younger Set Session—A.B.C. Girls' Radio Club, conducted by Miss Gwen Varley.
7.5: Studio music.
7.15: The Countryman's market session:

Wool, wheat, stock, farm produce, fruit, vegetables, and poultry markets.

7.30: The National Broadcasting Orchestra.
7.55: What's on the air to-night.

TO-NIGHT'S PRESENTATION—8 p.m. to 10.30 p.m.

8.0: G.P.O. chimes. An hour from the Capitol.
9.0: From the Studio: Francis Jackson, in a character sketch by St. John Ervine: "She Was No Lady."

Characters—

Sir Alfred Pickles—Francis Jackson.
Henry Learmouth—Edward Cavill.
Lady Pickles—Mollie Kirwan.
Mrs. Graveney, Beryl Jackson.
9.18: The Peerless Four Quartet—
(a) "Annie Laurie" (Old Scotch).
(b) "Cornfield Melodies" (Old Negro).
(c) "Indiana."
9.28: Wally Baynes, comedian—
(a) "I Lift Up My Fingers and I Say Tweet, Tweet" (Sarony).
(b) "A Marrow's a Banana's Father" (Rule).
9.38: Maisie Ottey, novelty pianist—
(a) "Monkey Biznez" (Johnson).
(b) "Dolly Dimples" (Acter).
(c) "Over the Ice" (Wirges).
9.45: The Two Fosters, musical entertainers.
9.53: The Peerless Four Quartet—
(a) "Sally Horner" (Old English).
(b) "Come Along Ma Babe" (Medley).
(c) "Mulligan's Picture Show."
10.3: Wally Baynes, comedian—
(a) "And So Do All My Pals" (Weston and Lee).
(b) "Is Izzy Azzv Woz?" (Le Clerq).
10.10: The Two Fosters, musical entertainers.
10.17: Maisie Ottey, novelty pianist—
(a) "Hot Ivories" (Sinatra).
(b) "Casa Lopez" (Damasek).
(c) "Humorestless" (Confrey).
10.25: Official weather forecast—metropolitan and country. Late news from the "Evening News."
10.30: Close. National Anthem.

2GB

Theosophical Broadcasting Station, 29 Blich St., Sydney (Wavelength, 316 metres).

MORNING SESSION.

10.0: Music. 10.10: Happiness talk by A. E. Bennett. 10.20: Music. 10.30: Women's session by Miss Helen J. Beegling. 11.45: Close down.

AFTERNOON SESSION.

2.0: Music. 2.5: Women's Radio Service by Mrs. Dorothy Jordan. 2.50: Music. 3.0: Gardening talk by Mr. Prior. 3.5: Labor-saving demonstration from Buckingham's, Ltd. 4.0: Close down.

EVENING SESSION.

5.30: Children's session, by Uncle George.
7.0: Music. 7.15: Gardening talk by Mr. Prior. 7.45: Feature story. 8.0: Miss Hetty Woodlee, mezzo soprano. 8.7: Violin solos. 8.15: The New Male Voice Party. 8.30: Mr. Jack Win and Miss Nora Windle, in a humorous sketch. 8.40: Symphony orchestra. 8.50: Miss Hetty Woodlee, mezzo soprano. 9.0: Weather report. 9.3: Address. 9.15: The New Male Voice Party. 9.30: Mr. Jack Win and Miss Nora Windle, in a humorous sketch. 9.40: Scenes from Grand Opera. 10.0: Instrumental music. 10.30: Close down.

2UW

Radio Broadcasting, Ltd., Pallmer's Building, Ash St., Sydney (Wavelength, 267 metres).

MIDDAY SESSION.

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

EVENING SESSION.

5.30: Children's hour, conducted by Uncle Jack. 6.30: Close down. 7.0: G.P.O. clock and chimes. Request numbers. 7.45: Garden talk by Mr. S. H. Hunt. 8.0: Recital of songs and ballads. 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.

(2KY and 2UE programmes on page ?)

2KY

Trades and Labor Council, Goulburn St., Sydney (Wavelength, 280 metres).

MORNING SESSION.

10.0: Tune in to the ticking of the clock. 10.3: Popular fox trots. 10.15: Hawaiian steel guitar selections. 10.30: Request numbers. 10.50: Vocal items. 11.0: A few laughs. 11.5: Pianoforte selections. 11.15: Calls and announcements. 11.20: Musical interlude. 11.30: Request numbers. 11.40: Music and vocal items. 11.55: Where to go to-night. 12.0 noon: Closing announcements.

CHILDREN'S SESSION.

6.0: Birthday calls, request numbers, and kiddies' entertainment. Aunt Jemima and Uncle Bert.

EVENING SESSION.

7.0: Musical interlude. 7.5: Birthday calls. 7.15: Request numbers. 7.30: Hawaiian steel guitar selections. 7.45: Humorous interlude. 8.0: Orchestral selections. 8.10: Tenor solos, Mr. G. Mason. 8.17: Bert Warne presents a humorous interlude. 8.30: Frederick Holt presents a recital of Australian composers and compositions, with musical and vocal illustrations. 8.45: Selection of humorous records. 9.10: Request numbers. 9.40: Continue record recital. 10.0: Closing announcements.

2UE

Broadcasting Station 2UE, Storey Street, Maroubra Junction, Sydney (Wavelength, 293 metres).

EARLY MORNING SESSION.

7.15: Breakfast Time Hour Orchestral Music. 8.30: Weather forecast; close down.

MIDDAY SESSION

11.30 a.m.: Orchestral and vocal music. 12.30 p.m.: Close down.

AFTERNOON SESSION

1.0: Orchestral music. 1.45: Organ solos. 2.0: Music. 2.30: Close down.

EVENING SESSION

7.15: Orchestral dinner music. 7.58: Programme announcements. 8.0: Overture, "Semiramide." 8.10: Vocal and orchestral programme. 10.15: Close down.

2UW

Radio Broadcasting, Ltd., Pating's Building, Ash St., Sydney (Wavelength, 267 metres).

Wednesday, September 4.

MIDDAY SESSION.

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

EVENING SESSION.

5.30: Children's hour, conducted by Uncle Jack. 6.30: Close down. 7.0: G.P.O. clock and chimes. Request numbers. 8.0: Famous scenes from Opera. 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.

2KY

Trades and Labor Council, Goulburn St., Sydney (Wavelength, 280 metres).

Wednesday, September 4.

MORNING SESSION.

10.0: Tune in to the ticking of the clock. 10.3: Popular fox trots. 10.15: Hawaiian steel guitar selections. 10.30: Request numbers. 10.50: Vocal items. 11.0: A few laughs. 11.5: Pianoforte selections. 11.15: Calls and announcements. 11.20: Musical interlude. 11.30: Request numbers. 11.40: Music and vocal items. 11.55: Where to go to-night. 12.0 noon: Closing announcements.

CHILDREN'S SESSION

6.0: Birthday calls, request numbers, and kiddies' entertainment. Aunt Jemima and Uncle Bert.

EVENING SESSION.

7.0: Musical interlude. 7.15: Sporting feature. Complete review of to-day's racing. Mr. Geo. A. Davis. 7.40: Health feature. 8.0: Hawaiian steel guitar selections. 8.15: Tenor solos, Mr. Chas. E. Macdonald. 8.30: Banjo solos, Master Harry Weir. 8.36: Al. Rosenberg at the piano. 9.0: Sporting feature. Presented by Tooth and Co., Ltd., Ken's Brewery. From Sydney Stadium: Full description of main 15-rounds event. 9.50: Music from the studio. 10.0: Closing announcements.

2UE

Broadcasting Station 2UE, Storey Street, Maroubra Junction, Sydney (Wavelength, 293 metres).

Monday, September 2.

EARLY MORNING SESSION.

7.15: Breakfast Time Hour Orchestral Music. 8.30: Weather forecast; close down.

Tuesday, September 3

EARLY MORNING SESSION.

7.15: Breakfast Time Hour Musical Selections. 8.30: Weather report. Close down.

MIDDAY SESSION

11.30 a.m.: Orchestra music. 12.30: p.m.: Close down.

AFTERNOON SESSION

1.0: Orchestral and vocal music. 1.45: Organ recitals. 2.0: Vocal and instrumental selections. 2.30: Close down.

EVENING SESSION

7.15: Orchestral dinner music. 7.58: Programme announcements. 8.0: Overture, "Maritana." 8.10: Orchestral and vocal selections. 10.15: Close down.

7ZL

Tasmanian Broadcasters Pty., 95 Elizabeth St., Hobart (Wavelength, 516 metres).

Wednesday, September 4

11.30 a.m.: Record recital. 11.34: Midlands weather forecast. 11.35: Record recital. 11.55: Tasmanian stations 9 a.m. weather report. 12.0: G.P.O. clock chimes the hour. 12.1: Shipping information; mail notices; housewives' guide. 12.8: Record recital. 13.30: "Mercury" news service; announcements. 12.40: Record recital. 1.5: British official wireless news. 1.10: Record recital. 1.30: Transmission from the Imperial Hotel, Collins Street, Hobart, speeches at the Rotary Club luncheon. 3.0: G.P.O. clock chimes the hour. 3.1: Record recital. 3.4: Weather information. 3.5: Record recital. 4.15: Readings from the "Illustrated Tasmanian Mail." 4.30: Close down. 6.15: Children's Hour, with Bertha Southey Brammall. 7.15: News session. 7.30: Miss M. D. Wilson will speak on "Spring Fashions." 7.45: Richard Olds will speak on "Furs and Skins." 8.0: G.P.O. clock chimes the hour. 8.1: Record recital. 8.8: A Columbia recital including latest releases, specially arranged by Findlay's Music Warehouse. 9.30: News session. 9.45: Record recital (continued). 10.0: G.P.O. clock chimes the hour. 10.1: Close down.

6WF

Commonwealth Government Broadcasting Station, Perth (Wavelength, 100 metres).

Thursday, September 5.

10.0: Gramophone records. 11.0: Close down. 12.30: Tune in. 12.35: Markets, news, etc. 1.0: Time signal. 1.1: Weather bulletin. 1.3: Organ recital by Mr. E. S. Craft, A.R.C.M., L.Mus. A. 2.0: Close down. 3.30: Tune in. 3.35: Afternoon programme. 4.30: Close down. 6.45: Bedtime stories by Uncle Duffy. 7.5: Light music. 7.30: Commercial information. 7.45: Talk by Mr. A. T. Bowden, B.Sc. 8.0: Time signal. 8.1: First weather bulletin. 8.3: Concert by the Perth City Band. 8.50: Late news; ships within range; late weather. 9.45: "Health" talk by Mr. Hatton. 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.

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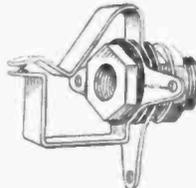
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Interstate Programmes, Thursday, September 5

3LO

Australian Broadcasting Co., 129A Russell St., Melbourne (wavelength, 371 metres).

EARLY MORNING SESSION.

7.0 to 8.15: See Friday.
MORNING SESSION.
10.30: Current happenings in sport by Eric Welch.
10.45: A.B.C. Orchestra. 12.0: Melbourne Observatory time signal. 12.1: Orchestra. 12.15: News service. British official wireless. Corn Exchange report. Newmarket Stock sales. Associated Stock and Station Agents' official report. 12.30: Close down.

MIDDAY SESSION.

1.0: Melbourne Observatory time signal. Stock Exchange information. Meteorological data. Weather forecast for Victoria, New South Wales, South Australia, and Tasmania. Ocean forecast. River reports. Rainfall. Comments on the day's news. 1.20: Concert. Musical Singers—transmission from the Melbourne Town Hall.

EDUCATIONAL SESSION.

2.0: Great Australians—Alfred Deakin. Mr. Howitt Ross. 3.0: Musical interlude. 2.25: Music explained and illustrated. "Style in Music—The Romantic Chorus." Mr. A. E. M. Jackson, F.R.C.O., C.M. 2.40: Musical interlude. 2.45: Romantic stories of Australia's early days. Mr. C. R. Long, M.A.

THE RADIO MATINEE.

3.0: National Broadcasting Orchestra (under direction of William G. James, Conductor, Percy Code)—Overture, "Les Femmes d'Alger." "Al Fresco" (Ligeti). 3.10: "The Duke of Burgundy"—Selected. 3.17: Ten Minutes in Hawaii—Norman's Royal Hawaiians. "A Waltz to Remember." "Halo March." "Beach of Walkie." Banjos. "Southern Melody." 3.27: Ernest Wilson, Baritone. "Waltz for the Sun God" (W. James). 3.35: "The Mite Hawaiian" (W. James). 3.40: "The Mite Hawaiian" (W. James). 3.45: "The Mite Hawaiian" (W. James). 3.50: "The Mite Hawaiian" (W. James). 3.55: "The Mite Hawaiian" (W. James). 4.0: Norman's Royal Hawaiians. "Hawaiian Love." "Honolulu March." "Waltz to Hawaii." Banjos. 4.10: Ernest Wilson, Baritone. "She's a Heartie." "Nay, though My Heart Should Break" (Tschakowsky). 4.17: Orchestra—Selection. "The Show Boat" (Kern). 4.30: Close down.

THE CHILDREN'S CORNER.

5.45: Bobby Bluegun in song and story. 6.5: Birthday greetings. 6.20: For the Older Boys and Girls. "An Adventure Story." 6.35: Musical interlude.

EVENING SESSION.

6.40: Let's Talk. 6.45: "The Sheep Dog." Mr. J. L. ... 7.0: Melbourne Observatory time signal. 7.1: Countryman's Session. "For the Man on the Land." "Tomato Growing." Mr. S. A. Cook. 7.40: "Herald" news. 7.45: News and Antics of To-day. Mr. A. L. M'icken. 8.0: Melbourne Observatory time signal.

NIGHT SESSION.

8.0: A.B.C. Entertainers. "A Village Concert." 8.20: You will not see the outstanding personality of subject of the week.

DANCE NIGHT.

8.30: Ken Cotton's Dance Orchestra—"Stay at Home Girl" (G. Hazen). "Deep Night" (Henderson).
8.35: Mae Seaton, Soprano—"I Just Roll Along."
8.42: Ken Cotton's Dance Orchestra—"Old Man Sunshine" (Dixon). "For Ever More" (Burgell).
8.51: Bob Molyneux, Baritone—"The Song I Love" (De Sylva).
8.53: Ken Cotton's Dance Orchestra—"My Heart Stood Still" (Rogers). "Where the Shy Little Violets Grow" (Kahn).
8.57: Jess Hamilton, Contralto—"A Memory" (Park).
8.58: Ken Cotton's Dance Orchestra—"Ten Little Miles From Town" (Kahn). "She's Funny That Way" (Moret).
9.14: Mae Seaton, Soprano—"That's How I Feel About You" (Davis).
9.17: Ken Cotton's Dance Orchestra—"Sally of My Dreams" (Kernell).
9.26: Bob Molyneux, Baritone—"What a Girl, What a Night" (Sander).
9.29: Ken Cotton's Dance Orchestra—"When Summer is Gone" (Willette). "Wedding of the Painted Doll" (Brown).
9.38: Syd. Exton, Tenor—"Japanese Love Song" (Brahe).
9.41: Ken Cotton's Dance Orchestra—"I Always Knew I'd Find You" (Wayne). "If I Had You" (Campbell).
9.50: Bob Molyneux, Baritone—"I'm Just a Vagabond" (Lover).
9.53: Ken Cotton's Dance Orchestra—"Another Kiss" (Schertzing).
Request item.
10.2: Syd. Exton, Tenor—"Blue Mountain" (Elgart).
10.5: Ken Cotton's Dance Orchestra—"The Very Latest Broadway Melodies."
10.14: Syd. Exton, Tenor—"Eyes That Used to Gaze in Mine" (Loehr).
10.17: Ken Cotton's Dance Band—"All by Yourself in the Moonlight" (Wallis). "Sleep, Baby, Sleep" (Tucker).
10.30: Interlude. Meteorological information. British official wireless news. Items of interest.
10.40: Dance Band in—"The Songs That Reach Our Hearts."
11.30: God Save the King.

3AR

Australian Broadcasting Co., 129A Russell St., Melbourne (wavelength 464 metres).

MIDDAY SESSION.

12.0: G.P.O. chimes. 12.1: Community Singing from the Melbourne Town Hall. Conductor, Frank Hatherly. 1.1: Luncheon music, supplied by the National Broadcasting Orchestra, under direction Wm. G. James; conductor, Percy Code. 2.0: G.P.O. chimes.

AFTERNOON SESSION.

2.1: Lyric Brass Band—Selection, "Bocaccio." 2.10: Tom Masters, tenor—"Shy Mignonette" (Brahe). Lovelly (Thompson). 2.17: Marion Lightfoot—English concertina—"Le Sol." 2.24: James Fraser, baritone—"When the King Went Forth to War" (Koenigsmann). "The Harvest Dance" (Batter). 2.31: Lyric Brass Band—"March Harmonics," tenor solo, "Love's Old Sweet Song." 2.40: Tom Masters, (tenor), James Fraser (baritone)—Duet, "I Arise from Dreams of Thee" (Lies). "Before the Battle" (Hedgcock). 2.47: Marion Lightfoot, banjo—"Poppies and Wheat." "Night Club Parade." 2.52: Lyric Brass Band—Intermezzo, "Sanctuary of the Heart," reverie, "Whispering Leaves." 3.10: Half an hour of reproduced music. 3.30: Food and Appearance—The Beauty of Good Carriage, Miss Evelyn N. Ellis. 3.45: A musical interlude. 3.50: Seeing off a Mailboat, Miss Hattie Knight. 4.5: A musical interlude. 4.10: Food and Cookery—Meal Planning, Miss E. Chisholm, B.A. (Melb.). M. J. Toronto.

READERS' DEMONSTRATION SESSION.

4.25: Reproduced music. 4.45: Evensong transmitted from St. Paul's Cathedral. 5.30: From the Studio; weather data; acceptances and barrier positions for the V.A.T.C. races at Caulfield on Saturday, September 7. 5.35: Reproduced music. 5.45: Close down.

EVENING SESSION.

6.15: Dinner music, supplied by the A.B.C. Studio Orchestra. 7.30: What's On the Air To-night? 7.32: Latest musical releases from G.P.O. chimes.

NIGHT SESSION.

8.1: Brunswick City Band—Selection, "National Airs" (Newton).
8.10: Harry Kiltz, tenor.
8.17: De Raine and Dixie—Saxophone and Banjo.
8.24: Doreen Berry, musical monologue—"The Clown."
8.30: Joe Brennan and Ida Newton—Mirth and Melody.
8.37: Brunswick City Band—Selection, "Gems of Harmony" (Smith).
8.45: Harry Kiltz, tenor.
8.52: Doreen Berry, musical monologue—"The Blacksmith's Goodbye."
9.0: De Raine and Dixie—Saxophone and Banjo.
9.7: Etta Bernard, contralto.
9.14: Brunswick City Band—March, "Perseverance" (Greenwood). Medley, "Sandy's Frolic" (Sutton).
9.21: One-act Play—"One Touch of Nature," produced by Agnes St. Clair. Characters: Constance Belmore, Agnes St. Clair Beaumont Fletcher, Thomas Leslie William King Holder, David Rowland.
10.0: Weather information and news.
10.10: Etta Bernard, contralto.
10.17: Brunswick City Band—Selection, "Lohengrin" (Hound).
10.30: God Save the King.

3DB

The "Herald" Broadcasting Station, Flinders Street, Melbourne (255 metres).

11.0: Thelma Ready's Band, transmitted from King's Theatre. 12.0: Community singing, conducted by G. J. Mackay, transmitted from King's Theatre, accompanist, Reg. Brown. 1.45: Close down.

AFTERNOON SESSION.

2.15: Margaret Sheridan (soprano)—"Come Back to Erin." 2.30: Elfrim Zimbalist (violin)—"The Zephyr" (Hirbay). 3.0: Atwater Kent Radio Hour, sponsored by A. G. Healing, Ltd., and E. T. Muir. 4.0: Close down.

EARLY EVENING SESSION.

5.30: H.M. Coldstream Guards Band—"Nalla," La Source (Delibes). 6.0: Stories for the children by Uncle Ted. 6.30: Guy Lombardo and his Royal Canadians—"Sweethearts on Parade." 7.0: Anona Winn (soprano)—"It was the Dawn of Love" (Coates). 7.15: Market reports by John McNamara and Co. Pty., Ltd. 7.25: International Band—"Dress Parade" (Ehrlich). 7.30: Reports by Gippsland and Northern Co-operative Co., Ltd. 7.40: Erica Morini (violin)—"Russian Folk Song." 7.45: E. L. Coulter, of Sydney Keck, Son, and Coulter—"A Book Talk." 7.55: J. H. Squire Celeste Organ—"Classical Selection."

EVENING SESSION.

8.0: Browning Mummy—"Love Went Ariding." 8.30: Salisbury Singers—"Early One Morning." 9.0: H.M. Grenadier Guards—"Humoresque." 9.30: Russian State Choir—"Storm on the Volga." 10.0: Gillie Putter—"Mr. Potter Visits Southsea." 10.30: Barbara Matard (mezzo)—"Hilf'nd Slumber Song." 10.40: News. 10.45: God Save the King.

4QG

Queensland Government Radio Service, Brisbane (wavelength, 385 metres).

For day sessions see Friday.

NIGHT SESSION.

8.0: South Sea Hawaiians—Waltzes, "Honolulu Moon." "Girl of my Dreams."
8.7: Ernest Harper, baritone—"Avonlea" (Golson).
With accompaniment by 4QG artists.

8.13: N. Deans, steel guitar solo—"Stars and Stripes" (Souza).
8.18: James Brett, entertainer—"Bird of Paradise." Accompanied by the South Sea Hawaiians.
8.23: The South Sea Hawaiians—Fox trots, "You're a Real Sweetheart" "Sally of my Dreams."
8.30: The Orpheans—Chorus, "Till We Meet Again."
8.36: Claude Wearne, pianist—Selected.
8.42: Blanche Burns and James Brett—Ten minutes melody and mirth.
8.52: The South Sea Hawaiians—Waltzes, "Choral Sands of Hawaii." "Love Time in Hawaii." "All by Yourself in the Moonlight."
9.0: Metropolitan weather forecast. Movements of travelling Dental Clinic.
9.3: The Orpheans—"Kalia." Accompanied by the South Sea Hawaiians.
9.8: Doug and Mac—Songs with Ukelele.
9.18: Frances Lane, contralto—"Rio Nights" (Vincent). Accompanied by the South Sea Hawaiians and the Orpheans.
9.23: N. Deans and A. McDonnell—Instrumental duets, "Hullo, Aloha." "Dreamer of Dreams."
9.30: Leith Morison—Steel guitar solo, "The Rosary" (Nevin).
9.35: The Orpheans—"Song of Hawaii." "I Thank the Moon."
9.42: The South Sea Hawaiians—Waltz, "Sad Hawaiian Sea." Fox trot, "Rose of Honolulu Breeze."
9.47: Leith Morison and A. McDonnell—Sreej and Spanish guitar duets. "Acree o'Clock in the Morning." "La Paloma."
9.55: The South Sea Hawaiians—Marches, "Hilo March." "Walkie March."
10.0: News supplied by the metropolitan dailies. Weather information; close down.

5CL

Central Broadcasting Station, 111 Hindmarsh Square, Adelaide (314 metres).

AFTERNOON SESSION.

3.0 to 4.30: See Friday.
EVENING SESSION.
6.0: Birthday greetings. 6.30: Dinner session. 7.0: Motor cycling notes; Stock Exchange; general market reports. 7.20: Dr. G. H. Wright, M.A. 7.35: Mr. J. S. Lower will speak on Motor Cycling activities. 7.45: Mr. A. M. Whittenbury, "Hints to Poultry Breeders."

NIGHT SESSION.

8.1: Programme review.
8.5: From Malvern Methodist Church, a concert, arranged by Mr. Fred Pilgrim—Fred Pilgrim, organist—"Glorious Memento" (Lemare). "Polonaise in A" (Chopin). Malvern Choir—"Blessing, Glory, Wisdom, Thanks" (Brewer). Una Andrew, contralto—"The Lost Chord" (Sullivan). Clarice Gmeiner, violinist—Selected.
Phyllis Webb, soprano—"Ave Maria" (Kahn). Malvern Choir—"Jerusalem the Golden" (Thompson). Ray Wood, bass—"Like as the Hart" (Allitsen). Malvern Choir, trio and chorus—"He Watching Over Israel" (Mendelssohn). 9.0: From Studio—G.P.O. chimes. 9.1: Meteorological information, including Semaphore tides. 9.2: Overseas grain report. 9.3: General news service. 9.5: Interval—Rupert Hazell and Elsie Day will entertain you. End of interval. 9.12: Concert from Malvern Methodist Church (continued)—Fred Pilgrim, organist—"Verset" (Gullman). "Prayer and Cradle Song." Malvern Choir (unaccompanied chorus)—"O, Gladness Light" (Sullivan). Clarice Gmeiner, violinist—Selected. Una Andrew, contralto—"Abide With Me" (Liddle). Malvern Choir (Soloist, Phyllis Webb)—"As Pants the Hart" (Spohr). Ray Wood, bass—"The Lord Is My Light." Fred Pilgrim, organist—"Second Sonata" (Mendelssohn). Clarice Gmeiner, violinist—"Andante from Concerto" (Mendelssohn). Phyllis Gibbs, soprano—"Hear Ye, Israel," and chorus, by Malvern Choir—"Be Not Afraid" (Mendelssohn). 10.8: From 5CL Studio—Rupert Hazell and Elsie Day will entertain you again. 10.15: News Session—"The Advertiser" general news service; British official wireless news; meteorological information; 5CL's sporting service. 10.29: Modern dance recordings. 11.0: Close down. (For 6WF and 7ZL Programmes, see Tuesday.)

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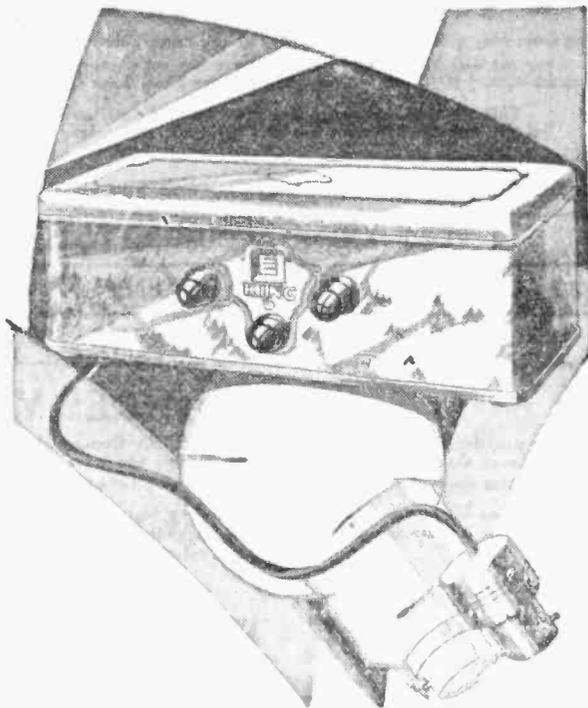
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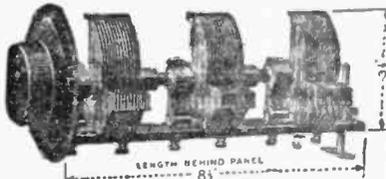
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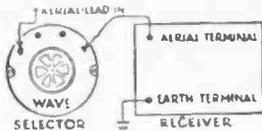
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The WIRELESS WEEKLY RADIO INFORMATION SERVICE

Under the direction of ROSS A. HULL

H.A. (Bondi).—Try reducing R.F. and detector plate voltage, and adjusting grid bias.

GENERAL.—Mr. William H. Jackson, Murrumbidgee, Victoria, wishes to know if any reader can supply him with copies of WIRELESS WEEKLY containing the "One Control Marco Four" and the "Renown Three." He will pay cost and postage.

CLARITY (Nallsforth).—Add six turns to secondary coil. Tappings O.K. Crackling sound in speaker may be loose connection or faulty transformer. No. 10 carrier wave cannot or should not be heard on the Neurodyne. Quite in order.

H.M.T. (Lockhart).—Condenser O.K. for short waves. Capacity .00015-.00025. Re coils, see Go-Getter article. Circuit shown is a Reinartz.

PENTHODE (Lanra).—Valves O.K., but use the 605 "C" battery for kind remarks.

D.F. (Beasley).—No room here to describe the alterations necessary. An article would have to be published on the subject. May be able to publish one at a later date. Follow out A.C. wiring of the A.C. Marco Four.

W.L.G. (Barwood).—Remove another five turns. The substitution of the other condensers mentioned will raise the wavelength.

H.N. (Newcastle).—Yes, use a wavetrap.

C.W.L. (Cremorne).—See circuit published a few weeks ago, "Screen Grid Marco." No circuit was attached to your letter when it reached me.

G.W. (Queensland).—"I am fifteen years of age, and have designed a transmitter (circuit enclosed). Will it work?"

Answer: The circuit is the well-known Hartley. The modifications shown in your circuit were given in a handbook published by the D.T. Sorry, but as has been announced numerous times, information on transmitters cannot be given to any unless they mention their call sign. It is necessary to hold a transmitting license before one can operate any type of transmitter. To obtain this license you must pass an examination.

M.D. (Denilquin).—Use an A409 and a B406.

J.H. (Ward's River).—Probably due to the paste being shaken from the plates. As the journey is a very rough one suggest you place battery in a butter box lined with sacks or some other shock absorber, or the battery could be placed in a sack and fastened in an upright position so that it is being transported from the back of the vehicle whilst it is being transported.

G.C.W.G. (South Australia).—Shielded coil O.K. Fifteen turns aerial coil. Wind on three inch diameter former, 26-gauge D.C.C.

R.K.L. (Armidale).—"Please give me a circuit of a 'C' battery for a King Quality Buffalo Set."

Answer: Your meaning is not clear. Do you want a circuit of that receiver, using grid bias, or a circuit showing "C" battery connections and tappings? The receiver is not known to you. You should have forwarded a circuit diagram of your receiver if you wish us to alter it to take grid bias. Re "Proving Radio" Club, write to Mr. C. Y. Hook, Organising Secretary, 29 Blairgowrie Street, Dulwich Hill.

M.C. (Fernterfield).—Condenser is placed at extreme right of panel. The 5-1 transformer is the first one, i.e., that placed to the left of the base-board. Yes, 3 1/2 transformer O.K. Plate voltage used will depend mainly on valves used, but 30 volts is sufficient.

J.J. (Queanbeyan).—Sounds like grid circuit trouble, or faulty detector valve. Test for both, and try a 100,000 ohm variable resistance across primary of transformer. You should hear a click when the components mentioned are tested.

G.W.G. (West Bankstown).—Thanks for kind remarks. Re "Proving Radio" Club, write to Mr. C. Y. Hook, Organising Secretary, 29 Blairgowrie Street, Dulwich Hill. WIRELESS WEEKLY is not connected with these clubs in any way. Connect the buzzer, battery, and jumping spring as follows: One side of battery to one side of jumping spring, and other side of spring to one side of buzzer. Other side of buzzer connects to other terminal of battery. You will gain nothing by connecting buzzer to all-electric 3-valve radio set. What idea did you have in mind?

W.S. (Hurstville).—Aerial should be insulated if supported by picture rail. Outside aerial better. Would improve reception. The idea of making couple detachable and gummed would be a very expensive proposition to carry out, and would mean increasing the cost of the paper. Thanks for offer. See below.

GENERAL.—Mr. W. H. Stibbs, 33 Empire Street Hurstville, writes, "I am filing all copies of WIRELESS WEEKLY for future reference, or to pass on to my children if asked for."

T.D. (Lansdowne).—Write to A.W.A. Angus and Robertson have some American publications which cover these receivers.

D.E. (Sydney).—See below.

GENERAL.—We have had many queries from readers desiring to obtain copies of the 1929

A.R.R.L. Handbook, which, for some time, has been unobtainable. As this book and the Admiralty Handbook of Wireless Telegraphy are the recommended text books for the Amateur Proficiency Course, readers will be pleased to hear that we have made arrangements with Messrs. Angus and Robertson, Castlereagh Street, Sydney, to have 1000 of these books available within five weeks.

S.C.M. (North Sydney).—Probably the pipe is not properly earthed. Re microphonic noises, place receiver cabinet on rubber sponges, and keep speaker away from set.

J.H. (Walkent).—Trouble is probably caused by a faulty detector valve or wrong grid bias. Yes, it is better to have separate "C" tappings. Glad you like "Radio Proficiency."

GENERAL.—Mr. H. J. Turnbull, No. 3 Flat, 83 Holdsworth Street, Woolahra, writes: "Noticing many requests for old numbers of WIRELESS WEEKLY, I desire to advise that I have a large quantity of same, which I would be pleased to dispose of at 3d per copy, plus postage, as offered by some of your readers. Copies are in excellent order, and list follows: August 2, 1929, Vol. 14, No. 6; July 5, 1929, Vol. 14, No. 2; July 12, Vol. 14, No. 3; July 19, Vol. 14, No. 4; July 26, Vol. 14, No. 5; June 21, Vol. 13, No. 26; June 28, Vol. 14, No. 1; June 14, Vol. 13, No. 25; June 7, Vol. 13, No. 24; May 24, Vol. 13, No. 23; May 31, Vol. 13, No. 22; May 17, Vol. 13, No. 21; April 5, Vol. 13, No. 15; March 8, Vol. 13, No. 3; March 1, Vol. 13, No. 10; March 15, Vol. 13, No. 12; February 22, Vol. 13, No. 9; January 25, Vol. 13, No. 5; January 18, Vol. 13, No. 4; January 11, Vol. 13, No. 3; January 4, Vol. 13, No. 2; December 28, 1928, Vol. 13, No. 1." F.G.M. (Strathfield)—Colville Moore, Economic Radio, F. V. Wallace, Price's Radio, Levenson's, Swains, etc., sell blue prints.

A.L. (Newcastle).—Uni-International Four better receiver. It has an R.F. stage. Yes, Wasp All-Wave is excellent. Coils could be wound on valve-bases as per the Screen Grid Midget Four. The Extraordinary One-Valve could be used as a short-wave receiver, with a 00015 tuning condenser and coils as per Go-Getter receiver. Blue-Spot Cone speaker is good.

G.R. (Hurstville).—Eliminator will suit your requirements, but it will be necessary to use a rectifying valve (firm will supply one for 12/6), in place of the 20L4.

T.A.N. (Mosman).—Suggest you alter the receiver to a Marco Four. You cannot expect the receiver to be so selective when using an aerial and earth, as pick-up is greater than with loop. A good wavetrap may help, or you could re-design aerial system.

BATTERY (Plumpton).—Impure zincs or aluminium. Two stages will be necessary.

C.A.S. (West Maitland).—Sorry, not enough details. Valves may be faulty, or wiring wrong somewhere, but impossible to tell you anything definite without something to work on.

P.C.W. (Croydon).—Circuit appeared in these columns recently. If you cannot trace copy, please advise, and we will replenish for you.

G.H. (Manly).—Yes, transformer can be used. Lowest ratio transformer may be used in first stage. Yes, Bradleystats may be used in place of rheostats. No, it is not necessary to discard the two volt valves.

J.B. (Eden Vale).—Use the choke and the condenser, as suggested in Q1. Leads for pick-up to G and A plus of detector valve socket. Baffle very small, but will work. Eumucosid O.K.

"NEUT" (Mudgee).—Receiver is not properly neutralised.

F.G. (N.S.W.).—Yes, add another stage of R.F. Suggest S.G. R.F. Circuit appeared in an article a couple of weeks ago. Consumption depends on valves used. A good short-wave receiver will pick-up stations in any part of the world under moderate conditions.

R.D. (Toowoomba).—"I have to thank you for answering my query, and to advise that the trouble has been overcome and set is working O.K. Regarding back numbers, I notice that you did not publish my address, so would request that you publish same in next issue, as I see there are still a good number of inquiries for back numbers."

Answer: Will publish your address below. N.M. (Sydney) was inquiring for your address. Sorry it was omitted.

GENERAL.—Mr. R. Draney, c/o Box 40, Toowoomba, Queensland, advises he has back numbers of WIRELESS WEEKLY available for readers requiring them under the usual arrangement.

K.J.H. (Bellevue Hill).—"Will you please mention that I should be pleased to hear from any reader who can supply me with a supplement of amateur stations as given in free with WIRELESS WEEKLY, dated March 31, 1929?"

Answer: Inserted as requested. Sorry cannot place the station, which is probably a Japanese amateur. We have no authentic list at the moment, and cannot trace the call JICT. Perhaps some reader can

advise. Address of Inquirer: K. J. Haps, 8 Buller Street, Bellevue Hill, Sydney.

"Go-Getter" (St. Peters).—Probably P.C.J.J. Holland or R.F.N. Russia. Quite O.K. for audio valves to become hotter than detector, since former valves take higher plate voltage, and greater filament power.

L.F. (Victoria).—"Many thanks for reply in 'Service' column. Am now getting along famously. I should have written to those readers you mentioned, but it was rather late when I got the opportunity to read my copy, and was afraid someone on the spot would have got in ahead of me; so would it be too much to ask if you would put a little par in to the effect that I will pay postage and cost of copies received of the 'Go-Getter' (May 10), also the supplement number (March 31)? The address is Mr. L. French, 20 Palmerston Street, Carlton, Victoria. I think the way in which you publish the home-building articles is perfect. No detail is too small for you to describe—a big thing to the beginner like myself, and which, I may add, is conspicuously lacking in the articles of other radio journals."

Answer: Request published. Thanks for kind remarks.

"Mareus" (Newcastle).—May be due to the fact that Newcastle is a bad area for distant reception, or that the receiver is not neutralised.

J.S. (N.S.W.).—Try up to 200 feet.

E.L.T. (Lismore).—If the filament returns are common the two tuning condensers can be ganged. This will mean that the present cabinet will be useless (writer has had experience with this type set), as components are made to fit in almost exactly, and there is not such "breathing space." The shield for the R.F. stage will prevent the two condensers being ganged "in line." If the filament returns are not common the condensers may be ganged, but their rotors must be insulated.

MAC (Merewether).—If you can collect all back number of "Proving Radio" and "Amateur Proficiency" these will help considerably. However, in this issue you will find several interesting articles for the beginner.

T.A. (Newcastle).—This cannot be done. The step down transformer can, however, be used with the primary connected directly to the mains (A.C.). The transformer will not step down D.C. from the eliminator to use on filaments of valves. A.C. valves should be used if transformer is used off A.C. mains. Self transformer no good for this purpose. Not enough current. "C" tappings cannot be used for "A" supply. Current too low.

J.A.S. (Wagga Wagga).—As per R.F. stage of Marco Four. Possibly a re-broadcast from some Inter-State station testing.

W.S.F. (Taree).—A415 or UX199.

"A FIFTEEN-YEAR-OLD" (Lidcombe).—Yes, receiver would work on short waves using a short wave adaptor. Do not advise use of home-made eliminator on S.W., as hum will probably be troublesome on phones. Yes, you could receive Holland on headphones and under normal conditions on the speaker. They come through well at times. You could use two Ever-Ready 45-volt "B" batteries in series. Second combination of valves would be better. Shielding would be an advantage.

A.H.L. (Maroubra Junction).—The condensers cannot be used. They are of too small capacity, and it would be worse still trying to use those condensers and coils wound on 2-inch formers. Tuning would be very broad.

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 question brief to the point, and, where possible, show lay-out and wiring design. Under no circumstances will answers to queries be made by letter or by telephone. All answers will appear in the columns of this department in the order in which they are received.

The Radio Information Service, 234 Pitt St., Sydney
Please answer the accompanying queries in this column in order to indicate that I am a bona-fide reader.



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NOTE:—The above receivers really have one more valve than is described, but this is the rectifier. The number of valves given applies to actual receiving valves only.

For full particulars, call, telephone, or write to

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Radio Engineer,

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A.J.B. (Parramatta).—1. Probably 3AR or 7ZL. 2. The consumption is five times .25 amps, equals 1.25 amps. Life of battery before re-charging depends on use given set. Intermittent should be about 40 hours; thus, if set is used four hours each day, should last for about ten days before re-charging is necessary.

GENERAL.—Re Power Amplifier, the diagram published on page 17, July 26 issue, shows R4 returning to No. 10 terminal instead of (obviously) No. 14 terminal.

J.J. (Newcastle) asks if the radio frequency and detector of the Standard A.C. Four can be used with the amplifier described in WIRELESS WEEKLY of August 2, and supplied from the pilot power pack.

Answer: No, aside from the rectifier tube being insufficient the rating of the Pilot power transformer is only 60 m.a. Providing a single output valve were used in place of the push-pull stage the power supply would be satisfactory.

(2) The low ratio transformer might well be used in the first stage, since its primary importance probably will be the higher of the two, and consequently more suited for the detector plate circuit.

(3) Yes, the condenser will still be necessary in order to isolate the speaker windings from the plate circuit of the power valve.

(4) Suggest you use tapping from top of R4 for first audio. This may be preferable to the No. 5 terminal.

(5) Yes, an A.C. Super is under consideration at present. Thanks for comment and corrections.

R.E.D. (Newtown).—Not rectifying properly. The UX21A is NOT designed to be used as a power rectifying valve, but may be used as such by connecting plate and grid together. Do not think circuit is efficient enough for four valves. Try removing earth connection from eliminator primary. Keep all twin A.O. leads in double net. Regarding "Radio Proficiency," the 7 was a misprint, and should have been E, so that it would read E equals 18—that is, E equals 2 x 3, equals 6 volts. Resistance breaks down the voltage. If you have a battery giving 6 volts at 4 amps., and you desire to break this down to 4 volts you would find resistance required by the formula R equals E over I—that is, R equals 2 over 4, equals one half ohm, or .5 ohm.

GENERAL.—Mr. E. Evans, Bridge Street, Newtown, Toowoomba, writes:—"Will you please insert a paragraph asking if any reader can supply me with a copy of WIRELESS WEEKLY, dated October 15, 1927? I am willing to pay postage, etc."

D.P. (Coolah).—Three valve Harkness Reflex O.K. Three valve Reinartz would suit your requirements also. Blue prints, etc., obtainable from Colville Moore, Economic Radio Stores, Levensons, etc., etc.

W.T. (South Kense).—Induction from tram cables evidently. No perfect remedy, but see that aerial is running at right angles to line, and if this does not improve matters try a counterpoise in place of an earth.

A.W.K. (Artarmon).—Yes, had to borrow a microscope to read your letter. At least, two audio stages necessary, three if resistance coupling is used. It is possible to overload a horn speaker. Clarity is lost when speaker overloaded. Perth's wavelength has not been discussed yet to my knowledge, though it is likely that the wavelength will be reduced. No, it would not be a very costly job. For the secondary use about ten turns, reaction six turns. Secondary is next to aerial coil.

R.W.S. (Balgowlah).—Yes, the Reinartz Three has been published many times in WIRELESS WEEKLY but we are sold out of all copies containing this circuit. However, blue prints may be obtained from the firms mentioned in reply to D.P. (Coolah) above.

W.C.R. (Dungog).—You have answered quite a lot of queries for me lately and all of them have cured my troubles. I am very interested in wireless, and intend to learn trade as an electrical engineer. I am not yet 15, and think it better to start early, so I will leave matters in your hands. Will you be kind enough to recommend the best way to go about learning as much about wireless as possible?

Answer: Your situation makes it difficult to study at any of the Sydney classes. Are there any radio clubs in your district? If so, join. In the meantime, try to obtain a complete set of back numbers of "Proving Radio" and "Amateur Proficiency" courses. If you are unable to obtain these drop a line, and we shall be pleased to insert a par for you in the hope

that some reader can supply. Write to Angus and Robertson, Castlereagh Street, Sydney, for a list of elementary books dealing with frictional and static electricity, etc., and get one or two books at a time. If you joined the Marconi School you could study radio at home, but it would be necessary to come to Sydney for a certain period in order to undergo practical instruction. The fee for this school is £50—£24 deposit. Keep following the "Amateur Proficiency" course when you have studied up previous articles. Perhaps you could organise a radio club amongst your friends. Write to Mr. C. Y. Hook, organising secretary, Proving Radio Club, 29 Blairgowrie Street, Dulwich Hill, who may be able to help you in this regard.

"CRYSTAL" (Bexley).—Suggest you add a two valve amplifier. The receiver will then work a speaker. Circuits have appeared in recent issues, also in "Proving Radio" a one-valve amplifier was described in detail. You will require two transformers, two valves, sockets, and a jack. The other parts mentioned may be used.

F.R.G. (Jones Island).—Condensers may be used. Choke is in correct position, but choke is not required when using receiver as a one-valver. Try shorting it out. Detector valve may be faulty, or you may not be using enough plate voltage. Try a .001 fixed condenser across phone terminals. Coils described are known as "Lorenzo." Filament wiring is quite correct. Makes no difference which way round the filament leads are connected to the socket. Coils may be wound as suggested.

R.B.B. (Queensland).—"My receiver has splendid tone, but the slightest movement of the hand away from the tuning dial causes the music to disappear."

Answer: Reverse connections to condenser.

T.R.H. (Queensland).—"I have a two-valve Reinartz in correct position, but with a fixed condenser reception is very weak. Without condenser a lot of oscillation is experienced. This can be eliminated by placing hands over 'phones.'"

Answer: Which fixed condenser do you refer to? There are several in the set. Try reducing detector plate voltage, and place a .002 fixed condenser across secondary of last transformer.

L.D. (Windsor).—Try 500 turns 24 gauge wire on a three-inch former. Eliminator O.K. for three valves. Glad you liked "Proving Radio," your suggestion being considered.

J.C. (Kozelle).—You should know that a six-volt valve is not necessarily better than one requiring four volts on the filament. Different types of valves have different characteristics which make them suitable or otherwise to a certain circuit. Impedance is a term indicating the resistance inside the valve to the electron stream between filament and plate. The slope curve indicates the plate current drawn at various plate voltages and grid bias adjustments. Not everybody can use costly material. Because the article we used was cheap this does not mean to say it was useless. Frankly, we are using them still, and they are quite satisfactory. You say: "Why use them if it is your policy to use only the best." Well, in the case mentioned, we can, at least, say we were using the best of moderately priced components. An output transformer is usually incorporated. An article dealing with the selection of valves appeared some little time ago.

F.R. (Randwick).—Your letter has been dealt with.

GENERAL: W. G. Cumming, 89 Shadforth Street, Newtown, writes:—"I have copies of WIRELESS WEEKLY from March 29, 1929 (Vol. 13, No. 14) to the present date, which any of your readers may have at 3d per copy plus postage."

H.R.H. (Burwood): (1) Circuit O.K. as far as wiring goes, but as has been pointed out many times, two stages of transformer coupling constitutes a practical unit. Using three stages you will get distortion.

(2) Three 45 volt "A" batteries.

(3) A415, A409, B406.

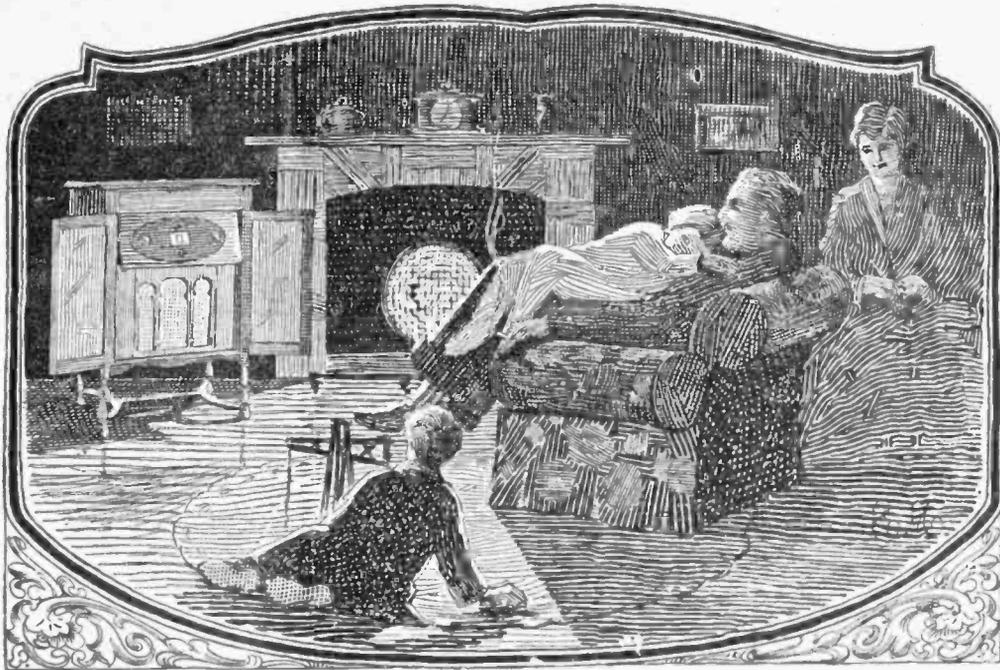
(4) Ct. .00025 mfd., C2, .0005 mfd. Two megohm grid lead.

(5) Leave off last stage, or use the material for an R.F. stage.

(6) Yes. One "A" battery will be sufficient.

C.M. (Burstville): Work out from the A.R.R.L. Handbook to suit your requirements.

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A. J. M'K. (Cobbadah): Wavetrap will help. Try a .0001 fixed condenser in series with aerial. Loosen coupling between your primary and secondary.

S.P. (Nairne): Think you have the call wrong. Can trace no station with this call.

"KUG" (Five Dock): Increase number of turns in same ratio as size of formers is decreased, only allow a few extra turns so that coils can be adjusted. Same aerial will be O.K.

L.C.T. (Brushgrove): Thanks for the coupon, but you should have repeated queries. Haven't struck your letter yet.

L.T. (Queensland): The best way is to have several types of receivers demonstrated at your own home. Set mentioned would be O.K. Yes, there is sometimes an advantage in having more than one dial control. Finer adjustment may be possible.

E.H. (Lismore): Parts O.K. Yes, aerial coil can be left out, but you may suffer from interference. 00035 condenser O.K. for reaction. Re valve base coils, see article on S.G. Short Wave Midget.

GENERAL: Mr. W. Sumner, Goolwa, South Australia, writes:—"In the issue of WIRELESS WEEKLY dated February 22, 1929, there was a layout of a circuit for short waves to plug into any ordinary receiver. I have a habit of lending my WIRELESS WEEKLIES, and when I went to get the book the other day I found that someone had got in before me—the whole of the article and circuits were torn out. Would you kindly inquire through your columns if any reader can supply me with this copy, for which I will gladly pay."

R.D.L. (Wollstonecraft): No, charging rate too slow. You can use the D.C. mains to charge your 6 volt accumulator by inserting suitable resistance lamps.

A.E.J. (Rankin's Springs): (1) The B605 is a power valve.

(2) Power valves require a higher grid bias than ordinary audio valves.

(3) Cone speaker can be used without using extra "B" batteries.

(4) Not enough grid bias on audio.

(5) Depends on capacity of accumulator. Divide this by four and add ten. This will give approximate charging rate in hours.

(6) Rheostat unsuitable. Does not carry current. Replace.

(7) Power valve will not stop fading. No effective remedy.

(8) Pick-up can be used. Connect to primary of first transformer.

(9) Short wave adaptor can be used without changing coils, but R.F. valves must be removed.

(10) Please limit questions to six.

W.M. (Leichhardt): I wish to be put in touch with a reader who has constructed the Renown Three and has it successfully working. I will compensate him for any time or effort devoted towards effecting the same service for mine.

Answer: Your previous letter was dealt with some few weeks ago, and a request was published asking some reader to get in touch with you. We are pleased to publish the request again. See below.

GENERAL: Mr. W. Meyers, 194 James Street, Leichhardt, asks if any reader who has successfully built a Renown Three receiver would be willing to give his assistance with a similar receiver which is not functioning properly. Mr. Meyers offers to compensate his helper.

GENERAL: Mr. A. Whitehouse, Woodburn Road, Lidcombe, writes:—"May I ask through your columns if anyone has a WIRELESS WEEKLY containing the original Marco Four, published February 1, 1929? Will pay for copy and postage."

G.H. (Madly): (1) "Is the Renown Three O.K. for my district?"

Answer: Yes

(2) "The Renown calls for two A.V.A. transformers, 5-1 and 3½-1. Can I use a Sirling 4-1? If so, what stage?"

Answer: Transformer can be used. Place smallest ratio transformer in first stage.

(3) "I have three Bradleystats. Can they be used?"

Answer: Yes, in place of the rheostats.

(4) "Can I use two-volt valves, Mullard, or must I discard these which I have at present, together with two-volt accumulator, for a four-volt outfit?"

Answer: No, the two volt valves and accumulator may be used.

G.G. (Bargo): "Please would you let me know through the service columns the following:—Is it necessary to use a hard-rubber panel for the Countryman's One Valve, or would ordinary thin wood or three-ply do instead? I am only 15 years of age and have not much money to spend on a receiver."

Answer: The wood or three-ply panel will be quite O.K. Your request is published below.

GENERAL: Mr. George Gasson, Bargo, desires to thank Mr. Taylor, 210 William Street, Granville, for the copy of WIRELESS WEEKLY he so kindly forwarded.

R.C. (Queensland): "Is it possible to step down the house lighting plant for "A" consumption? Supply is 32 volts."

Answer: If this is of the wet battery type, it may be tapped at four volts. If D.C. generator type, a resistance in series with the positive lead will do the trick. Value of resistance depends on current. If it is A.C. will be necessary to step down through a transformer, then rectify.

(2) "In my Countryman's One Valver a persistent whistle is heard on 3LO. How can I get rid of it?"

Answer: Move the inner coil outwards, or if it is all the way out remove a few turns. Suggest you make the addition recently published under the name "The Improved Countryman's One Valver," as this will do away with the necessity of adjusting the coil each time. Your coil is probably too large. When the valve is used as a detector, with no audio stages following, 22½ volts is usually plenty. If too much plate voltage is used, valve will oscillate.

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12/6

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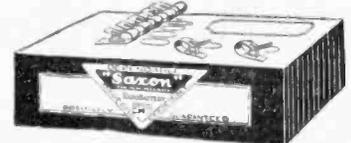
16/6

60-volt Light Duty Saxon



22/6

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