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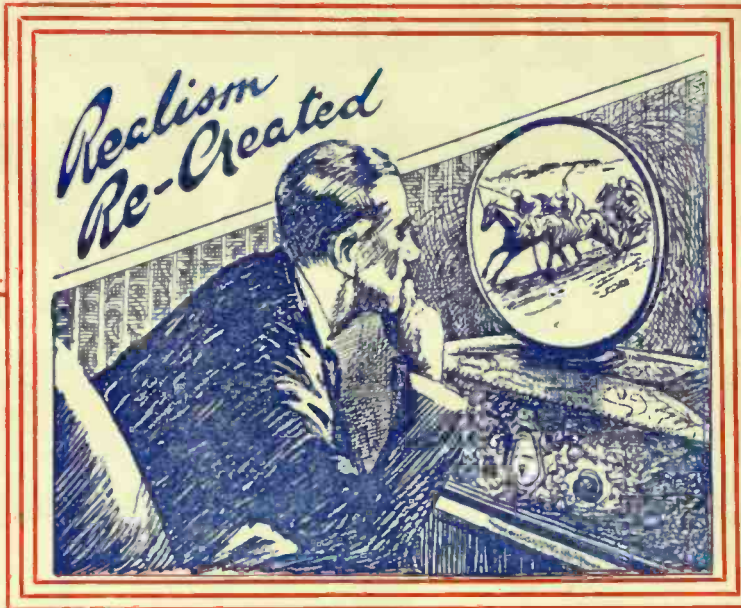
Building a Screen-grid Booster Unit for Small Sets

REVIEWING THE B.B.C.

CHOOSING THE RIGHT VALVE
By ROSS A. HULL

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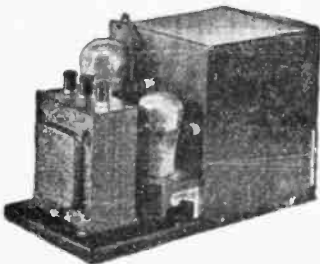
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ARE WE MUSICALLY IN THE 1890's?

Mr. Arthur Benjamin, whose recital at the Conservatorium on Friday night will be broadcast by 2FC, thinks so. In this interview he talks of modern music and tells of plans to write an opera.



Caricature
by Roy

A SANE EXPONENT of modern music is found in Mr. Arthur Benjamin, the young Australian composer, who will give a recital of his own compositions at the Conservatorium on Friday.

"Australia musically," says Mr. Benjamin "is living in the 1890's. This is because we don't hear enough modern music; and consequently, what seems strange out here is already accepted where people grow up among modern composition. With many people there seems to be an idea that music stopped with Wagner; but you can no more stop the growth of music or of any other art than of evolution in biology."

May Write Opera

We met Mr. Benjamin while he was in the company of a certain Mr. Nolan; and the talk was upon musical matters of high importance. Most of the English critics, said Mr. Benjamin, were not taking too kindly to modern compositions. He instanced several new works (among them the charming English opera, "Hugh, the Drover," by Vaughn Williams), which, he said, had been adversely criticised at their first appearances. "I feel I should like to write an opera myself," he said, "and I have begun a study of dramatic methods by writing plays; but I am afraid these aren't quite fit for production." He remarked on the greatness of Verdi, who was able to throw aside the old Italian operatic methods, and learn the lessons of Wagner

even when he was an old man, and to produce such operas as "Aida," "Otello," and "Falstaff." Mention of the last caused Mr. Benjamin to shake his head in silent admiration. "He was 82 when he wrote 'Falstaff,'" said Mr. Benjamin; "most composers are burnt out before 60."

We asked about modern composition and Mr. Benjamin said: "You must remember that we are living in modern times. I believe that the modern composition should be succinct and economical. All essentials should be omitted. Moreover, the effects of grandeur of the old composers are gone, and music is being used towards different ends—it expresses more delicate emotions in a more highly sensitive manner—singing of those things which please not only the emotions but the intellect. The composer is also become more restrained; but, above everything, the aim of the modern composer is still beauty. I can't define beauty. You must remember and this is very important—you must remember that what is not beautiful to this generation may be beautiful to future generations. If you want illustrations of this they are Beethoven, Wagner, Gauguin, and many others."

Rhythms of Jazz

Of jazz he said: "The jazz rhythm, and only the rhythm, is a very interesting addition to music, and I have no doubt that it may result some day in a prominent and individual form of good music. The waltz, for instance, was once an affair of the music halls, but Chopin made a work of art of it. Of course I only refer to the rhythms of jazz. The tunes

Friday night's concert at the Conservatorium will be broadcast by 2FC, and promises to be one of the most interesting musical features of the year. It will be a "bucks" party, so Mr. Benjamin confided; because men only will perform the solo and grouped works. Things we should listen specially for are the String Quartet, which won the Carnegie prize in 1923; a Sonatina for violin and piano, which has three movements, the last of which is notable for rather jazzy rhythms;

and a Suite for piano alone, which will be played by Mr. Benjamin.

An interesting group of songs, three impressions, will be sung by Mr. Spencer Thomas to a string quartet accompaniment. The first of these is of a cold winter's day with snow falling, the words by a man who wrote in England under the name of Sharp, and in Ireland under the name of Fiona M'Leod. The second is an impression of the misty sea; and the third is quite a novelty, being an impression of a wasp, the buzzing of the wasp being heard in the strings until finally he swoops to sting. People always want to know how the buzzing sound in this song is created.

Brief Compositions

The two compositions for two pianos were composed some time ago in Australia expressly for Mr. Lindley Evans and Mr. Frank Hutchens. One of these has a marching theme which, on account of a rather humorous treatment, made its first audience laugh and demand an encore.

And that's that, and Mr. Benjamin, by the way, says he never prolongs a composition beyond its own merits, so that none of his work may incur the blasphemy of "tedious." The sonatina, which has three movements, takes only 16 or 17 minutes.

Mr. Benjamin was born in Sydney in 1892, and was educated in Brisbane. In 1911 he went to England, where he won an open music scholarship and continued his musical studies. During the war he served with the infantry, and later with the R.A.F., with whom he had the bad luck to be shot down and taken prisoner. When these troubles had subsided he returned to Australia, and for two years gave lessons in the pianoforte as a member of the staff of the Sydney Conservatorium. Then he returned to England, and appeared with success at the Queen's Hall under Sir Henry Wood. Since then his name, both as a composer and as a pianist, has become more and more widely known. Several of his compositions have recently been performed in Germany, where he expects to make a tour during the next German spring. Thus does he heap coals of fire upon the ears of his former captors!

BETWEEN YOU AND ME AND THE MICROPHONE

A Vulgar Quarrel, or Great Thoughts From Small Beginnings

WE had an argument the other day with the man who does the drawings for this page. He said it was time we gave him some public recognition for his work. We said we couldn't think of doing such a thing. He said he'd be damned if he'd remain anonymous any longer. We said he'd achieve the same result, any way. We being a gentleman, and he being a common artist, there was no friction; but he simply refused duty. So we were forced to do the heading on top all by ourself. But we have a soft heart. It is in the right place. Therefore, for no other reason than that we couldn't do without him we allowed him to return to his duties on the one condition that his name—his baptismal name—John should be mentioned whenever we could find space for it. He only had time to do the drawing below; but we forgive him this once, and hope he won't be naughty any more. (The Cow!)

However, this vulgar squabble about names has stirred us up considerably. Instead of being respectable employees of WIRELESS WEEKLY it makes us look for all the world like nothing else but broadcasting artists! We are perturbed. We are still trembling with anger. We can write about nothing but quarrels; so this week's contribution to world knowledge shall be "On the Quarrels of Great Men," because, of course, it doesn't matter what we write about we are always sure of an audience; because a friend told us the other day that if people will read this page they'll read ANYTHING!

On the Quarrels of Great Men

IT has been said somewhere or other, probably in the Bible, that great men have less tendency to quarrel than little men, because great men are too great-souled to worry about quarrelling, since the really great men are the thinkers and creators of the world, and quarrels are too mean and little-minded for creative genius, being more proper to the little men who, fearing life, strike blindly at all about them. But this is all really nonsense.

We don't know why it is nonsense; but it IS nonsense; and, any how, we have made the first sentence so long and complicated that no one can possibly understand what we are saying is nonsense, and contradict us.

Yet, seriously, it is nonsense; because even if a great man doesn't quarrel with another great man, he is bound to be quarrelled with by some little-minded man for the very reasons which make his greatness. Thus is the great man brought to earth by the little man. Look at John and us—pardon us—Us and John.

And in any case we don't think there really are any great men in this world—we are all the same kind of croaking frogs, swelling larger and larger and larger on the breath of fame and flattery until we are grown large enough to gain the attentions of the kind-hearted Boy with a Pin, who pricks the bladder of our egotism and sets us down forever into the satisfying nonentity of ordinary frogs.

Which is all very nice and beautiful; but has removed our subject several paragraphs too soon. Ending your paragraph too soon is rather a nuisance, because writing a page like this is something like doing the donkeyman act on a building crane. You begin at the top of the page, hung in mid-air by nothing but the exceptionally fine thread of your imagination, and you whistle to your inspiration, which drives your imagination to let 'er go. Then you get down one column, up again to the top of the next, and down again; then u'



to the top of the next, and start off down again, when suddenly your inspiration goes to sleep and the crane stops working. Then you've got to whistle like hell to your inspiration to wake up, because you can't stay there suspended in mid-air all day, because the foreman may see you, and then your inspiration wakes up and you go down again.

Down,

Down

Down This down,

Down

Down idea was used in "Alice in Wonderland" somewhere, but we forget where. At least, we think so it is ten o'clock—about time we were getting home to bed.

The more we think of IT the more John reminds us of a Frog

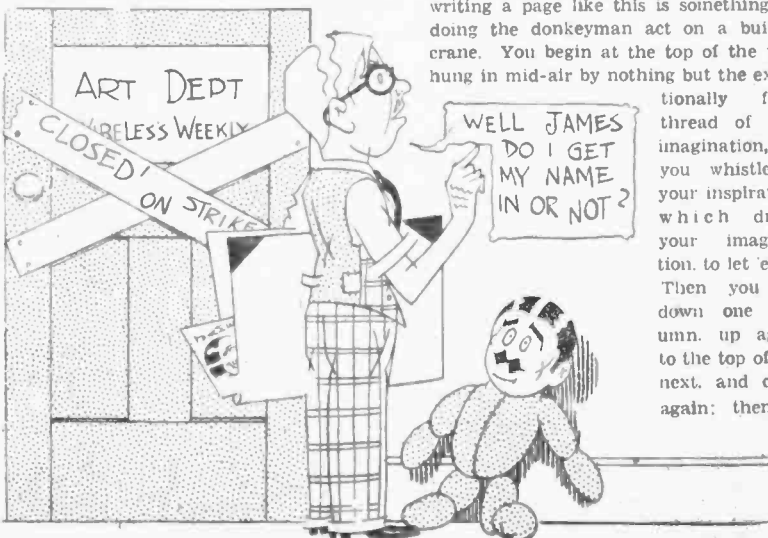
Down,

Down,

Down! Here we are at last, and, thank Heaven, that's over.

P.S.—The bloke from the Composing Room told us that even after the Downs had been extended to their fullest, there was still more space to be filled. So, after telling him to go DOWN several times, we decided to use this space to apologise to our advertising manager, Mr. Morse, who tells us, with tears in his eyes, that last week's reference to his horrible and habitual cigar had caused domestic unpleasantness. Mr. Morse asked us how we'd like to be referred to in such a manner. In reply, we thanked Heaven we didn't have anyone to worry whether we smoked cigars or opium; and finally quenched all argument by reminding him that he was only an advertising manager after all.

James



CHOOSING the RIGHT VALVE for the RIGHT PURPOSE



SEVERAL years ago, when there were only a few dozen different types of valves available on the market, it was a relatively simple matter to sit down with a few valve lists and memorise all the type numbers. Then, after a few weeks of experiment with different valves and a study of the characteristics of each type, it was possible to have a more or less permanent picture of each valve—its approximate characteristics and its suitability for operation in some particular role. At the present time, however, this sort of procedure is no longer practical. So great has been the valve development work throughout the world, and so extensive has the variety of valve types become, that the individual who can memorise them all these days must surely be a mental contortionist.

During the last three years we personally have been rather out of touch with the English and European valve developments, and as a result we have had a devil of a time trying to grasp all the new type numbers and to gain a picture of the valves they symbolise. From our own confusion we have gained some idea of just how difficult it must be for the beginner to make head or tail of all the valves with which he is faced. In the valve booklets and leaflets he finds virtually hundreds of different types, each with its own apparently dizzy type number, and each having some particular values of Plate Impedance, Amplification Factor, or Mutual Conductance. In much of the manufacturer's literature the valves are grouped into some sort of classification; but even with that aid the valve selection business must be a most difficult one. Judging from the constant influx of inquiries on the matter, it would appear that there are many enthusiasts who have not the slightest idea of the process of deciding whether a valve is suited for a given set of conditions or not.

First, it would be well to endeavor to clear up a couple of quite serious and common misconceptions about valves. "I always use XY-347-C valves all the way through my set" is a statement often heard; "they have such a marvellous tone." The idea that valves have a tone all their own is, of course, quite an absurd one. There are many things which can be said about the characteristics of valves, but the specification of their tonal qualities is not one of them. Another false but quite common idea about valves is that they can be described as good, bad, or indifferent, just as valves, without reference to the work for which they were designed or the constants of the apparatus with which

they are to be associated. Some beginners have the notion that, just because one type of valve works better than another in the first socket of their receiver, it is therefore a better valve. The business of condemning a certain type of valve just because it does not operate well in one of the sockets of a receiver is just about as sane as slamming a motion picture projector machine simply because the show it provided was a "Wild West" story instead of a sentimental love tale. The valve, like the movie projector, is a useless piece of apparatus by itself. The valve with suitable associate circuit constants, and the projector with a satisfactory film, both can turn out a worth-while performance.

There are not many different roles that the valve is asked to perform in a receiver,

The set-builder who follows closely a magazine description of some receiver usually manages to have the right type of valve doing the right work. Just as soon as enthusiasts start to use their own judgment, however, they frequently get off the track.

Modern valves are highly specialised and if they are to operate well they must be doing their own particular job under the correct conditions. The factors influencing the choice of valves for any radio receiver are given consideration in this article by Ross A. Hull.

but the operating conditions in each case vary widely. Any one type of valve will function in any socket of the receiver, but the maximum results can only be had by using, in each section of the receiver, valves with characteristics suitable for the work they are to perform.

A great many pages could be filled with a description of the characteristics of any one type of valve; but, fortunately, most of these would be of no particular interest or value to the enthusiast engaged simply in selecting valves for his receiver. The characteristics of greatest consequence to him are the ratings of the filament, the amplification constant, and the plate impedance.

The two latter are somewhat involved, but at least the filament rating offers no terrors. The complications of the multitudinous type numbers are simplified to some extent when it is realised that they are readily subdivided into groups with different filament ratings.

First there are the three basic groups into which the valves may be placed—the direct-current filament valves, the directly-heated alternating current valves, and the directly-heated a.c. valves. The d.c. valves, for instance, may be subdivided into groups according to the filament voltage. There is the two-volt family, of which there is a whole range of valves suited for all ordinary purposes, and all having a filament designed to be operated from two volts. Then there is the four-volt family in which can be found tubes similar to the two-volt types in all respects except filament voltage. Further, there is the six-volt group, in which a full range is again to be found. In the a.c. filament group a similar variety of types is in evidence, and there are to be found d.c. and a.c. valves in which the only important difference is in the rating and type of filament.

With the type of filament supply decided upon, it is therefore possible to narrow down the possible valves to a reasonable number, and to give particular consideration to their other characteristics—the plate impedance and the amplification factor. The plate impedance of a valve is really the resistance inside the valve to the flow of electrons between the filament and plate. It is an important consideration in the valve, since its ability to put energy into the circuit connected to its plate is greatly dependent on the relationship of the valve impedance to the impedance of the external circuit. The plate impedance of a valve is almost invariably given by the manufacturer, and for a start the enthusiast need not worry very much about the manner in which it is obtained. However, it can be mentioned that the plate impedance is found by changing the plate voltage on the valve, noting the resulting change in plate current, and then dividing the plate voltage change by the plate current change. From this it can be seen that, in a low impedance valve, if the plate voltage is changed there will be a considerable change in plate current, while in the high impedance valve the plate voltage can be varied to the tune of slight variation in plate current.

The other important characteristic, the amplification factor, is really a measure of the controlling influence of the grid over the electron stream. It is the relationship between the change of grid voltage and the change of plate voltage necessary to give the same change in plate current. When the plate impedance is divided by the amplification factor we get a result which can be considered as a figure of merit for the valve. It is the mutual conductance or slope. Sometimes it is expressed in micro-ohms, but more generally in milliamperes per volt. It is a measure of the effectiveness of changes in grid voltage in causing changes in plate current. These terms and their approximate definitions may sound awkward, but even a superficial knowledge of them will help greatly in avoiding the use of valves which are fundamentally unsuited for the work they are to do.

RADIO-FREQUENCY AMPLIFIERS.

Let us first consider the valves which are particularly suited for use in the radio-frequency amplifier, and let us limit the discussion for the moment to the three-electrode and not the screen-grid types. The radio-frequency amplifier valve is usually situated between two tuned radio-frequency circuits, and its work is to receive voltages from one of them, amplify the voltages, and hand them on to the second tuned circuit. At the same time, it must be so arranged that the amplified output of the valve must not be able to get back to the input or grid circuit. This back coupling is avoided by some means of neutralising in most cases, an arrangement being provided to balance out the capacity between the grid and plate of the valve, which usually is responsible for the trouble.

In circuits where no neutralising is used it is important that the grid to plate capacity be small, and, in any case, this capacity is an important consideration. Unfortunately, the information on this point is usually missing from the valve-makers' literature, and no practical advantage can usually be had from a study of the inter-electrode capacity problem. Aside from this point, the factor of merit of a radio-frequency amplifier valve can be stated as the amplification factor divided by the square root of the plate impedance. Hence for a given value of amplification factor the best radio-frequency amplifier will be the valve with the lowest plate impedance, and incidentally the lowest grid to plate capacity.

In practice it has been found that the maximum useful amplification factor for a neutralised three-electrode radio-frequency valve is of the order of 30. The lower limit is usually considered to be about 12, and the useful radio amplifiers are therefore valves with amplification factors between these limits. If two types of valves are available, both with the same amplification factor, the type with the lower plate impedance probably will be the more effective radio-frequency amplifier. Of course, in stating this it is presupposed that the inter-valve coupling transformer is to have a primary suited for the value of plate impedance chosen—a supposition which, unfortunately, involves many complex considerations, which we will have to discuss at some other time.

THE SCREEN-GRID VALVE

In the case of the screen-grid valve as a radio-frequency amplifier, the same factor of merit holds good. In these valves the grid to plate capacity has been reduced to such a low point that much higher amplification is possible without neutralising than with the three-element valves.

Nevertheless, the grid to plate capacity is still of the greatest importance. This capacity in many of the valves is of the order of .01 micro-microfarad, but when it is decreased to .006—as is the case in one recent valve not yet on the Australian market—the possible amplification without neutralisation is more than doubled. On account of

their high mutual conductance, their high amplification factor, their high plate impedance, and their very low grid to plate capacity, the screen-grid valves are quite on their own as radio-frequency amplifiers. However, the design of the coupling transformer used with them is of great importance, and the most disappointing results can be had if it is not given careful attention.

DETECTOR VALVES.

There are two types of detectors in general use. One is the grid leak and grid condenser type of detector, in which the rectification takes place in the grid circuit, and the other is the plate circuit's detector, which operates with a high negative grid bias, which causes the valve to operate on the lower bend of its grid voltage-plate current curve. Valves particularly suited for use as grid detectors are not necessarily satisfactory as plate detectors.

The plate detector valve should have a high amplification factor to give high sensitivity with the lowest possible plate impedance. The valves suitable for the work have amplification factors of 40 or more, and usually their plate impedance happens to run above about 40,000 ohms. The screen-grid valve is, therefore, a splendid valve for plate detection work. Since these detectors have such a high plate impedance they rarely can be operated successfully with an ordinary audio-frequency transformer following them. A very high inductance choke or a resistance coupling arrangement is almost essential for feeding the output of such

detectors to the audio grid circuit. Valves of this type—with an amplification factor above about 40—are also well suited for use in a resistance-coupled audio amplifier.

For the grid detector, to be used in conjunction with an ordinary audio-frequency transformer in its plate circuit, a high amplification factor is desirable, providing the plate impedance is not much above 10,000 ohms. Hence the good detector valves have amplification factors between about 15 and 24, and plate impedances varying between about 6000 and 9000 ohms.

Valves used in the first audio-frequency amplifier stage should have plate impedances of this order, but it is desirable that the amplification factor be not much in excess of about 10. Higher amplification factors result in greater gain, but they mean an unavoidable loss of high audio-frequencies.

FOR THE LAST AUDIO AMPLIFIER.

The three-electrode power amplifiers, as distinct from the pentode series, are all valves of very low plate impedance and low amplification factors. Such valves are usually well defined in the manufacturer's data sheets, and there is therefore little chance of the enthusiast using the one for the wrong purpose. The use of unsuitable valves in the output amplifier, however, is still a very common fault, and for this reason the subject deserves at least some discussion. The primary requirement in the three-electrode power valve is a plate impedance of not more than about 5000 ohms and an output transformer designed to work with whatever plate impedance is selected. A great many of the power valves have plate impedances of 2000 ohms, and, in consequence, most magnetic speakers and many output transformers are designed for this figure.

However, some power valves have plate impedances as high as 5000 ohms, and output transformers suited for them are obtainable. Usually the amplification factor of the power valve is somewhere between three and six. Assuming that these requirements have been met, one important factor or merit of the power valve is its undistorted power output rating. For those who may be interested it may be said that this rating is obtained for valves where grid current begins to flow at zero grid volts, by multiplying the square of the grid bias by the square of the amplification factor, and dividing the result by eight times the plate impedance. From this it can be seen that for valves of the same amplification factor and plate impedance a high grid bias rating is indicative of high undistorted output power. As far as we can discover, none or very few of the English or European valve manufacturers give the output rating of their power valves, but it can be obtained in most cases from the formula given. For truly high quality musical reproduction it is generally agreed that a rating of at least one watt is desirable when a magnetic speaker is used, and three or more watts when a moving-coil speaker is to be fed.

THE PENTODES

The pentodes, of course, are in a group all by themselves, since their peculiar characteristics permit them to operate effectively as output valves, even though their amplification factors and plate impedances are very high. The number of types at present available is so small that there is not a great deal of picking and choosing to be done.

It is fully appreciated that this treatment of the subject is extremely superficial, and possibly unintelligible to the quite non-technical reader. The idea, however, was just to present an outline of the various jobs to be performed by the valves in the receiver, and the more important valve characteristics required in each instance. With a knowledge of these fundamental requirements, and a booklet or pamphlet of the various valves and their characteristics, there is every reason to expect that the set-builder will use suitable valves for the job right from the start.

The Three GILBERTS

MONOLOGUES.

Sketches, comedy and popular items will be included in the programme of the Three Gilberts when they broadcast from 2FC on Thursday, September 19. The items are all fresh from America, as one of the Gilberts has them specially sent to him as soon as they are published. "I intend to put over some Australian poems," said Dora Gilbert. "I have always found that they are most enthusiastically received, especially by the people who live outback. Numbers of letters have reached me, asking for this type of item. It is surprising how seldom Australian poetry is broadcast, considering the large public there seems to be who enjoy this class of work."



The B. B. C. REVIEWED

How the Famous British Institution is Influencing Australian Broadcasting

JOHN
BENSON

who has attracted considerable attention through his articles constructively criticising broadcasting presentation methods in general, and 2FC-2BL methods in particular, here deals with the B.B.C.

THIS is the third in a series of four articles planned on broadcasting presentation, and conceived as a result of my conviction that broadcast presentations in New South Wales lack individuality, a conviction which I think is shared, consciously or subconsciously, by listeners throughout the State. If I did not think these articles fairly representative of public opinion, I would not write them.

To recapture some of my previous raptures, the first fine careless one was a frank constructive criticism, in which it was stated that New South Wales programmes sounded because a central programme committee eradicated the personalities of 2FC and 2BL and restricted and formal announcements buried the personalities of announcers. Then I suggested that 2BL and 2FC should have separate programme directors and that formal restrictions to announcing should be dropped. In the next article I reviewed the main principles of American broadcasting and demonstrated how the American stations achieved popularity by observing two principles—the one of sectionalised programmes of items arranged in progressive order; the other of individuality in announcing. In this article I shall outline the main presentation methods of the British Broadcasting Corporation.

British broadcasting is better organised than American broadcasting. In the first place, it was carried on by private companies, which the British Government took over, and placed in the hands of the British Broadcasting Company, which worked under the strict supervision of the Post Office. Eventually the British Broadcasting Company was granted a Royal Charter, and became the British Broadcasting Corporation it is to-day. There are over two million listeners, who pay licence fees, which are collected by the Post Office, trimmed, and handed on to the British Broadcasting Corporation.

Great British Institution

There is no radio advertising in Britain. And there is neither competition with, nor opposition to, the British Broadcasting Corporation. The British Broadcasting Corporation is a monopoly, and a monopoly which is becoming more and more firmly established, through its ability to advertise itself, as yet one more GREAT BRITISH INSTITUTION.

Its standing is characteristic of modern British bureaucracy. Its constitution parallels modern British bureaucratic methods. It is run by a board, of which Sir John Reith (with a record in government administration at 39, is managing director, and which is free from the dictates of everything but its own conscience. Its employees are so near to being civil servants that it doesn't matter. Its methods are those of a Government department. The justification and explanation of its existence is that the British Broadcasting Corporation is not operated with a view to profit, but as a public service, supplying broadcast programmes to the British public.

Fortified in the knowledge that no one may dictate to it, with ample funds, holding a monopoly over broadcasting throughout Great Britain, and with all the engineering, artistic, educational and recreational re-

sources of the civilised world at its disposal, the British Broadcasting Corporation has organised to serve the public to the best of its ability as a respectable civil servant should. The yearly report of its activities reveals amazing industry; and is probably the most complete catalogue of the most complete researches into radio broadcasting problems in the world. It also shows what efforts are being made to improve the standard of the broadcast programmes. There is a special committee to deal with broadcasting pronunciation; another which considers

radio education, and so on; so that in almost every sphere of its activities the British Broadcasting Corporation is guided by the advice of experts. Everything broadcast from the B.B.C., therefore, has the backing of some authority which has weighed it in respect to prevailing high standards of taste, artistic merit, truth or utility. The Corporation has shown great enterprise in its musical undertakings. Concerts of Symphony orchestras are regularly on its programmes; specially trained instrumental and vocal combinations of all kinds are retained for studio performances; and broadcasts of complete operas, musical comedies and revues either from the studios or from theatres are frequent. Perhaps the most praiseworthy feature of the B.B.C.'s musical broadcasts is the number of programmes of contemporary compositions transmitted, some of these being the first public performances in England.

The B.B.C. has also given close attention to the radio drama, which it has developed to a considerable extent; and also to poetry. Recently Euripides' "Electra," done into English verse by Gilbert Murray, was put over the English air—with what effect I don't know.

Since its inception, the B.B.C. has championed the cause of broadcast controversies; and was granted permission some time ago to conduct them, using due circumspection. Many of England's greatest men have now argued over the air—H. G. Wells, G. K. Chesterton, Bernard Shaw, and so on—and a recent debate was between Compton Mackenzie and Beverly Nichols, on the merits of Town and Country.

Educational broadcasts embracing the widest possible variety of subjects, from illustrated lectures on music and poetry to dissertations on the Mendelian theory of inheritance, are given weekly; listening clubs have been formed all over the kingdom to hear lectures and discuss them afterwards; while receivers have been established in many of the schools so that advanced and brilliant pupils in various subjects may receive inspiration and food for thought from the most expert minds in England.

All these activities are supplied

by a tremendously active publishing department. The B.B.C. programmes are published weekly in the "Radio Times," which gives full details of programmes ahead, notes on special features of the programmes, and the full text of outstanding lectures of the future. The librettos of operas to be broadcast are available beforehand to the listener at two-pence a copy. Illustrated handbooks on technical matters are forwarded to listeners so that they may follow a radio lecturer through diagrammatic descriptions. Poetry anthologies of verses to be read over the air; collections of the best talks in the different departments during the year; reports of committees, and a children's annual form only part of the colossal publishing business of the B.B.C., which turns in a handsome profit to the Corporation.

B.B.C. Programmes

Valued at its own estimation, as a public service, the British Broadcasting Corporation hasn't done so badly. It has done much better, for instance, than the New South Wales Government Railways have done; because the N.S.W. Government Railways serve the public at a loss, while the B.B.C. serves the public and makes a profit. True to its nature as a part of British bureaucracy, the B.B.C. goes about its business of supplying the public with very good radio programmes. The essential difference between the English and the American programme is that the American programme is cut up into advertising "hours" and "half-hours;" while the English programme is divided as circumstances—programme material, etc.—determine. British musical programmes are generally presented as "concerts," and each concert presentation is made up of music of a certain kind, to the exclusion of all other kinds of music. Thus there are Band Concerts, Symphony Concerts, Concerts of Chamber Music, Ballad Concerts, and so on through the various categories. With the problem of musical presentation, always the most difficult, thus settled, the English programme proceeds from the daily service, a fifteen minute feature from which 2FC's "Morning Devotions" have been copied, by talks, concerts, organ, song and gramophone recitals to the children's hour, at 5.15. The first news bulletin goes over at 6.15; and from then until 7.45 there are a series of talks and lectures on many subjects. From 7.45 on-

wards the evening's entertainment proceeds beginning generally with a concert of band, chamber, orchestral or some other kind of music. This generally goes on until about 9 p.m., when there is a talk of some sort or other, followed by a second presentation, a play, sketch or revue, or a concert of an entirely different nature from that which preceded it. These programmes are relayed to regional broadcasting stations at Cardiff,

THIS WEEK'S FEATURE ADDRESS. FAMOUS EDUCATIONALIST TO BROADCAST

DR. C. S. PRESCOTT, Headmaster of Newington College, will give the feature address from 2FC on September 22, when he will speak on the work of the Children's Education Board, a most important branch of the Repatriation Commission. He is an authority on educational matters, as he has had thirty years' experience as Headmaster of one of the most famous Schools in Australia, and was Headmaster of the Burwood Ladies' College for thirteen years prior to his present appointment. Dr. Prescott has proved himself an authority on the training of youth, and speaks as representative of a very important body.

Swansea, Bournemouth, Plymouth, Manchester, Newcastle, Glasgow, Aberdeen and Belfast. These regional stations supply local programmes, by local artists, at various times throughout the day; making up their transmission time with relays from London. At night, the chief London features are relayed, under a system which has become known as Simultaneous Broadcasting. These regional stations are the models on which Australia's Relay Stations will ultimately be operated.

Central Programme Department

An alternative programme is supplied from 5GB, Daventry. The standard of programmes is the same, and the main object of this station is to supply a programme which will appeal to listeners who are not interested in the main (2LO-5XX) broadcast.

English Radio programmes are arranged in London, by an enormous programme department, for the whole of England. The regional stations, of course, make certain arrangements as to local broadcasts; but the main control of all English broadcasting is from the famous "Savoy Hill." Thus, it would seem that, beyond the necessity for having local broadcasts from its regional stations, the British Broadcasting Corporation sees very little reason for its stations to have separate individualities, and prefers to efface the individuality of both the station and its announcers with the object that the programmes may stand out in greater relief. Even the alternative programme from 5GB, Daventry, has no essential difference from the main programme, either of the items presented or of presentation methods.

Whether the effacing of a station's or announcer's personality benefits the presentations in any way at all is highly debatable; but after all, the B.B.C. understands the requirements of its public quite as fully as most broadcasting companies. It does not have to gain attention at any price, as the American stations must, and it does not set out to do so. Its main conception of its duty as a public service is that it must blend amusement with instruction; attempting all the time to raise the English standard of musical, literary and artistic appreciation, and to use radio in every practicable way towards the enlightenment of the English people.

Viewed from this angle, the British Broadcasting Octopus fades away, and one sees the British Broadcasting St. George, slaying countless dragons of ignorance; rescuing countless distressed damsels labelled, respectively, culture, refinement, artistic appreciation, social and domestic enlightenment, and above all individual thought. There is no doubt that the B.B.C. is this St. George in all his glory. Its ideals are quite St. George-ey—it instructs because it is its duty to instruct—it amuses because it must make some compromise with the flesh.

Essentially English Presentations

Finally, its methods of presentation are St. George-ey. Precise of words, exact of pronunciation, the British announcer's an-

ROSS HULL'S
1930 Superheterodyne
Next Week
Order Your Copy Now

ouncements are clothed in the shining armour of unvaried formality. The public "Ladies and Gentlemen," and every announcement is stereotyped for every occa-

The Week's Talks



Dr. Harold Norrie, who will deliver an address from 2BL next Tuesday.

DAY SESSIONS

FRIDAY, SEPTEMBER 20.—2BL 1.15: Mrs Meredith Atkinson, "An Australian in Bulgaria." 2.30: C. R. Hall, "Know Australia First." 2.45: Major Sandford Morgan, "Damascus—the Mysterious City." 2FC. 12.0: Francis Jackson, "What to Read." 2.2: W. S. Reay, 4.0: "Redgum," "Gardening."

SATURDAY.—2BL 10.10: Mr. G. C. Cooper, "Gardening: Hedge Plants."

MONDAY.—2BL 1.15: Dr. Sandford Morgan, "Hygiene of the Home Part 1." 2.30: Miss Hale, "Psychology." 2.45: C. Price Conigrave, "Cliff Climbing—Admiralty Gulf." 2FC. 12.0: V. C. Bell, "The Public Forum." 2.2: W. S. Reay, "Literary Personalities."

TUESDAY.—2BL 1.15: Sister Parry, "General Characteristics of Good and Bad Food." 2.30: Major Sandford Morgan, 2.45: Tom Gurr, "A Maori Tangi" (the Maori Funeral Rites, with probably some illustrations from the compositions of Alfred Hill). 2FC. 12.0: O. N. Baeyerz, "Modern Philosophy." 2.2: J. R. Kinghorn, "Museum Subjects."

WEDNESDAY.—2BL 1.15: Goodie Reeve, "Aids to Personality." 2.30: Dr. Harold Norrie (member of the Council of the Australian Historical Society), "Outstanding Personalities of Australian History—Lieut. Dawes." 2.45: The Storyteller, "Memories of Great Oratory."

THURSDAY.—2BL 1.15: Annie Hughes, "Great Personalities I Have Met—King George." 2.30: Brunton Gibb, 2.45: Jean Armstrong, "Gleanings from the East." 2FC. 12.0: Eleanor Ross, "With the Poets." 2.2: C. N. Baeyerz, "Spoken English."

EVENING SESSIONS

FRIDAY.—2BL 7.5: Claude Corbett, "General Sporting." 9.45: V. C. Bell.

SUNDAY.—2FC: 6.40: Rev. Dr. C. J. Prescott, Headmaster, Newington College, Stanmore, "Our Greatest Legacy."

MONDAY.—2FC. 10.0: Tom Gurr, "The Bombardment of Zanzibar."

TUESDAY.—2BL 9.30: Dr. Harold Norrie, "Purple and Fine Linen."

WEDNESDAY.—2BL 7.5: Graham Kent, "Bridge Playing."

THURSDAY.—2FC. 8.20: G. R. Hall, "Cameos of the City."

sion. Announcers have no names, no personalities and no commerce with the studios or the presentations which they introduce. Let me quote again the revealing words of the English radio journalists who went to America: "The whole atmosphere of American Broadcasting is friendly to a high degree. Our Civil Servant announcers would be quite shocked at the intimacy of their American prototypes." Putting aside the question of whether American intimacy is really desirable, you have there, expressed by Englishmen, the relationship between the English and the American announcer. The one is intimate—in entire sympathy with his audience (which you must remember is American), and the other is coldly aloof from his audience (which you must remember is English).

I have gone into such detail in the delineation of B.B.C. methods because they are being brought into Australia at the present time, and because I expect to hear more and more of them in the near future. Indeed, it must be apparent to everyone who watches Australian Broadcasting closely that we are simply following carefully in the footsteps of British Broadcasting. Our early stage is done, and we are now in our second stage—that of the amalgamation of all privately owned stations under the Government, which has leased out their control to a special company. The next movement may be expected in three years' time, when, if British methods are followed, we may expect to see the Australian Government taking over the complete broadcasting services, made national by private enterprise, and running them itself in some way or other. Already, the English style of stereotyped announcing has been brought here; with it, the English method—which-is-not-a-method of presentation, and many of the British styles of presentation. The Wireless Singers, Male Quartets, Permanent Orchestras, subsidised Town Hall Concerts; all these things and many others

had their first airings in England, and are now being brought out to Australia. One can point to scarcely a single new scheme brought in by the Australian Broadcasting Company which has not come from England, except the naming of the various hours of the daily programmes, which is American.

Conclusion Next Week

So, as Australian Broadcasting has followed so far the standards and methods of English broadcasting, we may expect to go even farther in the future, until all our broadcasting methods are those of England.

Next week I shall endeavour to sum up and draw conclusions from the impression I have endeavoured to create in this and the two preceding articles.

Successful Monologue Artist

CLAUDE CARTER, whose monologues are always greatly enjoyed by listeners to 3LO, is a versatile artist, who has done much good work both in England and Australia. His first big part was in the refreshing "Eliza Comes to Stay," when he was specially selected by the author, H. V. Esmond, to play one of the principal roles. He will be remembered in "The Flying Squad," with Leon Gordon, and also the much discussed play "Outward Bound." He is a particularly clever monologue artist, and has many clever and original character sketches, to which he will introduce listeners in the not too far distant future.

THIS WEEK'S FEATURES

THREE of the foremost artists of the week's programmes are from Russia—Mische Dobrinski, Senia Chostiakoff, and Sigmund Menchinsky. They also shared the privilege of leaving Red Russia in a hurry, and have all adventured in strange countries before coming to our own fair and peaceful land.

The main features of the week are the Arthur Benjamin concert on Friday, the Male Voice Choir concert on Saturday, the Dobrinski and Cazabon concerts on Sunday from 2FC and the St. Andrew's Cathedral broadcast and the Lithgow Trades Hall concert on Sunday from 2BL. Senia Chostiakoff sings from 2FC, and the wrestling goes over from 2BL on Monday. Tuesday is 2FC's old-time dance night and 2BL's classical night. Wednesday presents H. W. Varna's play, "Jiggery Pokery," and on Thursday you will hear some two-piano duets from 2FC and an historical play, "Governor Bligh Deposed," played by Francis Jackson and company, from 2BL.

Purple and Fine Linen

THE great seafaring nation, Phoenicia, which controlled the Mediterranean when Rome was a fishing village, and its rise to greatness and ultimate decay, will be the subject of Dr. Harold Norrie's lecture from 2BL on September 24. The names, Tyre and Sidon, seem to have a unique charm, not only for the archaeological, but for the ordinary person who feels the ordinary human curiosity in the antiquity of our race. The development of a civilisation more ancient than that of Greece and no less worthy of study will be discussed, and an outline given of the quest of the purple mollusc, the source of the famous Tyrian dye which made Phoenicia a great commercial nation. Dr. Norrie knows how to hold the listener's attention, and what aspects of his subject will be of greatest interest.

"Jiggery Pokery"

THE H. W. Varna Company will broadcast "Jiggery Pokery" from 2FC on September 25. A cautious city man takes what

he considers insane advice in a last faint hope of making a little money. This apparently foolish action brings astonishing results, which furnish the plot.

The Hopcroft Series

IT has been suggested many times when recounting the stories and experiences of his father that Mr. Bert Gilbert, the well-

known comedian, should write a book on this interesting and distinctly humorous personality. This may be done, but in the meantime there are many incidents that Mr. Gilbert has written up expressly for 2BL, commencing September 23, and extending over a period of seven weeks under the title of "The Adventures of Hopcroft." "Hopcroft" is just an "Airograph" of Gilbert's brain, suggested by his father. Really a caricature.



Edith Cowley
Entertainer
2 B.L.
Saturday.



Sigmund Menchinsky
who will play the
Viola on Sunday
from 2 F.C.



Beatrice White
Contralto
2 B.L.
Wednesday



Madame & Mische
Dobrinski —
presenting a classical
programme. Sunday
from 6-8pm 2FC.



Wilfred Arlom
Pianist
2 FC
Monday

Beatrice White, Contralto

MISS BEATRICE WHITE, contralto, will make her first broadcast appearance through 2BL on Tuesday, September 24. Miss White possesses a deep rich contralto voice of more than usual promise, and for her debut on the air she will sing a group of simple ballads. Miss White won the University Conservatorium Scholarship at Melbourne, and is a pupil of Madame Goosens-Viceroy and Miss Cecile Adkins, of the State Conservatorium of Sydney.

Wireless Weekly

Incorporating "Radio in Australia and New Zealand."

FRIDAY, SEPTEMBER 20, 1929.

THE HOME-BUILT RECEIVER

FOR some time now there has been evident a growing conviction among radio dealers that the home-built receiver business is on a decline, and will very soon cease to be a factor in radio merchandising.

There are a number of tenable reasons for such a belief, and, because of this, a danger that this conviction may adversely affect both the interests of the radio enthusiast and the radio trade. First, there is the evidence of other countries, generally accepted to be in advance of Australia in radio methods, where the home-built receiver has almost disappeared. Secondly, there is the stabilisation of set design, which has made possible the production in mass of cheap, standardised receivers and given the set-manufacturing industry a chance to recover from the rapid development work of a few years ago. Then there is mixed up with this the supposed growing complacency of the radio fan in the face of the "wonders" of radio and his refusal to be moved by its novelty and "mystery."

But, sound as these reasons are, they cannot be accepted as complete evidence of the passing of the home-constructor. Like other countries, of course, the inexpensive hobby of throwing together junk apparatus in the form of a receiver, which occupied so many radio fans a few years ago, has necessarily disappeared with the appearance of more intricately designed, and, therefore, more expensive, apparatus.

But the experimenter himself has not disappeared, although he may not be so frequent a visitor to the radio store. Every now and again, as a new development arrives, he builds himself or his friends another set in advance of the manufacturer. Sometimes he has developed into a custom set builder, for peculiarity of operation and situation often require a receiver to be specially built for a location.

While the tables have been turned in set-making, inasmuch as the manufacturers' set is now generally better value in efficiency than the home-built receiver, the home constructor will always have two advantages over the manufactured set when cheapness is not a consideration—the advantage of later development in design and the advantage of overcoming location peculiarities.

Next Old-time Dance Night, Sept. 24

LETTERS of congratulation are never so numerous as after a broadcast of old-time dance numbers. These programmes have met with such universal enthusiasm that there is little doubt that listeners regard them as, perhaps, the most enjoyable of all. Not only do old people prefer them for the memories they recall of the days when the songs were new, but the younger generation of jazz lovers find in the catchy melodies a certain appealing lilt which takes their fancy. Enthusiastic applause greets every new broadcast of this type of programme, and there seems no likelihood of the public ever wearying of them. It writes clamoring for more.

September 24, when it should receive as favorable a reception from listeners as those that have gone before. Cec. Morrison and his A.B.C. Dance Band are preparing a wonderful programme from the hundreds of requests received from listeners.

ALTERATION OF 2FC'S WAVELENGTH.

Owing to the wavelength of 6WF, Perth, being reduced to 435 metres, a change has been made in the wavelength of 2FC, Sydney.

In future to get 2FC listeners are asked to tune in to 451 metres, instead of 442 metres.

It is hoped, by this slight alteration, to make it possible for 6WF to be more easily picked up in the eastern States without interference from 2FC.

This will be granted, as the next old-time dance night is to be broadcast from 2FC on

from her excellently French.

Madame Soward Returns to 3LO

THOUSANDS of listeners will be ready to give a warm welcome to Madame Soward, who will be on the air from 3LO on September 28. Madame Soward is most popular with her wide circle of students of all ages, and it would be difficult to estimate the number of people who have benefited from her excellently graduated lessons in



"The extraordinary effect of music on animals, with special reference to Broadcasting."

—From the German "Der Norag."

The Safety Valve

Location a Factor in DX Reception

Lake District and Newcastle

Dear Sir,—Re those long distance one-valvers: probably the sets are all they are cracked up to be, but locality of reception is a factor to be reckoned with. For instance, whilst residing in the Lake district, I was able to tune in most Sydney and inter-State stations. And, some nights, Adelaide on a cheap crystal set (no valves). Yet, when the same set was installed in Newcastle with a good aerial I was unable to tune in 2BL. In fact, I could only get the local station. Similarly, I was able to get fair loud-speaker results from 2YA on a small portable two-valve (2V.06) set in Mayfield, yet cannot get this station per 'phones on a four-valve set in central Newcastle. In anticipation of a competition for minimum reception on a maximum valvage, kindly note my name.—Yours etc..

FRANK H. COLE.

Newcastle.

In Valley

Dear Sir,—Not wishing to doubt the veracity of the marvellous logs submitted by one-valve sets, it seems certain to be that the owners get good logs by being placed ideally so far as situation is concerned. I have a 10 valve Norden Hauch set, and have only had three proved U.S.A. stations, I also claim to having received Langberg at about R4, but no call sign was heard; also KDKA on 309? My failure to get any better distant log I attribute to a very bad situation, being in a valley encircled by high hills. I find by putting very high voltage on the high frequency, say, 120 volts, I heard stations that at 80 or 90 volts are blanks. Wishing the one-valvers every success.—Yours etc.

RAWDON H. SUTTON.

Tamworth.

These Machines

Dear Sir,—I have read of two, three, and four valve hams exchanging notes on how they are pulling in stations. Three weeks ago RADIO ACE started on one valvers so now what about crystal users having their say? In my opinion, the humble crystal is on its own for sweetness and purity, mainly because I think that valve sets distort sound waves by dragging them in by force instead of allowing them to flow in like a crystal set does. Also, I think it is up to WIRELESS WEEKLY to give some of its space each week to crystal circuits of these machines. Hoping to hear more about this interesting topic from other crystal users.—Yours etc.,

HERTZITE.

Gladesville.

Extraordinary Reception

Dear Sir,—If not too late allow me the privilege of entering the arena to show my prowess in the D.X. weight for age, One-Valve Stakes, to contest the claim of all the super artists who have been crowding so loudly through the Safety Valve. I am not a show artist, and it has only been through moral suasion of my friends and that spring-time feeling that I have been forced into publicity. To begin, my cottage is lined

throughout with D.X. cards from every country in the world, and I have been forced, through lack of space, to paste great numbers on the furniture. They, incidentally, form a beautiful color scheme if arranged with an artistic eye, creating an eastern effect that would delight the eyes of a connoisseur. If you would allow me a complete issue of your paper, it will afford me great pleasure to enumerate a few of the above to substantiate my claims before the order of Annanias. I do not want to appear boastful when I claim to be the champion high speed logger of this or any other State, my best feat, up to date, being 163½ stations in 17½ minutes.

My set is equipped with water cooled condensers which are an invention of my own. I was forced to use these owing to the ordinary commercial type running hot when working at high pressure. They are also fitted with ball-bearings, three speeds and reverse. My aerial is merely the clothes line (wire, of course) and I experience no difficulty even when the week's wash is on the line in getting remote parts of the world on loud speaker strength. If a decent aerial were installed I firmly believe much better results would be obtained.

Now a word or two about my circuit. It is merely a one-valve set of my own construction, the plate and grid being removed, and a special oscillator crystal being inserted in its place. The secret of its prowess is in this crystal, which possesses the peculiar property of transforming a carrier wave into the backlash of an oscillating frequency. Please do not ask for this circuit as, at present, it is a close secret jealously guarded. Trusting that this little treatise will cause some of the D.X. hounds to gnash their eyebrows in envy.—Yours etc.,

N. W. DANSLOW.

Crows Nest.

South Coast Reception

Dear Sir,—Glancing through your Safety Valve page to-night, I happened across a short pointed note over the name of "Way-back." Before going further, I might be pardoned for saying that his non-de-plume evidently suits him. If he listens to 2FC, he should know better. It would not do for me to write the names this station is called on the South Coast. They would not be published. 2FC's transmission is absolutely, without doubt, the worst in Australia.

Last year I wrote the old company re this matter, and was very politely told I did not know what I was writing about, as I criticised their aerial system, and again submit that it is not in accord with modern radio practice. Sir, if nothing is wrong with 2FC's transmission, why is it that all other stations above and below their wavelength come in so well here, and without distortion.

We do not mind anyone eating at correct intervals, but certainly do object to announcers and artists broadcasting with half a slice of toast and half a cup of tea stowed

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. Anonymous letters are not considered.

away in either or both cheeks. Can you help taxpayers to receive their money's worth? If so, your publication will increase 50 per cent. inside six months.—That is the calculation of, yours, etc..

Nowra.

Y.A.M.

2FC Transmission

Dear Sir,—I would like to express my disgust, to put it mildly, of the transmission from 2FC. I have no fault to find with programmes, as it is a herculean task, admitted, to please all, for a considerable time 2FC's transmission has been very bad indeed—hum, whistle, and distortion being very evident. Certainly one can tune to other stations, but sometimes items from 2FC are welcome.

It seems as if something is radically wrong with the transmitting apparatus, or maybe interaction is caused from leads of switch-board, or some new mikes are required.

For an "A" class studio, 2FC seems badly located. One can often hear singing as a background to items, also honking of motor cars. If more time was given to the transmission more sets would be installed. I pity the dealers trying to sell a set tuned in to 2FC.—Yours, etc.,

Moss Vale.

J. L. LONG.

Pleased

Dear Sir,—Pleased to read in "The Safety Valve" that some radio set owners (probably all of them) are getting a lot of buzz, hum, muffled, mushy, and other weird sounds in 2FC's reception. Why am I pleased? I have purchased a new set, and I get all these peculiar noises too. Glad to know my set is not at fault. There is something wrong in Market Street.—Yours, etc.,

Megan.

J.P.H.

Early Closing in Tassie

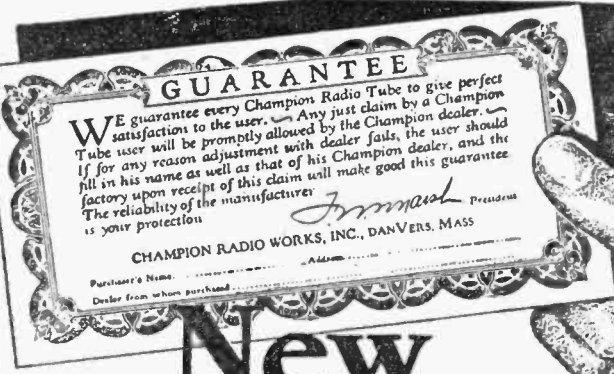
Dear Sir,—With regard to the time of closing down at Station 7ZL Tasmania, at 10 p.m., I think it is far too early. Why can't they close down at 11 p.m. on their dance nights, and 10.45 p.m. other nights, or give a dance programme on gramophone records from 10 p.m. to 10.45 p.m. I am sure this would be an improvement, especially for us country listeners who can't get the mainland stations. Another point. Why can't 7ZL have a studio orchestra as the other stations have? I think 7ZL should cater for the country listeners better than they do. Third point. I would like to suggest that 7ZL have their news sessions at 7.45 and give the talks from 7.15. Hoping to see an improvement as some Melbourne friends of mine call Hobart "Slowbart," and, if they are referring to broadcasting they are not far out as it is very poor at times when they have only three artists for a studio concert.—Yours etc.,

Hobart.

COUNTRY LISTENERS



"Known by the Bar."



New Protection

for Radio Set Purchasers

At last radio valves that are fully guaranteed by their makers—perfect satisfaction or your money back—a policy others have not dared institute!

Valves that build confidence by their excellent performance and durability—valves that take gamble and guess out of radio set buying.

After all "a chain is no stronger than its weakest link"—the performance of the best radio set made is entirely dependent upon good valves.

It costs no more to have the finest guaranteed Valves.

So perfectly do Champion Radio Valves live up to the highest standards of reception that dealers are using them to demonstrate sets in the store, and are selling them widely as standard equipment with sets they sell.

The manufacturer stands squarely behind them with a complete guarantee—the first one of its kind ever made by a Valve manufacturer. A guarantee to replace any valve found defective or to refund the purchaser's money, without red tape.

Besides being sold singly, Champion Radio Valves are obtainable in the new Champion Standard Equipment Packages. Correct combinations for all popular makes of radio sets—in factory-sealed packages, ready to put in your set without intermediate handling.

Any of the dealers listed below will gladly show you this standard Valve, and give you full information regarding the different types in which it is made.

Investigate Champion Valves now—for your radio satisfaction and protection.

Send for Free Catalogue to

INTERNATIONAL RADIO COMPANY Ltd.

229 CASTLEREAGH STREET, SYDNEY

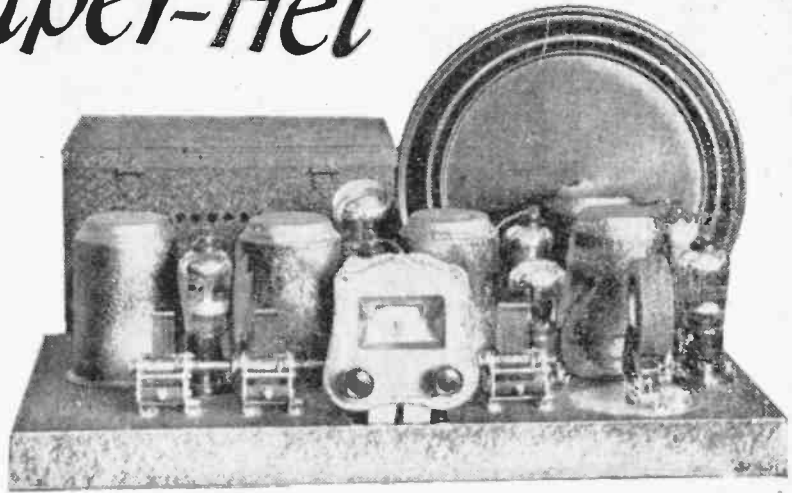
Champion

RADIO

VALVES

Satisfaction Guaranteed

The Super-Het Stages a Comeback'



The new 1930 Super-heterodyne in experimental form, with speaker and power pack.

By ROSS A. HULL

LAST week, in the "Curves Ahead" department, we waxed enthusiastic over the possibility of building a truly modern super-heterodyne. At the time, our only justification in being enthusiastic was the thought that modern valves and modern methods should enable us to rig up a superlative sort of receiver if only they could be incorporated satisfactorily in a super-heterodyne arrangement.

This week we have far more cause to be enthusiastic since we have built up such a "super," carried it through the experimental stages, and discovered to our satisfaction just what potentialities such a receiver is to possess. In case we should be misunderstood we wish to put the soft pedal on all claims for the capabilities of the set. At the same time, we do believe that there is splendid foundation for our statement last week that the screen-grid valve is a greater contribution to the super-heterodyne than to the straight radio frequency amplifier type of receiver. Students of screen-grid valve practice will appreciate the significance of this statement.

One of the problems involved in presenting a highly complex or highly sensitive receiver is in making a satisfactory statement concerning its performance. Many enthusiasts have the idea that because a two-valve receiver can bring in 3LO a four-valve set should be able to bring in 2YA. Then they consider that if the set has six valves it should be able to drag in at least 6WF and possibly other stations farther afield. One of the workmen engaged in assembling this building caught a glimpse of the super in its final stages the other day, and, after silently counting the seven valves, marvelled at the "bigness" of the set. "I suppose you get America easy with all those valves," he said.

As we explained to him, the distance-getting properties of a receiver do not necessarily have anything to do with the number of valves used. Even a single-valve receiver with a pair of head 'phones is often capable of receiving over the same distances as the most complex multi-valve set yet built. The factor which limits distant reception is the level of the "background" noise—in other words, the strength of the disturbances

caused by atmospherics, induction, and interference from power leaks and electrical machinery. If the strength of the distant signal is less than that of the "background" noise,

Mr. Hull's Superheterodyne to be described next week is a truly revolutionary advance in Australian receiver design. Although many excellent receivers have resulted from the development and employment of the new screen-grid valves, we have not yet heard or handled anywhere a receiver of such fine sensitivity and selectivity, and of such excellent general performance. Although the modest designer refrains from saying so, stations anywhere within a thousand miles or so have been tuned in clearly at good volume with just three feet of aerial. Indeed, this week we have so enjoyed reception—the added variety which range gives, the full tone which you get when there is always something to spare, and the convenience of easy tuning—that we contemplate annexing the superhet. ourselves. This new receiver has made such an impression with us that we believe readers will become as enthusiastic as we are over it, and the demand thus created will make it the pattern of all 1930 models.

—The Editor

then no receiver of any conceivable type would ever provide satisfactory reception. If, however, the signal is above the level of the background then it can be received by any

reasonably sensitive receiver just so long as its selectivity characteristics permit it to eliminate interference from neighboring stations. The advantages of a multi-valve receiver lie in its improved selectivity and in its ability to receive any signals above the level of the background without the necessity for a large aerial system, and without the need for the critical and delicate tuning adjustment so essential in sets of one, two, or three valves. A useful parallel could be drawn between the radio set and the automobile. The low-powered car possibly can travel just as fast and as far on a rough road as can some highly-expensive and elaborate "straight eight." The low-powered machine, however, would be "all out," or, more correctly, "all in," when the big car was just starting to enjoy itself. The reserve power of the "straight eight" would be permitting it to do the same work as the lower-powered automobile with less effort, and the result would be more satisfactory in general.

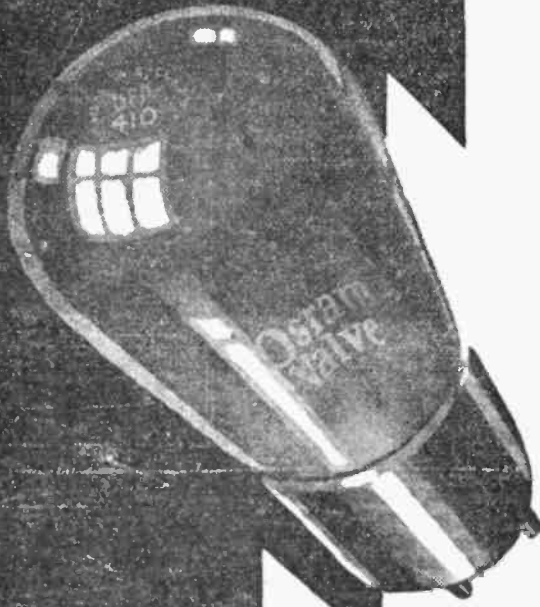
We have been in two-cylinder cars traveling over long distances at relatively high speeds, and we have found the performance just about as painful as listening to a two-valve receiver accomplishing some extraordinarily long-distance reception.

For the very same reason that there will always be a demand for automobiles with ample reserve, so will there be a demand for radio sets with the same desirable characteristic. The high-power radio sets may not always be able to cover extremely great distances, but, like the fine automobile, they can be depended on to provide the best possible performance under the particular operating conditions.

We have elaborated this thought rather extensively, simply because we consider it of great importance. Too many enthusiasts have spent much money and more time on an elaborate receiver only to be disappointed because their new eight valves will not cover twice the distance that their old four valves did.

With the super-heterodyne this anticipation of marvellous results is particularly common. Ever so much more is usually expected of a seven-valve super-het. than of any other type of outfit employing the same amount

RAISE THE STANDARD OF RECEPTION



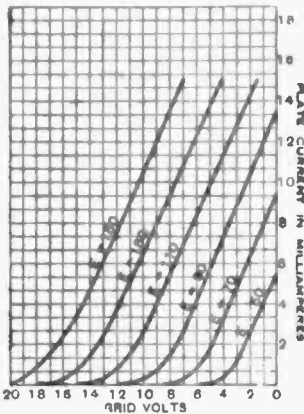
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of glass. Possibly this is the result of a misunderstanding of the name "super-heterodyne." The term "super" in this particular case is not descriptive of the performance of the receiver, but merely of the principle on which it operates. It comes from the use in the receiver of a super-audible heterodyne or beat. The signal, when it reaches the first detector, is caused to beat with the output of an oscillator, and the resultant detector output is a new super-audible or higher-than-audible frequency. As a matter of fact, it is our opinion that most super-heterodynes have a greater radio frequency amplification than other types of receivers with the same number of valves, but that is another story.

In any super-heterodyne the principle of operation is quite different from the ordinary receiver. The fundamental of the principle is in changing the frequency or wavelength of all stations to a new and constant one. If, for instance, 3LO is being received, its wavelength is being changed in the receiver to, say, 1000 metres, before it is amplified appreciably. If reception was required from 4QG its wavelength also would be changed in the receiver to 1000. The reason for this changing of the station wavelengths to a new one is that it permits any signal to be amplified by a fixed radio frequency amplifier tuned, in this particular case, to 1000 metres. Some considerable loss of signal strength is introduced by this wave-changing process, but it is usually more than made up for by the high amplification which is made possible in a fixed amplifier operating on some relatively high wavelength.

In order to gain a high degree of amplification with the ordinary straight radio frequency type of receiver it is necessary to use two, three, or four stages of radio frequency amplification. Each of these stages must be tuned (with the possible exception of the first), and if two, three, or four separate dials are not to be used the condensers must be "ganged" on one shaft. This procedure, of course, introduces many complications for the home set-builder, for the greatest difficulties will be experienced in adjusting the various circuits so that they keep in step all the way across the broadcast band. Aside

ROSS HULL'S
1930 Super-heterodyne
Next Week
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from this there will be the problems of over-coming oscillation. With the three electrode valves there will be the necessity for neutralising—a process which is brimming with difficulties. The screen-grid valve will obviate neutralising if not more than two truly effective stages are used and if the shielding is given close attention, but neither the radio frequency gain of these stages nor the selectivity is likely to be of a very high order: in the average home-built receiver. Three screen-grid stages are used in several overseas commercial receivers to give the necessary gain and selectivity, but the problems involved in shielding and wiring make such an outfit well beyond most home-set builders.

In the super-heterodyne most of the complications of condenser ganging and amplifier stabilising disappear at once. Some straight radio frequency amplification can be obtained ahead of the first detector and a certain degree of selectivity by the use of, say, a single screen-grid stage, but the main source of r.f. gain and of selectivity is the intermediate frequency amplifier, in which screen-grid valves can be operated at high effectiveness with tuned circuits which are permanently set when the receiver is first put into operation. In other words, three screen-grid radio frequency amplifiers can be operated to give enormous amplification without the same difficulties of ganging, shielding, and stabilising that would be involved in the construction of a receiver of the usual type. In fact, it does not seem unreasonable to claim that a greater gain and more desirable selectivity can be obtained from three screen-grid valves operated in a

super-heterodyne than in any other type of set. And three well-operated screen-grid r.f. amplifiers, believe us, have real capabilities.

Solid radio frequency gain of the sort available with these three valves makes it possible to do away with one of the audio frequency amplifiers, still retaining the ability to make a room full of music when the necessity arises. The elimination of one stage, of course, also eliminates much of the distortion common to the usual amplifier, providing the detector feeding the audio stage is suitably designed. The trouble with most single audio stages is that the detector overloads long before the audio valve gets into its stride. It has been overcome by the development of "power" detectors which, operated at high plate voltage, are capable of putting out sufficient undistorted output to drive the audio valve to its limit. The screen-grid valve has also helped along the detector, since it has permitted the use of "plate" detection without the usual sacrifice of sensitivity that this method means with the three electrode valve "plate" detection, as a general rule, does not introduce the same distortion as the usual grid-leak detector, and so with the screen-grid valve we have a sensitive and almost distortionless detector quite indispensable in any receiver of the "last word" type.

The actual super-heterodyne on which we have been spending most of our thoughts and much of our time is nothing if not a modern receiver. It employs a straight screen-grid radio frequency amplifier ahead of the first detector (which is also a screen-grid valve), and the detector output feeds into a two-stage screen-grid intermediate frequency amplifier of terrific amplifying ability. Fed by this amplifier is the second screen-grid "power" detector, which, by means of a choke coupling arrangement, feeds the output valve. Almost all of the amplification in the set is at radio frequency, and this, together with the use of "plate" detectors, provide musical reproduction which is of a very high standard. Like most super-heterodynes the set is extremely sensitive. Unlike most of them, however it is essentially a musical instrument.

Possible "B" Station for Perth

THE fifth annual exhibition of the W.A. Division of the Wireless Institute, held at Perth on September 2 and 3, proved an unparalleled success, completely eclipsing anything yet held in the Western State. The exhibition was made to coincide with the opening of 6WF under the management of the Australian Broadcasting Company, and the opening ceremony was performed from the platform at the exhibition at the first session. Frank H. Goldsmith (VK6FG) introduced Mr. S. H. Witt, chief radio engineer for the Commonwealth, the latter declaring the exhibition open, and giving the assemblage of 1500 a short review of the growth of wireless. Sir Benjamin Fuller, speaking of the policy of the company, hinted that a "B" class station might shortly be established in W.A. The Deputy Director, Posts and Telegraphs (Col. S. R. Roberts), officially opened the new station, which now operates on a wavelength of 435 metres instead of 1250.

Jack O'Hagan at 3AR

JACK O'HAGAN, who has always proved a favorite with listeners, will be heard from 3AR on September 24, in some of the latest popular vocal "hits." Apart from his success as a vocalist, Mr. O'Hagan is well known as a composer and has scored heavily with such numbers as "Gundagal," "The Rose of Flanders," and many other successful compositions. He usually includes some of his own songs in his broadcasting programmes and these are always rendered with perfect artistry and understanding.

REVIEWING THE ASTOR ALADDIN ELECTRIC RECEIVER

By ROSS A. HULL

A VERY popular type of receiver in Australia to-day is one employing three valves—a detector and two audio frequency amplifiers. Such a receiver is limited in its selectivity, but has satisfactory general capabilities so long as good reception from other States is not expected from locations in the neighborhood of local stations. It has the advantage, of course, of simplicity both of construction and of control, and ample output is usually available from the nearer stations to operate the speaker at full blast, should that be necessary.

The Astor receiver, which we have had the opportunity to test, is an excellent example of a set of this type. The receiver proper includes three a.c. type valves, fed from a valve rectifier associated with the power supply unit.

In the present-day manner the apparatus is assembled on a metal chassis. The power supply apparatus, which includes the power transformer, filter condensers, and chokes, is contained in a shielded compartment extending across the rear of the receiver. The remainder of the base is occupied by the receiver proper and the rectifier valve. All wiring is carried out in the space under the metal base, and in consequence the internal appearance is pleasing. Neat workmanship and clean mechanical design are very much in evidence.

The inductance unit is contained in a shield fitted over the metal base, as is common practice these days, and wiring to the aerial terminals, the detector, and the tuning condenser is all carried out of sight. The condenser is of satisfactory solid construction, and provides a pleasing contrast with the flimsy, thin-plated affairs which

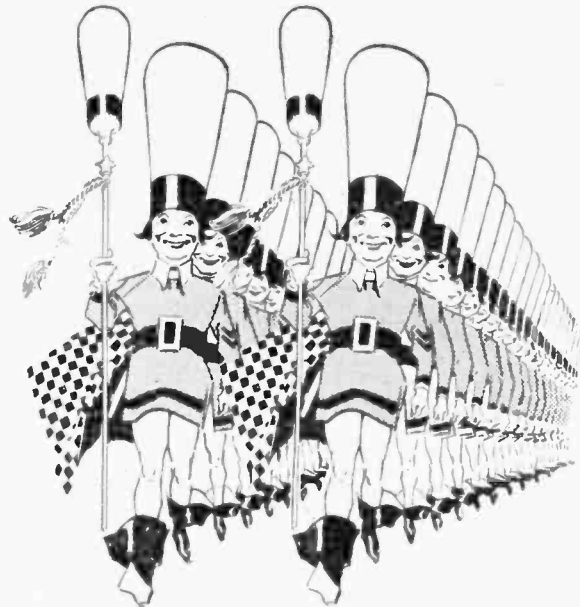


are so common, but for which there is so little excuse. Thin plates and extremely close spacing are design features carried on from the days when enormous capacities were needed to tune up to ten or fifteen thousand metres. Just why they should be retained at the present time, to result in inevitable short circuits, has been a puzzle to us for some considerable period.

Regeneration control in the receiver is made possible by a variable resistor. The receiver can be made to oscillate and to radiate, and for this reason, as we said in our reviewing last week, due warning should be given to the owner of such a receiver concerning its interfering capabilities.

The receiver is contained in a pressed metal box, but a departure is made from the usual practice by the supplying of a set of cast metal legs. With these legs the receiver is well able to stand on its own at just a sufficient height to permit the necessary tuning adjustment being made without stooping. The tuning control, regeneration control, and power switch are grouped on pressed copper eucytheon plate, the tuning dial being illuminated.

In operation the receiver did all that could be expected of a detector and two audio amplifiers. The "hum" level was quite low and reproduction of a satisfactory quality. Operated in a location where interference between local stations is common on "straight detector" receivers, this receiver showed evidence of splendid selectivity, taking into consideration the absence of radio frequency amplifiers.



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The LICENCE POSITION

The Popularity of Radio—How Australia Compares with the Old World

THE figures just issued covering the wireless licences in force in the Commonwealth of Australia for the month of August, 1929, make interesting reading. They show that Australia, with its sparse population and difficulties in reception, is in a healthy condition, and can more than bear comparison with other great countries.

WORLD RATIOS.

From the latest sources of information it is possible to ascertain what world ratios in wireless licences exist, and the following information will be of value:—

	To every 1000 population.
Australia	47.99
Austria	53.31
Great Britain	59.48
Germany	43.92
Hungary	20.1
United States	68.1

(The United States' figure is estimated, as no broadcasting fees are collected there, making it difficult to ascertain actual percentages.)

This shows us that already Australia occupies a more favorable position than either Germany or Hungary.

COMMONWEALTH RATIOS.

Of more interest to Australians will be the ratios existing in each of the various States of the Commonwealth, as set out in the following table:—

	Licences.	Ratio to each 1000 of population.
Victoria	140,529	79.8
New South Wales	104,580	42.8
South Australia	24,414	42.3
Queensland	24,910	27.2
Tasmania	3,131	23.7
West Australia	3,938	9.7
Commonwealth	303,562	47.9

YEARLY INCREASES.

Looking back over the past five years it is interesting to trace the growth of wireless popularity in the Commonwealth. The first programmes were not transmitted until the end of 1923, but the wireless regulations covering a fee for the use of a receiving set did not come into operation until 1924. Consequently it is not expected that much progress would be shown prior to August, 1924, at which date there were 8688 licences in force in the Commonwealth. The yearly increases are as follows:—

	Commonwealth licences in force.	Commonwealth increase for year.
At August, 1924, were	8,688	—
At August, 1925, were	72,483	63,795
At August, 1926, were	154,736	82,243
At August, 1927, were	241,338	86,602
At August, 1928, were	280,686	39,350
At August, 1929, were	303,562	22,874

Rapid Progress in Early Days

This gives us some idea of the tremendous advance of wireless in Australia made during the first three years, which forward movement continued until 1927, bringing the ratio to 36.8 per thousand, which, for so short a time, was a very remarkable result. The increase continued, although, of course, not so rapidly, but sufficient to bring the ratio from 36.8 to 47.9, where it stands to-day.

Victoria Jumps Ahead.

Coming to the actual increase in licences in each State we find that in one year alone Victoria went from 20,290 to 64,587 licences, an increase of 40,000 licences. This occurred between June, 1925, and June, 1926. During that period New South Wales was suffering from the effects of the interference of high power B Class stations operating from populous Sydney suburbs and the removal of 2BL to Coogee, all tended to keep back progress, and an increase of 3000 for the 12 months was all New South Wales could show.

The next 12 months to June, 1928, showed a wonderful increase in Victoria of 54,600. New South Wales, having overcome most of

the difficulties of the previous year, put on 21,600 licences for the year.

New South Wales Creeps Up

The next 12 months to June, 1928, showed the first slackening off in Victoria, which improved by 19,600 licences; during this time New South Wales, getting into its stride, increased by another 22,500 licences.

From June, 1928, to August, 1929, Victoria practically remained stationary, for during that period less than 3000 licences were added. New South Wales, still coming along strongly, increased a further 24,600 licences, and has now reduced the gap between herself and Victoria from 60,000 in 1927 to 36,000 in 1929.

Increases in other States.

In the other States it is not possible to record the same definite progress that has been shown in the larger States.

Queensland, during the first two years to June, 1927, made rapid progress, increasing to 23,249. Since that time the increase in the northern State has been no more than 1700 licences.

South Australia shows better figures. When Queensland had 23,000 in June, 1927, South Australia had 16,700 licences. The increase since then has been more rapid. For South Australia has 24,474 licences, against Queensland's 24,910, a ratio per thousand of 42.3 against 27.2.

Western Australia, due to its remoteness from the eastern States, the difficulty to obtain sufficient local material for programmes, and the unsuitability of high wavelength, has made no progress for several years. As far back as June, 1926, the licences in Western Australia were 4003. To-day they have dropped to 3938. Conditions have so improved now that it can be expected that an increase should be noticed forthwith.

Tasmania shows a better state of affairs. When Western Australia had 4003 licences Tasmania had 1281, but during the last 12 months the licences in Tasmania have reached 5131—1200 more than the total in Western Australia.

Taking into consideration the various factors which now are being experienced it may be assumed that each State should show an increase from now on.

In Victoria it may not be possible to expect too much for some while, as it may be some months before the change-over from crystal to valve sets will be effected. It is reasonably thought that there are over 60 per cent. of crystal set owners in Victoria against a probable 15 per cent. in New South Wales. It seems inevitable that as the licence fee for crystal set receivers falls due the owner of such a set will have to decide whether it is worth while renewing the fee for another 12 months with indifferent reception, or make the change-over for a better set. This decision invariably means that a number will decide not to renew primarily on the ground of expense. New South Wales went through this three years ago, with the result that the percentage of crystal set licence holders in this State has since then dropped from approximately 70 per cent. to 15 per cent.

With the taking over of Queensland next January under the national broadcasting service, and the opportunity of relaying programmes direct from Sydney and Melbourne, it may be assumed improved conditions will mean an increase in the northern State. There is no reason to suggest that both South Australia and Tasmania, who are moving along well now, will fall back at all, and with the improved conditions in Western Australia a steady increase should be noticed there also.

Summing up then we can assume that the licences for the whole Commonwealth, which have increased at the rate of 25,000 a year for the last two years, should show this increase in future, and it would not be too much to expect that by August, 1930, there should be 330,000 in the Commonwealth, a ratio per thousand of population which would make more than a favorable showing with the position in the Old World.



The children's party to be held at Fullers' Theatre through the courtesy of Sir Benjamin and Mr. John Fuller on Saturday, September 21, at 10.30 a.m., is under the direction of the "Hello Man," assisted by the radio aunts, uncles, and cousins. The artists assisting will include Miss Kathleen Hannabury's very talented pupils, the Musical Stroups, the combination of four clever young sisters and instrumentalists pictured above, and the "Hello Man's" little helpers, and many others.

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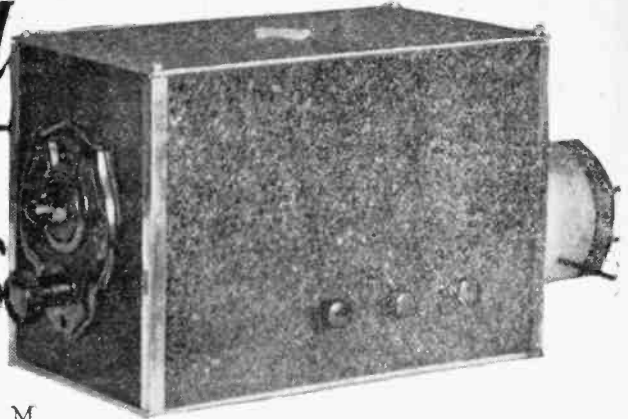
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A Screen Grid Booster Unit for Small Sets



By R. W. M.

THE one, two, or three-valve receivers, in addition to the service they give from nearby stations, often manage to pull in stations from other States under good conditions. As a general rule, however, they are able to accomplish such work only if they are tuned to give the last ounce of amplification that the receiver possesses. This necessitates extremely critical tuning, and causes a lack of stability which takes most of the pleasure from long distance reception. The radio frequency amplifier unit to be described is designed to be attached to any existing receiver in order to give it considerable additional radio frequency amplification. When correctly built and adjusted, it is capable of greatly improving the selectivity and sensitivity of any of the simpler receivers.

Most of our readers will know that amplifiers are divided into two types. That most generally known is "audio frequency," and this method increases the output of signals after they have been rectified. The other method is termed "radio frequency amplification," and in this we increase the input to the detector or rectifying valve. This method has the property of being able to increase volume on weak signals, i.e., distant signals which are, when received, on a detector valve, only heard at faint volume. The radio-frequency amplifier makes some difference on local stations, but the audio-frequency amplifier usually gives us all the amplification required in this direction.

The function of amplifying a signal before it is detected is performed by an r.f. valve. In the receiver about to be described, a screen-grid r.f. valve is used because it gives

us very high amplification and is remarkably efficient. The valve used is as yet little known, because it is of new type. It was not chosen because of this, but because its characteristics were most suited to the purpose.

Adding a stage of r.f. is relatively a difficult matter for several reasons. It must not be supposed that the construction of the

It is usually impossible to include the additional stage inside the cabinet itself without re-arranging apparatus, so that the r.f. stage pictured here has been built as a separate unit, and as such, may be connected up, or removed from any existing receiver in a few moments.

The apparatus is totally screened. The r.f. stage itself is enclosed in a Radiokes Screening Box of the new type, whilst a small aluminium cup obtained from Woolworths for a few pence, was used to screen the choke and condenser as shown.

Construction is quite simple. If the reader follows instructions he will find that working in a confined space will not be at all difficult. The sides, back, front, and top of the screen are removable, and any of them will stand in place without support from the others.

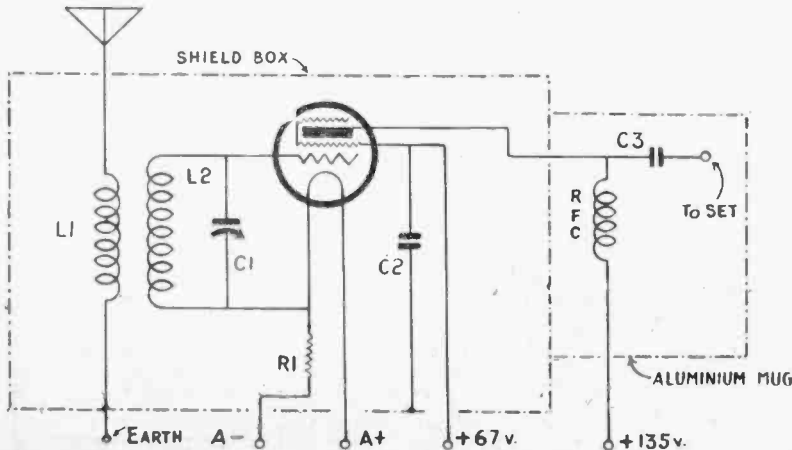
On the front of the screen drill a hole large enough to permit entrance of the condenser shaft. Mount the condenser C.1 on the aluminium side of the screen, and do not insulate the condenser from it. The rotor plates of the condenser (which are always connected to the metal frame of the condenser) will make contact with the shield, and will thus be indirectly earthed. In cheaper types of condensers, bakelite frames are used, and in such cases, the rotor plates of the condenser should be connected to the aluminium shield. The condenser has a capacity of .0005mf. The condenser used here was an "Advance," which suited admirably, as the space inside the shield is limited, and the rotor plates, when all out, do not overlap the edge of the fixed plates, as is the case with some s.l.f. types, which later, however, are quite suitable where space allows their use.

Immediately behind the condenser (see photograph) the coil is mounted. Here attention has been paid to space available. The coil is from the Radiokes Neutrodyne Kit, and is termed the Neutrodyne "aerial coil." L.2" This coil is of very small dimensions, and is suited eminently to our purpose. It has an aerial coil (L.1), conveniently tapped in the centre, and a secondary coil (L.2). When connecting up the aerial terminal of the coil, you will notice that there are two. The one to use is that which is connected (look inside the coil), to the extreme end of the primary. In any case, if the reader is in doubt, he can try both terminals in a few moments, and will soon find which one should be used.

Behind the coil a shock-absorbing Benjamin valve socket is mounted. The socket is of the usual UX type, but particular note should be taken of the fact that as the

Here is a single-valve screen-grid radio frequency amplifier unit specially suited for attachment in front of any battery operated receiver of one, two, or three valves. Its use will mean added selectivity, much higher sensitivity, and improved overall performance.

stage is difficult, for it will take only a few hours to build. The most difficult part is in deciding which way the stage will be connected up, owing to the fact that there are so many types of receivers, and one method of adding the stage might be quite suitable for one type of receiver, whilst if it is connected up in the same manner to another existing receiver, results will be inferior. However, this will be discussed later



screen-grid valve is particularly made to fit the socket, and is also made to be as efficient as possible, the plate terminal of the valve socket becomes the screen-grid connection. The grid terminal of the socket remains the same. The plate connection is at the top of the valve itself. Do not forget this, as otherwise the amplifier will not function. It will mean that the screen-grid is being heavily overloaded, and the plate of the valve is not receiving enough voltage.

To the left of the socket is mounted a .5 mfd. (C.2) fixed condenser, whilst to the right of the socket a 20ohm fixed resistor (R.1) is mounted. If any difficulty in procuring this resistor is experienced, a 20ohm rheostat can be used.

We are imagining the unit to be facing us, ready for tuning, i.e., with the condenser dial facing us. On the right-hand side of the shield should be mounted three terminals equi-distant. Care must be taken to insulate each of these terminals from the shield, by making the hole larger than necessary, mounting a piece of ebonite over the hole, then mounting the terminals in the ebonite. If this is not done, a direct short will result.

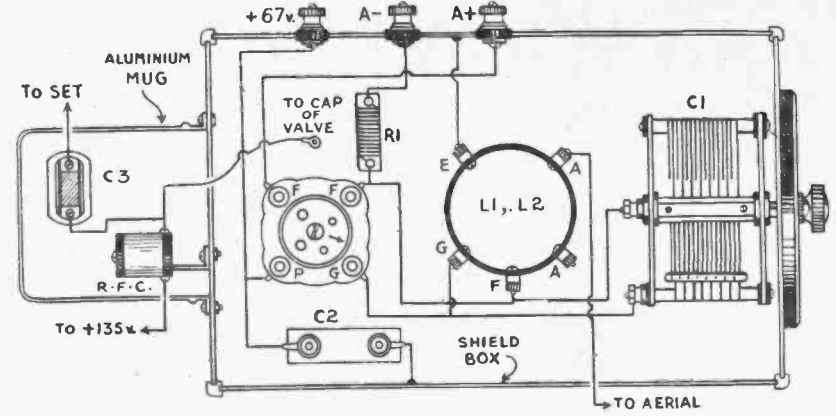
Before mounting the choke, connect the condenser (C.3) (.00025mfd.) to one side of it, as shown in the drawing. Now arrange the condenser and choke so that they fit snugly inside the aluminium cup, without touching. When the best position has been found, the choke and condenser can be mounted at the back (outside) of the shield, and the cup temporarily mounted over it. This is best done by flattening out the rolled edge of the cup in two places, and holes drilled to make metal thread screws. These pass through the cup and the shield, and the cup is held firmly by tightening up nuts inside the shield. For the moment, however, there is no need to tighten the nuts.

On the left-hand shield, one terminal is mounted. Insulate this terminal also. This is for the aerial connection.

The wiring is very simple. Before it is commenced the sides and back are left off to facilitate wiring. As it becomes necessary to wire to the shields, they should be placed on.

Commence by taking a lead from the aerial terminal of the coil (that one further from the earth terminal of L.1) to the terminal on the left side of the shield. This terminal is the aerial connection of the unit, and to it the aerial should be connected when the unit is to be used.

No connection is made to the other aerial terminal, but the earth terminal of L.1 should be connected to the shield at the nearest point. Now connect the G terminal of L2 to the grid terminal of the valve socket, and also to the fixed plates of the variable condenser (C.1). The rotor plates of the con-



denser should be connected to the F terminal of the coil, L.2, thence to one of the filament terminals of the valve socket, to one side of the resistor (R.1). The other side of the resistor should be connected to one of the terminals on the side of the screen. It is the A negative terminal.

Note here that the resistor, R.1, the valve used, and the A voltage have a very definite relation. The valve used in the original receiver was an Osram S410. This requires a negative grid bias of about two volts, and is

valve, becomes the screen-grid connection) should then be connected to one side of C.2 (the .5mfd. condenser) and thence to the third terminal on the side of the screen (B plus 67 volts). The remaining side of C.2 should be connected to the screen at any near point.

Remove the cup from the back of the shield, and drill a hole on the bottom of it, and another in the side of it. A flexible lead should be pushed through the hole, and connected to one side of the r.f. choke (R.F.C.). The other end of this wire eventually connects to B plus 135 volts. The other terminal of the choke should already be connected (if instructions were followed in mounting) to one side of C.3 (.00025mfd.), and a lead should also be taken from the same terminal of the choke through a hole drilled in the back shield to the top, i.e., the plate of the valve. A flexible insulated lead should be used here. Keep the lead short and solder a lug to the end of it so that good contact may be made to the plate of the S.G. valve.

The other side of C3 should be connected by means of a flexible lead to the existing receiver. This may be the original aerial terminal of the set, though in some cases it may be found that the grid terminal of the valve will give better results.

The following is very important. Read carefully. The negative "A" terminal of the booster unit is connected to earth through the resistor R1. If the other "A" terminal is also earthed the battery will be short-circuited. Therefore, there must be no earth connection on the receiver itself. Further, the shield of the booster is connected with one side of the primary of the receiver proper. If this primary is connected with the filament A plate batteries, as is often the case, trouble will result. The remedy in such a case is to use a fixed condenser in series with the lead connecting the shield of the booster to the receiver. This condenser can be of any capacity over about .001 mfd.

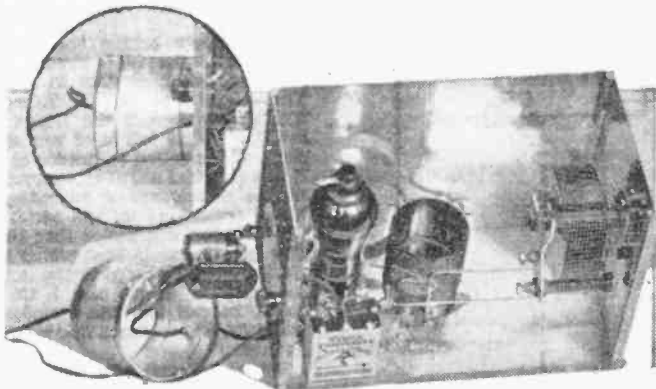
Connect the aerial next, then tune the receiver, and the unit. Keep the unit in step with the receiver. It will be found that readings will be almost the same. There is no need to keep readings exactly alike. As soon as you strike a carrier wave reduce this to its lowest pitch on the detector tuning condenser, then adjust the R.F. unit condenser. You will find that there is one point where the signal will be greatly amplified.

The booster unit should certainly be a worth-while addition to any receiver in which not more than one radio frequency amplifier is already in use.

NEXT WEEK
The 1930 Super-heterodyne
described by Ross A. Hull
—the latest word in receiver
design, and the finest ever
published in
WIRELESS WEEKLY

obtained by using a six-volt accumulator (or dry battery) for "A" supply, through a 20ohm resistor. This resistor drops the filament voltage to four, and places the requisite bias on the grid. If it is desired to use a four-volt accumulator, a two-volt screen grid valve should be used. Either the Mullard PM12 or the Osram S215 will be suitable here.

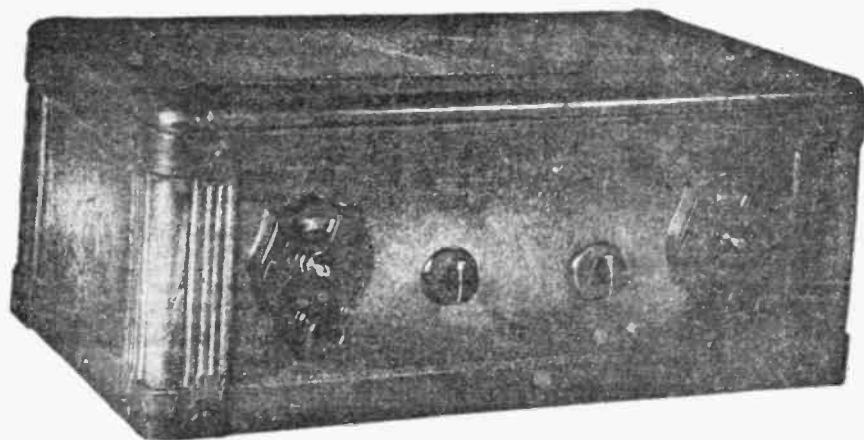
Now connect the next terminal on the side of the screen to the remaining filament terminal of the valve socket. The plate of the valve socket (which, with the screen-grid



A side view of the unit showing end can removed.

Inset: In position.

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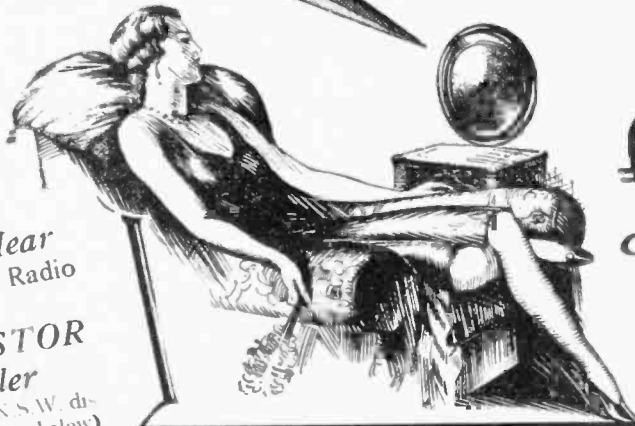
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ROSS A. HULL
M. I. R. E.

AS is so often stated, there should be some definite relationship between the impedance of an audio frequency transformer and the valve feeding it in order to obtain some required operating condition. Discussion is often heard concerning the fact that since the impedance of the transformer primary changes with changing frequency, and the impedance of the valve does not, any given relationship between the impedance can exist only at one frequency. This, of course, is true, but the correctly-designed transformer gives a reasonably flat frequency characteristic, nevertheless. A very simple and direct explanation of the whys and wherefores appears in a recent issue of "Radio." We reprint it.

"Why the impedance of an audio transformer's primary winding should match that of its associated vacuum tube's plate circuit for the lowest audio frequency to be reproduced, rather than at some higher frequency, is not generally understood. That maximum energy transfer occurs when the impedances of the two coupling units are equal, is a well-known rule of thumb. The impedance of the tube is about the same for all audio frequencies. The impedance of the primary increases as the frequency increases, and so the curve of energy transfer from tube to primary drops for increasing frequencies. On the other hand, the curve of energy transfer from primary to secondary rises as the frequency increases. These opposite tendencies neutralise each other so that their resultant curve approximates to a straight line. Which is to say that the energy transfer from tube to secondary is nearly uniform for all frequencies received from a broadcast station if the tube impedance matches that of the transformer primary at the lowest audio frequency."

NEXT WEEK

The 1930 Super-heterodyne described by Ross A. Hull —the latest word in receiver design, and the finest ever published in WIRELESS WEEKLY

Some Thoughts on Screen-grid Valves

Some Thoughts on Screen-grid Valves

DR. KARL J. FISCHER, of Brisbane, discussing further the subject of neutralising mentioned in a recent issue of WIRELESS WEEKLY writes:—

"The tendency towards oscillation caused by the feed-back of amplified currents depends on two characteristics of the valve—first, the capacity between control-grid and plate; and second, the amplification factor.

Now, as there are screen grid valves, the grid-plate capacity could be decreased as far as .01 c.m. by connecting the screen grid inside the valve with the magnesium foiling of the glass, and by placing the plate tap on top of the valve. Consequently the amplification factor could be increased enormously without causing oscillation in the usual amplifier. But there is a fundamental rule in

electro-technics that the internal resistance of any generator must equal approximately the external resistance, or in this special case the resistance of the tuned anode circuit. The best coils and condensers used for receivers in trade cannot give a greater external resistance than about two hundred thousand ohms. Most screen-grid valves are built with a higher value of internal resistance than this, and consequently their full effectiveness cannot be taken advantage of.

"The tendency towards oscillation in a screen-grid stage is usually caused by wild capacities of the wiring and by induction troubles. In building a screen-grid valve stage, it must be pointed out that a tuning coil has a live end and a dead end. The live end being very sensitive against any capacitive influence. Liberal uses of by-pass condensers and radio frequency chokes and a reasonable shielding is the right way to avoid oscillation, and

clear conception of the magnetic lines of force produced by tuning coils and chokes."

Mounting the Pick-up

IT is well known that in order to obtain the best reproduction together with a minimum of record wear, the needle of the pick-up, or rather its pivot axis, should lie in a plane tangential to the record groove at the point of contact, and should, therefore,

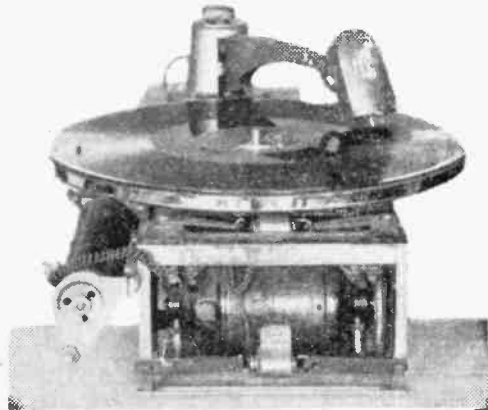
be free to move at right angles to the groove. It is relatively easy to mount the tone-arm in such a manner that this condition holds at one place on the record, but it is almost impossible to provide for the most satisfactory possible alignment all the way across the record merely by judging the position of things by eye.

The usual method of estimating the correct arrangement of the pick-up and tone-arm is to swing the pick-up across until the needle touches the turn-table drive shaft at the centre position. It can be shown easily however, that this

method is quite incorrect, and surely results in serious errors in alignment. In the "Wireless World" for August 7, the subject is given detail treatment and a formula is presented by which the correct distance from the tone-arm pivot to the turn-table shaft can be determined for a tone-arm of any given length. The article would make interesting reading for any pick-up enthusiast, but for those to whom it is not available we reprint the concluding paragraph.

In brief, and by way of summary, one should first determine the distance between the tone-arm pivot, and the turn-table shaft. To do this, square the length of the tone-arm as measured between pivot and needle, subtract 12, and take the square root of the result. Making use of the distance thus found, move the position of the tone-arm pivot until the needle points in the direction of a tangent to the groove when at a point about 5in. from the centre spindle. Should the pick-up possess the desirable feature of permitting of adjustment on the end of the arm, then the precise location of the tone-arm pivot is immaterial so long as the distance between it and the turn-table shaft is maintained, and in these circumstances the pick-up will need to be swivelled to the tangential position when the needle is 5in. from the centre.

It would seem that it is by no means generally known that many of the moving-coil speakers have incorporated in them a filter which has an effective "cut-off" at about 4000 cycles. The idea of the filter is to make the reproduction mellow and also to avoid the effects of overloading when the speakers are used with an amplifier of low undistorted output. Unfortunately these filters have the effect of destroying most of the crispness and brilliance in the reproduction, and, in the writer's opinion, should be done away with if the amplifier has a rated output of more than about one and a half watts.



A modern pick-up in operation. The gramophone motor is electric-driven.

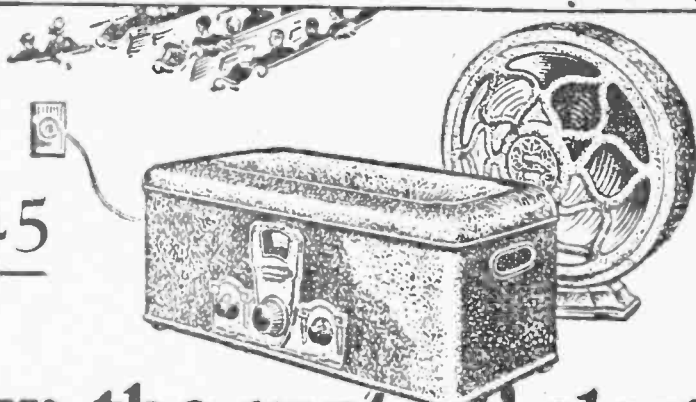
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Treating Various Forms of Inductance

WHEN a circuit is made, part of the voltage is employed in overcoming the e.m.f. of self induction, and part in driving the current through the ohmic resistance (similar to the friction of a wheel on an axle and ground). While the former lasts, energy is being given to the circuit and is being stored in the magnetic field. Finally, by the time the current reaches its maximum value, the induced e.m.f. has fallen to zero, and the applied voltage is solely devoted to driving the current through the resistance.

When the circuit is broken, the electrical inertia or inductance of the circuit, objects to a decrease of current, and before the current can be reduced or stopped, this energy must be partly or wholly removed, in the form of heat, "convection current," at the break (switch) or the circuit. In D.C. circuits, the inductive effects are in operation only when switching on and off, but in A.C. circuits, where the current is continually rising and falling, the inductive effects are continually rising and falling, the inductive effects are continually present. This explains to some extent why we are always advised to run A.C. valve filament leads in twin flex, since the magnetic fields will, to some extent, be cancelled, and will not affect so greatly other parts of a radio circuit and cause induction.

Inductance of Wire

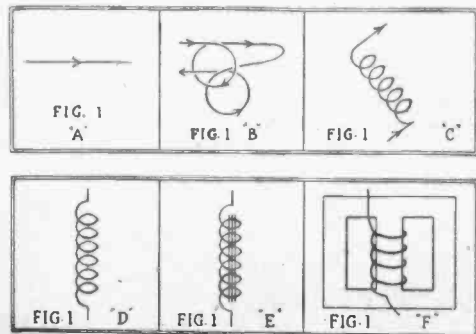
The inductance of a length of wire depends upon the form it takes, how it is arranged or wound.

If left "single," so that the lines of force from one part of it do not interlink with another part, its inductance will be small, because the amount of cutting or interlinking must be small. See Fig. 1 (a).

If the wire is carried back on itself in a bight, the magnetic field of force of one-half will neutralise that of the other, and the circuit will be "non"-inductive. Resistances used in measuring instruments are wound thus way.

If the wire is wound into a coil (c) and (d) the inductance is greatly increased as the flux of each turn interlinks with the other, i.e. the amount of interlinking is greatly increased.

Again, in the case of a coil with an iron core (e) and (f) the latter has a multiplying effect on the flux and the interlinking are increased to a still greater effect.



Radio Proficiency

Continuing the series of articles for the A.O.P.C. course

A circuit containing a powerful electromagnet is termed "highly inductive." Such a circuit would be the field circuit of an electric motor.

"Self-Inductance"

The constant "L" is called the "self-inductance" or co-efficient of self-induction of the coil. It is usual and permissible to say "inductance" when self-inductance is meant, but it is very important to avoid confusion between the two words induction and inductance. Induction varies with the rate of change of the linkages as explained previously, but inductance is a fixed invariable quantity depending on the shape and number of turns of the coil, and independent of the current passing through the coil, provided there is no iron present.

The unit of self-inductance is the henry. It is equal to the induced e.m.f. divided by the rate of change in current. A coil is said to have unit self-inductance if the e.m.f. induced across it is one volt when the current is changing at the rate of one ampere per second.

Four Forms of Inductance

Various subdivisions of the henry are:— Millihenry, or thousandth part of a henry symbol mh. Microhenry (abbreviated "mic") or millionth part of a henry, symbol uh. Centimetre, thousand millionth part of a henry, symbol em.

When a magnetic field is created round an inductance, a certain expenditure of energy is necessary over and above the energy expended in forcing current through the resistance of the coil. When the magnetic field collapses on the current falling in value this energy is restored to the circuit again, causing the current to continue for a longer time than it otherwise would have done. This energy is therefore stored in the magnetic field round the inductance.

There are various forms of inductance used in wireless telegraphy and telephony. These may be classed as under:—

(a) Inductances having a maximum of inductance of the order of henrys, in a minimum of space and a large current carrying capacity. These will have large iron cores. Such are armatures and field coils of electric motors, dynamos, and alternators, transformers, induction coils, etc.

(b) Inductances of a very small value, having very low resistance. Very large current carrying capacity, and less insulation between adjacent turns. Such are primaries of spark oscillators.

(c) Inductances of a much larger value, slightly more resistance, less current carrying capacity, and less insulation between adjacent turns than (b). Such are the aerial coils of C.W. (continuous wave) transmitters.

(d) Inductances of large value of the order of mics, of smaller diameter wire and low insulation between turns, adjustable in steps. Such are the inductances used in radio receivers.

A variometer inductance is composed of two coils joined in series. One is fixed, and the other can be rotated inside the fixed one. When in one position the direction of the windings of the two coils is such that the field produced by one annuls nearly all the field due to the other, and the inductance of the two coils is a minimum. When the moving coil is rotated through 180 degrees from this position, the fields produced by the two coils assist one another and the inductance is at a maximum value. Thus a variometer affords a variation of inductance.

As previously remarked inductances in series are treated the same as resistances in series, i.e. the total inductance of three coils in series will be L1 plus L2 plus L3, whilst inductances in parallel are also calculated by the same method as resistance in parallel, i.e. L equals 1 over L1 plus 1 over L2 plus 1 over L3.

Their joint effect in opposing the rise or fall of current is decreased in the same way that the joint resistance of several resistances joined in parallel is decreased.

These notes should be used in conjunction with remarks given in "Proving Radio."

If a second circuit containing inductance be brought near a circuit carrying a current (see Galvanometer experiment—"Proving Radio") the flux due to the current in the first circuit will cut the second. Any change in the current of the first circuit will produce a change in the flux linkage with the second circuit and therefore an e.m.f. will be set up in this circuit. This phenomenon is known as "mutual induction." Any two circuits between which there is mutual induction are said to be magnetically or inductively coupled.

"Mutual Inductance"

The closer the two coils are together, the better will be the magnetic path for the lines of force, and the greater will be the induced e.m.f. for any change of current.

A pair of circuits are said to have mutual inductance or a co-efficient of mutual induction of one henry when current changing in one circuit at the rate of one ampere per second produces in the other an e.m.f. of one volt. This "mutual" inductance is measured in henrys, millihenrys, mics, etc., just as inductance is. It is denoted by the letter "M" and is a measure of the lines of force linked by the two circuits for a given current in one.

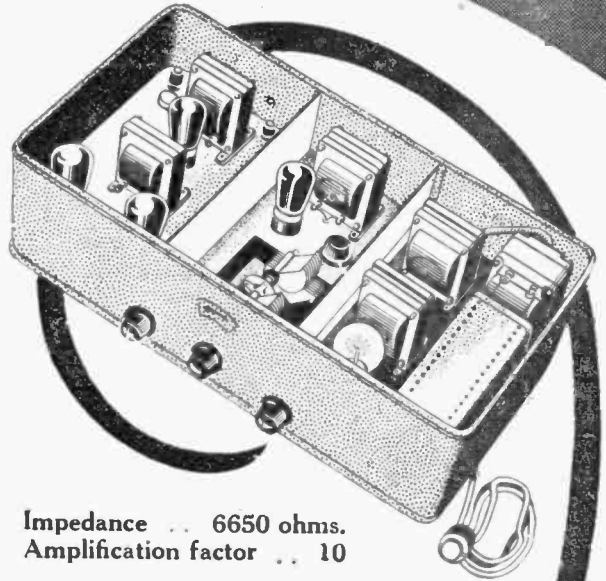
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(By G. C. COOPER.)

Who will talk from 2BL on Saturday, at 10.10 a.m.

HEDGE plants form one of the most important items in cottage and villa gardens. During the past three years at 2BL I have answered scores of letters in reference to their cultivation.

The first thing to be decided is the purpose for which a hedge is required. Then you can go ahead and select the most suitable of the many plants available from the nurseryman's list. Situation and soil are the controlling factors. If you are living near the sea, or facing the sea, the "European Olive," "Olea Europaea," is best. Its leaves are small; so that when clipped it does not give a mutilated appearance, as is the case with the larger leaves of the "Coprosmia Lucida." The olive does not make rank growth at any time; so there is no necessity to be always using the shears. The olive is a nice dark green hedge, not subject to scale or insects, as are many other hedge plants; and the roots do not rob the ground alongside.

For growing near grass tennis courts, croquet lawns, bowling greens, vegetable and flower gardens, the European olive is the best all-round hedge. Another plant for near the sea and the harbor is the New Zealand "Looking-glass Bush," "Coprosmia Lucida," which has shiny green rounded leaves, and, like the olive, is grown for the foliage only; not for flowers, which are insignificant. The Coprosma should not be clipped with hedge shears, but with secateurs or by nipping off the points of all the strongest growing shoots. This is the ideal method of growing any hedge plant; so if you have the time, do this, and your neighbors will wonder why your hedge always looks so well, though it is not clipped with the hedge shears in the usual way.

A plant which should be more widely grown in New South Wales is "Cupressus Torulosa." This variety of the cypress family does not grow rank and strong, like "Cupressus Macrocarpa" does. The latter variety is grown largely at Kensington and Randwick. Grown from seed, this variety dies suddenly on maturing; but grown from cuttings it will not die. Therefore, if you intend to grow "Cupressus Macrocarpa," be sure to buy from a reputable nurseryman. For all small gardens, "Cupressus Torulosa" is the best cypress. It can be grown where there is only one foot of space—say, between a fence or wall and pathway. One thing to bear in mind is, it does not like much shade, at any rate, half a day in the sun is the least it can do with. Strange to say, the cypress has not been used much in New South Wales for hedge purposes; while in and around Melbourne it is used extensively.

The golden privet makes a nice dwarf hedge, but must have all the sunshine. Also, green growths must be cut out, as this golden privet has a habit of throwing green shoots, which, being stronger, soon weaken the more beautiful golden growths. Up to three feet in height, this privet is one of the best. It does not grow so strongly as the English privet, and less clipping is required.

For a hedge up to eight feet high, and one that is thorny, so that the cattle may not touch it, the Cotoneaster is easily the best. A sunny position is essential. The white flowers in spring are followed by red berries in autumn and winter—the contrast of the red berries with the green foliage being very striking indeed. No fences are necessary where Cotoneaster is grown; humans or cattle cannot handle this thorny plant, although the thorns are not immediately visible.

Completing the Twin Outdoor Pusher Plane

Concluding the details for the construction of the first model outdoor plane described last week. Do not forget to tune, in the Model Aero Club Session on Monday.

YOUR front hook—shown at the apex of the A frame—is made of No. 15 music wire and is bent around the front of the frame to form a yoke with an eye on each side. These eyes or hooks do not need to be large since S hooks are used to fasten the rubber to them. The yoke should be bound with silk and cemented.

Coat your frame with oil to strengthen it. Your next job—making the elevator—is not at all difficult, but it does require care. Study Fig. 5. Notice that the middle is flat and that the tips are slanting into the air. Notice that the tip at the trailing edge is only 3-4 inch high and the tip at the leading edge is 1 1/2 inches high. This gives your plane its lift. Note that the elevator is simply a bamboo frame covered with tissue.

Elevator Frame

First of all, make a full-size drawing of the elevator to work to. For the frame, split off a piece of bamboo 1-16 by 1-8, as long as your stock. Bend this to the shape of the tip, and when it's bent, split it down the middle. This will form nearly your entire two halves of the elevator. Short straight pieces will have to be fitted and cemented to the leading and trailing edges to complete the frame.

Now comes the delicate bending job. Remember that the centre part of the elevator is flat. At the proper points on the leading and trailing edges—see drawing—you must carefully heat the bamboo and bend upward. You must give a greater bend to the leading edge than the trailing edge so that the tip at the leading edge will be 1 1/2 inches in the air, and the tip at the trailing edge only 3-4 inch high. Check constantly with the drawing until the elevator is just right. This is extremely important.

Cover the elevator with tissue just as you did the wing.

Carving the Propellers

Your last job is carving the propellers. There are two of these—one right hand and one left. They must turn in opposite directions to balance the ship. Start out by squaring and sanding both blocks to the size shown in the drawing, Fig. 5. Then draw diagonals at top and bottom, on both blocks, and push a pin through the intersection to form the hole for your propeller shaft.

On one end draw end diagonals, as shown in A, Fig. 5. The end diagonal at the opposite end of the block runs between opposite corners. On your other block, draw end diagonals just opposite to those on your first block. Thus you'll get one right hand and one left hand propeller.

Now carve the blocks to the shape of B, leaving about 1-8 inch in the middle for your hub. Then cut away the wood above the diagonals so that your block looks like C. At this point, put a slight dish, or camber, in the surface of each blade by rubbing with fine sandpaper. This dish should run the entire length of the blades.

Sandpaper the Blades

The next step is to carve away the wood opposite the camber, until your blades are fairly thin. To finish the props, round the ends—be sure to get them all the same—and cut away part of the hub from top to bottom. Sand down the blades until you can see light faintly through them.

Now pass the propeller shaft through each hub, bend the end into the square U as shown in the assembly drawing, Fig. 3, and

push the U back into the wood. Cement it in place.

The small 1-4 inch washers that go on the hub are made of sheet brass. They cut down the friction between thrust bearing and propeller.

"Motor" of 'Plane

The plane derives its power from 16 strands of 1-8 inch flat rubber—8 on each motor. This rubber should have about 2 inches of slack when laid unwound in the cans. The loops of rubber are engaged in the rear, by the hook on the propeller shaft, and at the front, by the S hook, bent from piano wire.

To assemble your plane, fasten the elevator to the A frame near the apex with rubber band in such a manner that the band goes under the frame, over the middle of the elevator, and under the frame again. Be sure that the leading edge of the elevator is toward the apex. Next fasten your wing to the frame by means of four clips—two on each beam—such as those shown in Fig. 4. Notice that the clips are held to the beams with rubber bands so that the wing may be adjusted backward or forward on the frame.

It takes two men to wind up an outdoor pusher—and you'll want to use the egg-beater winder that the WIRELESS WEEKLY has already described. Don't try to get along without this winder—if you don't want to invest in one yourself invite several of your friends to share the expense with you.

Winding Motors

To wind up your motors, ask your companion to hold the plane by the two propellers so that they won't turn in his hand. Then engage the rubber motors to the winder by means of the S hooks. When you've done this, back away from your companion four or five feet so as to stretch the rubber before you start winding it. In this way you can give the rubber more turns. Turn the winder so that the rubber is turned in the direction the propellers should turn in flight.

Don't attempt your first flight until the plane has been adjusted to glide evenly. If it dives too steeply from your hand to the ground, set your wing forward (toward the apex of the frame). If it attempts to climb and then stalls, set your wing back toward the propellers.

Now you're ready to wind up your motor for a test flight. Give them only about 500 turns. In launching the plane, grasp the two propellers, gradually lift the nose in the air until it is tilted slightly upward, and then, with a slight push, send the ship away from you.

Chasing the 'Plane

If it comes right back at you, you've made a mistake common even to experienced model builders—you've wound the propellers backward. In that case, you can afford to release a wide grin before you try again.

If you've followed directions, ten to one your first flight is successful, which means that on your next trial you can wind the motor more tightly and eventually, perhaps, give it 1200 turns without fear of the frame breaking. But if you do give it that many turns, better have a bicycle handy so that you can chase your ship in case it decides whimsically to travel into the next State!

(If you want to construct an egg-beater winder, get a copy of WIRELESS WEEKLY of July 5.)

Local Programmes, Friday, September 20

2FC

Australian Broadcasting Company, Ltd., Market St., Sydney (Wavelength, 451 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 "Daily Telegraph" pictorial.
7.6: Austradio Musical Reproduction.
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: Tomorrow's Sporting Events, by Oscar Lind.
10.45: Horace Weber at the grand organ.
11.0: Household Helps: Cooking, by Miss Ruth Furst.
11.10: Cables—A.P.A. and "Sun-Herald" News Service. British Official Wireless Press.
11.15: Morning devotion.
11.30: Austradio Musical Reproduction.
12.0: "Big Ben", Stock Exchange and metal quotations.
12.5: "What to Read," by Francis Jackson.
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 p.m. 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 "Sun."
2.7: Popular Education: W. S. Reay.
2.27: Announcements.

THE RADIO MATINEE—2.30 to 4.30 p.m.

2.30: The Monterey Instrumentalists
2.45: William Squires, baritone—
(a) "Song of the Tinker" (Salaman)
(b) "Tramp, Tramp, Tramp" (De Sylva and Woods)
2.52: Rhys Kemmis, violinist—
(a) "Romanse" (Harrhy)
(b) "Hungarian Dance" (Brahms)
3.0: The Monterey Instrumentalists.
3.15: Olga Rasmussen, mezzo—
(a) "A May Morning" (Denza)
(b) "Lambie Love" (Vanderpool)
3.22: Ewart Chapple, pianist—Suite—Part 1 (Karganoff)
3.30: William Squires, baritone—
(a) "Hurray! For the Spanish Main" (Felnbloom)
(b) "The Sun God" (James)
3.37: Rhys Kemmis, violinist—
(a) "Midnight Bells (Hueberger-Kreisler)
(b) "Meditation" from "Thais" (Massenet)
3.44: Olga Rasmussen, mezzo—
(a) "Fairy Pipers" (Brewer)
(b) "Sing Along" (Penn)
(c) "Auld Scotch Mither Mine" (Stevens)
3.51: Ewart Chapple, pianist—Suite—Part 2 (Karganoff)
4.0: "Redem" will speak on "Gardening."
4.15: The Monterey Instrumentalists.
4.29: 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 the Farmyard Five.
6.45: The National Broadcasting Orchestra will play Dinner Music.
7.30: A.B.C. Sporting Service.
7.37: Special Country Session. Stock Exchange resume; markets; weather forecast; late news service from the "Sun"; truck bookings.
7.58: To-night's programme.

THE EVENING PRESENTATION—8.0 to 11.30 p.m.

2FC's programme to-night will make a wide appeal—Organ Music, Popular Vocal Quartette Numbers, Saxophone Novelities, a snappy Talkie Short and Band Music relayed from Melbourne. 2BL listeners are offered a

INDEX

To Local Programmes

Table with columns for day, time, and page number for local programmes.

To Interstate Programmes

Table with columns for day, time, and page number for interstate programmes.

9.30: British official wireless news
9.35: New music.
10.5: News from the "Daily Telegraph Pictorial."
10.10: The Australian Broadcasting Company's Women's Association, conducted by Miss Gwen Varley.
10.30: Austradio musical reproduction.
10.45: This morning's story.
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 "Sun."
1.5: Studio music.
1.15: Women's "Interest Talk"—Mrs. Meredith Atkinson.
"Railways I have met."
1.30: Austradio musical reproduction.
2.0: J. Knight Barnett at the "Wurlitzer."
2.12: Studio music.

AFTERNOON ENTERTAINMENT—2.30 p.m. to 5.45 p.m.

2.30: Business efficiency talk, "Know Australia First," by C. R. Hall.
2.45: "The Magic Carpet," Major Sandford Morgan, "Damascus—The Mysterious City."
3.0: Romano's Dance Orchestra, conducted by Bennie Abrahams.
3.12: From the Studio, Dismal Desmond, comedian.
"The Phenologist" (Clifford).
3.19: The latest popular numbers.
3.22: Romano's Dance Orchestra, conducted by Bennie Abrahams.
3.32: From the Studio, William Everard, tenor.
(a) "Love's Garden of Roses" (Haydn Wood).
(b) "That Old Irish Mother of Mine" (Von Tilzer).
3.39: Kathleen Roe, pianoforte solos.
3.40: Romano's Dance Orchestra, conducted by Bennie Abrahams.
3.52: From the Studio, Dismal Desmond, comedian.
(a) "Our Motor Car" (Williams).
(b) "A Few Short Stories" (M.S.S.).
3.59: Melody memories.
4.2: Romano's Dance Orchestra, conducted by Bennie Abrahams.
4.12: From the Studio, William Everard, tenor.
(a) "It is only a tiny garden" (Haydn Wood).
(b) "The road that brought you to me" (Hamblen).
4.19: Kathleen Roe, pianoforte solos.
4.26: Romano's Dance Orchestra, conducted by Bennie Abrahams.
4.32: Melody memories.
4.45: "The Trade Hour," demonstration music.
5.45: Weather information. Close.

THE DINNER HOUR—6.15 p.m. to 7.55 p.m.

6.15: The National Broadcasting Orchestra.
6.45: The A.B.C. "Younger Set" Session; the A.B.C. Boy Scouts' Club, conducted by Mr. Norman Lyons.
7.5: Talk on "Sporting," by Claude Corbett.
7.15: The country man's market session: Wool, wheat, stock, farm produce, fruit, vegetables, and poultry markets; truck bookings.
7.30: The National Broadcasting Orchestra.
7.45: Austradio musical reproduction.
7.55: What's on the air to-night?

TO-NIGHT'S PRESENTATION—8 p.m. to 11.30 p.m.

To-night's classical offering will delight the hearts of lovers of good music, and particularly good Australians, who will welcome their own brilliant pianist-composer, Arthur Benjamin. The concert features his own compositions. 2FC listeners will get a little of everything—half an hour of organ music, new songs by the A.B.C. Male Quartette, saxophone novelities, and a spice of talkie short. The relay from 3LO, Melbourne, is featuring an excellent programme of band music.
8.0: From the Conservatorium of Music,

musical treat—The programme arranged by Cyril Monk in association with Arthur Benjamin is all-Australian, featuring Arthur Benjamin's own compositions. The artists assisting are:—Spencer Thomas, Frank Hutchens and Lindley Evans, Gladstone Bell, and the Conservatorium String Quartet.
8.0: From Fullerton Memorial Church, Sydney—Organ Recital arranged by Ronald Mareton, A.T.C.L.—
(a) "Concert Overture in F" (Mansfield).
(b) "Minuet in G" (Beethoven)
(c) "In a Monastery Garden" (Ketelby).
(d) "Cathedral Chimes" (Zamecnik)
(e) "Impression of Belgium" (Beale).
"Up the Canal," "A Military Fete" (introducing National Airs).

8.30: From the Studio: The A.B.C. Male Quartette—

(a) "Drifting and Dreaming" (Van Alstyne).
(b) "Little Brown Baby" (Low).
8.40: Josef Kaartinen, saxophone solos—
(a) "Liebesleid" (Love Pines) (Kreisler).
(b) "Velma" (Wiedoeff).
8.47: A Talkie Short.
8.58: The Country Man's Weather Session—
(a) New South Wales forecasts.
(b) Interstate weather synopsis.

9.0: The A.B.C. Male Quartette—

(a) "Dear Old Moonlight" (Lemonier).
(b) Medley of Old Minstrel Choruses—
1. "In the Evening by the Moonlight."
2. "Old Black Joe."
3. "My Old Kentucky Home."
4. "Old Folks at Home."
9.10: Josef Kaartinen, saxophone solos—
(a) "Valse Lento" (Kaartinen).
(b) "Sax-O-Trix" (Wiedoeff).

9.15: From 3LO, Melbourne—A programme of Band Music.

10.15: From the Studio—Announcements. Late official weather forecast.

10.20: From the Oriental Cafe—Sydney

Simpson's Syncopators in Dance Music.
11.30: Close. "National Anthem."

2BL

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

OPENING SESSION—8.15 a.m. to 11 a.m.

8.15: G.P.O. chimes.
Music for every mood.
8.45: Meteorological data for the country.
8.50: Austradio musical reproduction.

concert arranged by Cyril Monk, in association with Arthur Benjamin.

String Quartette—Gerald Walenn, Lloyd Davis, Alfred Hill, Gladstone Bell. "Pastoral Fantasy."

Songs—Spencer Thomas.

- (a) "The Mouse" (Curwen).
- (b) "Before the Dawn" (Curwen).
- (c) "The Moon" (Elkin).
- (d) "Hey Vonino No" (Elkin).

"Sonatino for Violin and Piano."
Cyril Monk and Arthur Benjamin.

8.50: From the Studio. Announcements.

9.0: From the Conservatorium of Music.

Second half of concert arranged by Cyril Monk in association with Arthur Benjamin.

Songs—Spencer Thomas, with String Quartette accompaniment.

- (a) "Calm Sea and Mist" (Curwen).
 - (b) "Hedgehog" (Curwen).
 - (c) "The Wasp" (Curwen).
- Arthur Benjamin.
"Suite in Four Movements for Piano."
Cello solos—Gladstone Bell.
Solos based upon Negro Spirituals.
Two pianos—Frank Hutchens and Lindley Evans.

"Pastorale and March for Two Pianos."
10.0: From the Studio. V. C. Bell will speak from "The Public Forum."

10.15: Austradio musical reproduction.

10.25: Late news from the "Sun" and late weather forecast.

10.30: Close.
National Anthem.

2GB

Theosophical Broadcasting Station, 59 Bligh St., Sydney (Wavelength, 316 Metres).

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. 2.0: Music. 2.5: Women's Radio Service by Mrs. Dorothy Jordan. 2.50: Movie Know All. 3.0: Music. 3.15: Address by Mary Rivett. 3.30: Close down. 5.15: Children's session by Uncle George. 7.0: Music. 7.45: Feature story. 8.0: Miss Florence Day, contralto. 8.7: Symphony Orchestra. 8.15: Madame Betts-Vincent in an illustrated talk on music. 8.30: Mr. Clement Hosking, baritone. 8.40: Mr. Jack Win and Mr. Heath Burdock, humor. 8.45: Symphony Orchestra. 8.50: Miss Mary Mulconry, soprano. 9.0: Weather report. 9.3: Address. 9.15: Violin solos. 9.25: Miss Florence Day, contralto. 9.35: Mr. Jack Win and Mr. Heath Burdock, humor. 9.40: Mr. Clement Hosking, baritone. 9.50: Symphony Orchestra. 9.55: Miss Mary Mulconry, 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 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: Popular organ music. 9.0: G.P.O. clock and chimes; comments on foreign affairs by Mr. J. M. Prentice. 9.10: Music and request numbers 10.30: Close down.

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: Women's session; home hints and information, conducted by Mrs. Gray. 11.0: A few laughs. 11.5: Piano-forte 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: Sporting feature, turf topics, review of candidates and prospects for to-morrow. Mr. George A. Davis. 7.40: Request numbers. 8.0: Hawaiian steel guitar selections. 8.15: Women's information service, Mrs. Gray. 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 event. 10.0: Closing announcements.

2UE

Broadcasting Station 2UE, Everett St., Maroubra, Sydney (Wavelength, 293 Metres).

EARLY MORNING SESSION.

7.15: Breakfast-time hour orchestral music. 8.30: Weather forecast. Close down.

MIDDAY SESSION

11.30: Old-time orchestral selections. 12.30: Close down.

AFTERNOON SESSION.

1.0: Vocal and instrumental items. 1.45: Organ recital. 2.0: Orchestral and vocal music. 2.30: Close down.

EVENING SESSION

7.15: Orchestral dinner music. 7.58: Programme announcements. 8.0: Overture—"Dance of the Hours." 8.10: Orchestral and vocal concert. 10.15: National Anthem.



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ELECTRAD

Interstate Programmes, Friday, September 20

3LQ

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

EARLY MORNING SESSION

7.0: Melbourne Observatory time signal. 7.1: Shipping music. 7.3: Physical exercises, set to music. 7.20: Reproduced music. 7.40: Mail notices. 7.42: What's on to-day. 7.45: Market reports. 7.53: Weather forecasts. 7.55: News service. 8.0: Melbourne Observatory time signal. 8.1: Arrival times of express trains. 8.2: Musical Interlude. 8.15: Close down.

MORNING SESSION

9.30: Current Happenings In Sport, by Eric Welch. 10.45: Melody broadcast. 12.0: Melbourne Observatory time signal. 12.1: Melody broadcast. 12.15: News service; 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; 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: Close down.

EDUCATIONAL SESSION

2.0: "Strange People of Strange Countries," by Mr. H. J. C. Esmond. 2.15: Musical Interlude. 2.20: Items of English Literature—"The Bible," by Prof. G. H. Corling, M.A. 2.35: Musical Interlude. 2.40: "A Talk on Germany," by Mr. G. E. Green, M.A., Dip.Ed. 2.55: Musical Interlude.

THE RADIO MATINEE

3.0: Melbourne Observatory time signal. 3.1: National Broadcasting Orchestra, under direction of W. C. James (conductor, Percy Code) overture, "Mascanello" (Auber), serenade, "Sizletta" (Von Blon). 3.10: Jean Harrison Lee, contralto, "In Sweet September" (Temple), "Little Brown Bird" (Del Riego). 3.17: Tasma Tiernan, cello, selected. 3.22: R. Nicholson, baritone, "Mother o' Mine" (Tours), "The Carpet" (Sanderson). 3.30: Orchestra, selection, "Dorothy" (Cellier). 3.40: Jean Harrison Lee, contralto, "The Song of the Soul" (Brell), "Happy Song" (Del Riego). 3.47: Norman's Royal Hawaiians, "Will We Meet Again," "Hawaiian Hotel," "Mal Polna Oia"—old-time melodies on the banjo. 3.54: Rita Hilton, songs at the piano. 4.0: Norman's Royal Hawaiians, "Hula Dream," "Da Lila, No a Like," "Kahala March," "Hawaiian Medley" 4.7: R. Nicholson, baritone, "The Little Ships" (Sanderson), "Up from Somerset" (Sanderson). 4.14: Orchestra, valse, "España" (Waldteufel). 4.20: Rita Hilton, songs at the piano. 4.25: Orchestra, "Morris Dance" (Noble). 4.30: Close down.

THE CHILDREN'S CORNER

5.45: "Rollicking Rita" and "John, the Piper's Son," in a merry melange of song and story, "Nosey Parker" meets the Pizamis' birthday greetings by "John, the Piper's Son." 6.30: Entertainment for the older boys and girls.

EVENING SESSION

6.35: Melody broadcast. 6.40: What's Wrong With Your Radio? by Mr. H. Kingsley Love. 6.55: Musical Interlude. 7.0: Melbourne Observatory time signal. 7.1: Countrymen's session: Stock Exchange information; Corn Exchange report; Associated Stock and Station Agents' official report; Wool Exchange report; mines and metal prices; rabbit prices; farm and dairy produce report, supplied by the Inter-State Livestock Produce Committee; wholesale fruit prices, supplied by the Wholesale Fruit Merchants' Association; retail fruit prices, supplied by the Victorian Fruit-growers' Association; citrus fruit prices, supplied by the Victorian Central Citrus Association; weather synopsis; river reports; rainfall data. 7.55: Gardening hints. 7.40: The "Herald" news service. 7.45: "Ancient Civilisations," by Dr. E. Sweetman, M.A., Litt.D.

NIGHT SESSION

8.0: Malvern Tramways Band (conductor, T. Campbell), selection, "Romeo and Juliet" (Gounod). 8.10: Ernest Wilson, bass-baritone, "She Alone" (Chermeth, M. Sadras) (Gounod). 8.15: Guildford Bishop, violin, "Ave Maria" (Gounod). 8.20: Veronica Cox, soprano, "The Jewel Song" from Faust" (Gounod). 8.25: Edward Goll, "Soaring" (Schumann), "Prophet Bird" (Schumann), "Caprice Espagnole" (Moszkowski), "Waldrausch" (Grieg). 8.45: Ernest Wilson, bass-baritone, "Dead, Long Lead" (Somerville), "When the Caba Portholes" (German). 9.30: Malvern Tramways Band, overture, "J'ral Roi" (Adam). 9.37: Veronica Cox, soprano, "Faith in Spring" (Schubert), "My Sweet Repose" (Schubert). 9.7: The Sundowners' Radio Revue Co. present a burlesque musical sketch, "Unveiling the Statue at Wiregrass," specially arranged for radio by J. Harcourt Bailey, "Meet the Mayor!" 9.37: Malvern Tramways Band, intermezzo, "Salut d'Amour" (Elgar). 9.45: Syd Hollister, ten minutes' nonsense. 9.55: Malvern Tramways Band, march, "The King's Guard" (Keith). 10.5: Meteorological information; British Official Wireless news; items of interest. 10.15: "The Noit" String Quartette, fifteen minutes chamber music. 10.30: The "Herald" News. 11.30: God Save the King.

3AR

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

MORNING SESSION

8.15: Morning music. 8.45: Weather data. 9.0: G.P.O. chimes. 9.1: News service. 9.5: Reproduced music. 10.0: G.P.O. chimes. 10.1: British official wireless news. 10.10: Announcements. 10.30: Arnold Coleman at the Wurllitzer. 10.50: A message for the day. 11.0: Close down.

MIDDAY SESSION

12.0: G.P.O. chimes. 12.1: Famous Women: "Lady Hamilton" by Mrs. Ian Maxwell, M.A. 12.15: Fifteen minutes' syncopation. 12.30: Luncheon music, supplied by the A.B.C. Troubadours. 2.0: G.P.O. chimes.

AFTERNOON SESSION

2.0: Band music—National Military Band. Part-sones, Don Cossack; Cholt. 2.16: Cello solo, Felix Salmold. 2.24: Soprano solo, Maria Hutensie. 2.30: Orchestral, Hamilton Harty and Halle Orchestra. 2.38: Comedian, Art Gildham. 2.46: Piano, 15 minutes' dance music, by Victor Arden. 3.0: From the Showgrounds, official opening of the Royal Agricultural Show. 3.20: A tour round the Showgrounds. 4.0: Home management, "Hints on Making Loose Covers," by Miss Kathleen Benningfield. 4.15: Musical interlude. 4.20: "What Science is Doing for Women," by Dr. Loftus Hills, D.Sc. Traders' Demonstration Session. 4.35: Reproduced music. 5.0: G.P.O. chimes. 5.30: Weather data. 5.35: Royal Show results. 5.45: Close down.

EVENING SESSION

6.15: Dinner music, supplied by the A.B.C. Troubadours. 7.30: What's on the air to-night? 7.32: Sporting results. 7.35: Latest musical releases. 7.45: From the Showgrounds, comments by Mr. Henry Schwieger, secretary, Royal Agricultural Society.

NIGHT SESSION

8.0: Stan Foley and Keith Conly, comedians, with Nat Hanley at the piano, 15 minutes of mirth and melody. 8.15: Australian Problems in Economics—"Unemployment," by Prof. D. B. Copland, M.A., D.Sc. 8.30: Community Session, transmitted from the Malvern Town Hall (conductor, Frank Hatherly). 10.20: Weather information and "Herald" news. 10.30: God Save the King.

3DB

The "Herald" Broadcasting Station, Flinders St., Melbourne (Wavelength, 295 Metres).

MORNING SESSION

11.0: Royal Polyharmonic Orchestra: "Pax Yeblicum" 11.30: "La Vogne"; "The World's Fashions and Fables"; 11.35: Sir Harry Lauder: "Ta Ta, My Bonnie Maggie." 12.0: Paul Whiteham and His Orchestra: "Roses of Yesterday." 12.30: Joseph Hiscop: "Herdin' Song." 1.0: Vaughan de Leath: "Ho, Ho, Hogan." 1.30: De Groot's Orchestra: "Golden Buttery."

AFTERNOON SESSION

2.15: Capet String Quartet: "Harp Quartet" (Beethoven). 2.30: Robert Radford, bass: "Glorious Devon." 3.0: Atwater Kent Radio Hour, sponsored by A. G. Healey, Ltd., and E. T. Muir. 4.0: Close down.

EARLY EVENING SESSION

5.30: Columbia Symphony Orchestra: "The Flatterer." 6.0: English Singers: "Fair Phyllis I Saw." 6.30: Little Jack Little: "What d'ya Say." 7.0: Rudy Vallee and his Yanks: "Deep Night." 7.15: Market reports John McPherson and Co. Pty., Ltd. 7.25: Sidney Coltham: "Flower of Age." 7.30: Market reports, Gippsland and Northern Co-operative Co., Ltd. 7.40: Denza Dance Band: "I Love You Truly."

EVENING SESSION

8.0: Paul Whiteham and his Orchestra: "The Calinda." 8.30: Triz Sisters: "Barel Dukele Maid." 9.0: Detroit Symphony Orchestra: "Spanish Rhapsody" (Chabrier). 9.30: Henry Burr: "Remember Me to Mary." 10.0: Terence Casey, organ: "Broken Dreams." 10.30: Ted Lewis and his Orchestra: "Goodnight." 10.40: News. 10.45: God Save the King.

4QG

Queenstond Government Radio Service, Brisbane (Wavelength, 385 Metres).

EARLY MORNING SESSION

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

MORNING SESSION

11.0: Music. 11.5: Social news. 11.15: Lecturette, a cookery and household talk by "The Etiquette Girl." 11.30: Music. 11.35: More social news. 11.45: Music. 12.0 (noon): Close down.

MIDDAY SESSION

1.0: Market reports and weather information. 1.30: Lunch hour music. 1.58: Special time signal. 2.0: Close down.

AFTERNOON SESSION

3.0: Records. 3.31: More records. 4.15: This afternoon's news. 4.30: Close 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 news. 7.9: Market 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

A Night of Old-time and Popular Music. 8.0: The Studio Orchestra, selection, "Looking Backward" (Fericik).

8.7: Ernest Harper, baritone, "Down by the Old Mill Stream." 8.12: 4QG Male Artists—Double Male Quartette, "All Through the Night" (Parr). 8.17: J. P. Cornwell, bass, "The Old Rustic Bridge" (Skelly), with accompaniment by male artists. 8.23: Francis Lane, contralto, "I Love You Truly" (Bond).

8.28: The Studio Orchestra, ballads, "When You and I Were Young, Maggie" (Butterfield), "Love's Old Sweet Song" (Molloy). 8.33: George Williamson, tenor, "Alas! Those Chimes" (Wallace). 8.39: 4QG Male Artists—Double Male Quartette, "Rocked in the Cradle of the Deep" (Knight). 8.43: Tom Muller (elocutionist), "It Isn't as I Cared," "The Test."

8.49: Jas Martin, tenor, "My Pretty Jane" (Bishop). 8.53: The Studio Orchestra, selection, "Sweet Old Song" (arr. Tobias). 9.0: Metropolitan weather forecast. 9.1: Week-end road information for motorists, officially supplied by the R.A.C.Q.

9.15: Fred Crane, baritone, "The Old Cabin in the Dell" (White), vocal accompaniment by male artists. 9.19: Francis Lane, contralto, "Just a Wearyin' for You" (Baird).

9.23: 4QG Male Artists, "Who's Dat a-Calling?" (Wheeler), "Bonnie Banks of Loch Lomond." 9.30: The Studio Orchestra, "Tangled Tunes."

9.35: Ernest Harper (baritone), "When Other Lips" (Baile).

9.39: Tom Muller, elocutionist, "The Thousandth Man" (Baile).

9.44: Fred Crane, baritone, "The Sailor's Grave" (Sullivan).

9.50: 4QG Male Artists—Double Male Quartette, "Life's Dream is O'er," "Old Black Joe" (Poster). 9.56: G. Rice, tenor, "Bon Bol" (Old English).

10.0: The Studio Orchestra, "Snacks in Bars"; news supplied by metropolitan dailies; weather information: close down.

5CL

Central Broadcasters, Ltd., 114 Hindmarsh Square, Adelaide (Wavelength 499 Metres).

MORNING SESSION

11.15: Chimes. 11.16: Recordings. 11.45: Kitchen Cross and Menu Talk. 12.1: Recordings. 12.15: News. 12.40: Recordings. 12.52: Railway, Stock Exchange, and meteorological information. 1.1: Community singing from the Adelaide Town Hall. 1.59: Meteorological. 2.0: Close down.

AFTERNOON SESSION

3.0: Chimes. 3.10: Rupert Fawcett and Tom King. 3.14: Selections. 3.24: Rupert Fawcett and Elsie Day. 3.24: Studio concert. 3.53: An original story, "The Prospector's Dream." 4.9: Jack Fawcett and Tom King. 4.19: Studio concert. 4.29: Rupert Hazell and Elsie Day. 4.39: Studio concert. 4.55: Stock Exchange. 5.0: Close down.

EVENING SESSION

6.0: Chimes. 6.1: Birthday greetings. 6.30: Dinner session, Rupert Hazell and Elsie Day. 7.0: Chimes. 7.1: Senior Birthday League greetings; 5CL's sporting service; "Silvius" will give selections for to-morrow's races at Cheltenham and Mentone; results of country football; Adelaide wool sales report; general market report. 7.20: "Mo!" Miming on "Football." 7.35: A short lecture by Horace Perkins. 7.45: Mr. A. Grenfell-Price on "Pioneers of Australia."

NIGHT SESSION

8.0: Chimes. 8.1: Rev. P. H. Chennell on "When Work is a Pleasure."

9.0: BRD broadcast by members of the Conservatorium Staff; a very short talk on "Listening to Music" by Professor Harold Davies; Schubert Trio in B Flat (first movement), Mr. William Silver (piano), Miss Sylvia Whittington (violin), Mr. Harold Parsons (cello); songs, "To Music" (Schubert), "Cradle Song" (Brahms), "In Quiet of the Woods" (Max Reger), "Love Song" (Brahms), Miss Hilda Gill; first movement of Suite for Violin and Piano, Miss Sylvia Whittington and Mr. George Pearce; cello solo, "Adagio from Concerto" (Haydn), Mr. Harold Parsons; piano solo, "Rhapsode in B Minor" (Brahms), Mr. George Pearce. 9.0: Chimes. 9.1: Meteorological information, including Semaphore tides. 9.2: Overseas grain report. 9.3: News. 9.5: Conservatorium concert continued—Schubert Trio, second and third movements; songs, "Linden Lea" (Vaughan Williams), "The Shepherd's Song" (Elgar), "Golden Slumbers" (old English), "The Good Child" (Gullier); cello solo, "Hungarian Rhapsodie" (Foppe); Mr. Harold Parsons; piano solos, "London Bridge" (Balfour), "Colonial Song" (Gralner), Mr. George Pearce; Schubert Trio, fourth movement, finale.

10.15: News; British official wireless news; meteorological information; "Silvius" will give selections for to-morrow's races at Cheltenham and Mentone. 10.29: Dance recordings. 11.0: Close down.

6WF

Australian Broadcasting Company, Ltd., Wellington St., Perth (Wavelength, 485 Metres).

EARLY MORNING SESSION.—7.30: Town Hall chimes. 7.31: Meteorological report. 7.32: The day's maxim. 7.35: Early rising music (reproduced). 7.55: Mails and shipping intelligence. 8.0: What's on to-day? 8.5: Early rising music (reproduced). 8.22: Comments on news. 8.27: Features of to-day's programme. 8.30: Close down.

MORNING SESSION—TRADERS' DEMONSTRATION.—10.0: Town Hall chimes. 10.1: Popular music

(reproduced). 10.15: Women's interest talk. 10.30: Organ recital from the Ambassadors, Jack Lasing at the Console of the Wurlitzer Organ. 11.0: Close down.

MIDDAY SESSION:—12.30: Town Hall chimes. 12.31: Vocal recital (reproduced). 12.45: Midday news service. 12.50: Items of interest. 12.58: Weather report. 1.0: Perth Observatory time signal. 1.1: Luncheon music by the National Broadcasting Orchestra. 2.0: Close down.

THE RADIO MATINEE:—3.0: Town Hall chimes. 3.1: Vocal recital (reproduced). 3.15: Captain Donald McLean: "Blackbeard's Little Joker." 3.30: Fifteen minutes with great artists. 3.45: Talk of interest to women: "The Country Women's Organisation." 4.0: Town Hall chimes. 4.1: Instrumental music (reproduced). 4.15: The Story of the Day. 4.30: Popular music (reproduced). 4.55: Features of this evening's presentation. 5.0: Close down.

EARLY EVENING SESSION:—5.45: Children's "Goodnight" stories by Uncle Bas and Auntie Maxine. 6.15: A.B.C. Younger Set session: "Things Strange, But True." 6.30: Studio dinner music. 7.30: Weather report. 7.31: News service. 7.35: A.B.C. market reports. 7.42: Review of to-morrow's sporting fixtures. 7.57: Features of this evening's presentation.

EVENING SESSION:—8.0: Overture (reproduced). 8.5: A.B.C. Instrumental Trio. 8.20: A.B.C. racing observer. 8.35: A.B.C. Instrumental Trio. 8.50: Helpful hints to Garden Lovers by James Conarty. 8.55: Weather report. 8.58: A.B.C. Instrumental Trio. 9.15: Ring-side description of boxing contest, broadcast from Perth Stadium by Basil Kirke. 10.0: Temple Court dance band, conducted by Merv Lyons. 11.0: Close down.

7ZL

Tasmanian Broadcasters Pty., Bursary Buildings, Elizabeth St., Hobart (Wavelength, 516 Metres).

11.30: Record recital. 11.34: Midlands weather forecast. 11.35: Record recital. 11.55: Tasmanian stations: 9 a.m. weather report. 12.0: Chimes. 12.1: Shipping information, mail notices, housewives' guide. 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. 3.0: Chimes. 3.1: Record Recital. 3.4: Weather information. 3.5: Record Recital. 4.15: Readings. 4.30: Close down. 6.15: Children's hour, with "Uncle David" and "The Story Lady." 7.10: News session. 7.20: Sid Jones will speak on "Football." 7.30: A studio concert by 7ZL artists. 7.39: Owen Burrows, baritone: "When the Sergeant Major's on Parade" (Longstaff), "Slinging." 7.54: Doris M'Courbie, contralto: "A Summer Night" (Thomas) "All Through the Night" (Welsh Air). 8.2: Owen Burrows, baritone: "Little Brown Cottage" (Dickson), "She's Far From the Land" (Lambert). 8.23: Doris M'Courbie, contralto: "Beyond the Dawn" (Sanderson), "Bring Back the Sunshine" (Allan). 8.45: J. M. Counsel: "The History and Development of Music." 9.45: News Session. 10.0: Chimes. 10.1: Close down.

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Local Programmes, Saturday, September 21

2FC

Australian Broadcasting Company, Ltd., Market St., Sydney (Wavelength, 451 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 "Daily Telegraph Pictorial."
7.8: Austradio Musical Reproduction.
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 SESSION.

- 10.30: Announcements.
10.32: A.B.C. Racing Observer.
10.45: Studio music.
11.0: Household helps—Week-end suggestions by Miss Ruth Furst.
11.10: Cables—A.P.A. and "Sun-Herald" News Service. British Official Wireless Press.
11.15: Austradio Musical Reproductions.
12.0: "Big Ben": Stock Exchange and metal quotations.
12.5: Studio music.
12.20: Midday weather forecast and weather synopsis.
12.30: Studio music.
12.50: From Rosehill—Description of the races in the running. During intervals from the Studio, vocal items, by Basil Rye and instrumental music by the Kiranda Trio.
4.35: Complete sporting and racing resume.
4.45: Close.

EARLY EVENING SESSION—5.45 to 7.55 p.m.

- 5.45: Kiddies' "Good-night" stories told by the "Hello Man," assisted by Aunt Willa.
6.45: The National Broadcasting Orchestra will play Dinner Music.
7.25: A.B.C. Sporting Service.
7.37: Special Country Session. Stock Ex-

change resume; markets; weather forecast; late news service from the "Sun"; truck bookings.

7.58: To-night's programme.

THE EVENING PRESENTATION—8.0 to 11.30 p.m.

In contrast to the Complete Choral Programme through 2FC to-night, 2BL offers entertainment on frankly popular lines. Charles Lawrence, with new stories to tell—Jack Kinson, with the good old ballads to sing, southern atmosphere created by the Kalua Trio in song and story of the South Seas.

8.0: From the Conservatorium—Concert arranged by the Sydney Male Voice Choir.
9.0: From the Studio—The Country Man's Weather Session—

- (a) New South Wales forecasts.
(b) Interstate weather synopsis.
9.10: From the Conservatorium—Second half of the concert arranged by the Sydney Male Voice Choir.
10.15: From the Studio—Announcements: late official weather forecast.
10.20: From the Oriental Cafe—Sydney Simpson's Syncopators in Dance Music.
11.30: Close. National Anthem.

2BL

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

OPENING SESSION—8.15 a.m. to 11 a.m.

- 8.15: G.P.O. chimes.
Music for every mood.
8.45: Meteorological data for the country.
8.50: Austradio musical reproduction.
9.30: British official wireless news.
9.35: New music.
10.5: News from the "Daily Telegraph Pictorial."
10.10: Talk on "Gardening," by Mr. G Cooper, Park Superintendent, City Council.
10.30: Austradio musical reproduction.
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 "Sun."
1.15: Austradio musical reproduction.
2.0: J. Knight Barnett at the "Wurlitzer."
2.12: Studio music.

AFTERNOON ENTERTAINMENT—2.30 p.m. to 5.15 p.m.

- 2.30: The Harlequins.
2.45: Gertrude Gray, mezzo-soprano.
(a) "The Arrow and the Song" (Balfe).
(b) "Big Lady Moon" (Coleridge Taylor).
2.52: Mildred Hill, pianist.
(a) "Pierrot Pieces No. 1 Lento" (Cyril Scott).
(b) "Island Spell" (Ireland).
(c) "Refrain de Berceau" (Palmgren).
(d) "Noel" (Balfour-Gardiner).
3.0: The Harlequins.
3.15: Stanley Clarkson, basso.
3.22: Dora Lindsay, Scottish comedienne.
(a) "Scotland and Jenny" (Lindsay).
(b) "Wave to Me" (Weston and Lee).
3.29: The Harlequins.
3.44: Gertrude Gray, mezzo.
(a) "Bird Lullaby" (Sanderson).
(b) "Blind Ploughman" (Clarke).
3.51: Mildred Hill, pianist.
(a) "Autonne" (Chaminade).
(b) "Rhapsodie No. 11" (Liszt).
3.59: Stanley Clarkson, basso.
4.6: The Harlequins.
4.22: Dora Lindsay, Scottish comedienne.
(a) "A Good New Year" (Lindsay).
(b) "Bella and Her Umbrella" (Lindsay).
4.30: The latest dance music.
5.0: Complete sporting resume.
5.15: Close.

THE DINNER HOUR—6.15 p.m. to 7.55 p.m.

- 6.15: The National Broadcasting Orchestra
6.45: The A.B.C. "Younger Set" Session—The Captain to his Comrades.
7.5: The A.B.C. Sporting resume.
7.17: Studio music.
7.30: The National Broadcasting Orchestra
7.45: Austradio musical reproduction.
7.55: What's on the air to-night?

TO-NIGHT'S PRESENTATION—8 to 12 p.m.

2BL's programme to-night is arranged on popular lines in contrast to the choral offering by the Sydney Male Voice Choir through 2FC. Jack Kinson singing rollicking well-known songs, with orchestral accompaniment. Charles Lawrence, who has a brand-new set of stories, and the South Seas transported for the benefit of 2BL listeners by the Kalua Trio, in crooning Hawaiian melodies. Humorous sketches by Edith Cowley.

- 8.0: The National Broadcasting Orchestra.
8.12: Charles Lawrence, entertainer.
8.22: Jack Kinson, basso.
(a) "Deathless Army" (Trotiere), with orchestral accompaniment.
(b) "Friend o' Mine" (Sanderson), with orchestral accompaniment.
8.29: Kalua Trio in Hawaiian melodies.
8.39: Edith Cowley, entertainer.
8.49: The National Broadcasting Orchestra
9.0: Ila Turnbull, soprano.
(a) "A Night in May" (Brahms), with orchestral accompaniment.
(b) "Cradle Song" (Schubert), with orchestral accompaniment.
(c) "Devotion" (Schumann), with orchestral accompaniment.
9.7: Charles Lawrence, entertainer.
9.17: Kalua Trio.
9.27: Late weather forecast for the man on the land.
9.30: Jack Kinson, basso.
(a) "Invictus" (Huhn).
(b) "Drinking Song" (Old German).
9.37: Edith Cowley, entertainer.
9.47: The National Broadcasting Orchestra
10.2: Ila Turnbull, soprano.
(a) "A Spring Morning" (arr. Wilson).
(b) "I Love Thee" (Grieg).
(c) "What's in the air to-day?" (Eden).
10.9: The National Broadcasting Orchestra
10.25: Late news from the "Sun," and late weather forecast.
10.30: The Australian Broadcasting Dance Orchestra.
11.30: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
12.0: Close. National Anthem.

2GB

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

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

2UW

Radio Broadcasting, Ltd., Faling'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.

- 8.0: 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 numbers. 10.0: Closing announcements.

2UE

Broadcasting Station 2UE, Everett St., Maroubra, Wave length, 298.

EARLY MORNING SESSION.

- 7.15: Breakfast-time hour orchestral items. 8.0: Clock and chimes. 8.1: Orchestral and vocal items. 8.30: Weather forecast. Close down.

EVENING SESSION

- 7.15: Orchestral dinner music. 7.58: Programme announcements. 8.0: Clock and chimes. 8.1: Overture—"Semiramide." 8.10: Vocal and instrumental concert. 10.30: Close down.



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Interstate Programmes, Saturday, September 21

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 Eric Welch. 10.45: Melody broadcast. 12.0: Melbourne Observatory time signal. 12.1: Melody broadcast. 12.15: News service; 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. 1.15: Comments on the day's news. 1.30: Musical interlude.

AFTERNOON SESSION

2.0: Melbourne Observatory time signal. 2.1: A.B.C. Troubadours, "That's How I Feel About You" (Davis). "Down South" (Myddleton). "She's Funny That Way" (Moret), selected. 2.13: Description of Three-year-old Handicap, seven furlongs. Mentone races by Eric Welch. 2.20: The A.B.C. Troubadours, "Think of Me Thinking of You" (Marin). "Flower o' Love" (Mendoza), selected. 2.30: A speciality trio, piano, trumpet, and cymbals. 2.35: Jack Hocking, "The Slipping Serenade", latest song hits. 2.43: Description of Open Handicap, six furlongs. Mentone races. 2.50: 3.30, 3.50, 4.20, 4.50: Description of final League football match. 3.13: Description of Brush Steeplechase, two miles one furlong. Mentone races. 3.43: Description of Mentone Handicap, 1 1/4 miles. Mentone races. 4.13: Description of Welter Handicap, one mile. Mentone races. 4.43: Description of Jumpers' Flat Race, 1 1/4 mile. Mentone races. 5.30: Final football scores, and resume of all sporting results.

THE CHILDREN'S CORNER

5.45: "Little Miss Kookaburra" will tell the wee ones a story about "The Fairy Who Lost Her Wings." 6.0: Birthday greetings. 6.15: "Little Miss Kookaburra" will tell the fifth instalment of "The Guides of Calcutta Hall." 6.20: Musical interlude. 6.30: "Stamp Collecting," by Mr. C. R. Franklin.

EVENING SESSION

6.40: Sporting results. 6.55: Musical interlude. 7.0: Melbourne Observatory time signal. 7.1: Country Man's Session. 7.25: Stories of Our Mining Pledges—The Eureka Stockade, by Mr. Charles Daley. 7.40: The "Herald" news service. 7.45: Come With Us Round the World—The Aleuts of the Prebilit Islands, by Mr. H. J. Esmond.

NIGHT SESSION

8.0: Victorian Railways Military Band (conductor, A. Belcher), overture, "Mazurka" (Fusch). 8.10: Etta Bernard, contralto, "Hark, What I Tell to Thee" (Haydn). "The Kiss" (Meyer-Helmund). 8.17: Edna Davis, xylophone, "Second Hungarian Rhapsody" (Liszt). 8.24: Charles Bradley, baritone, "Bubble Song" (Shaw). "Palmoth is a Fine Town" (Shaw). 8.30: Victorian Railways Military Band, selection, "Iolanthe" (Sullivan). 8.48: A special programme has been arranged. 9.0: Edna Davis, xylophone, overture, "Raymond" (Ambrose Thomas). "Mississippi Moon" (Terese). 9.25: Charles Bradley, baritone, "Five Eyes" (Gibbs). "On the Duo, Hawaii" (Lehmann). 9.32: The Hilo Duo, Hawaii instrumentalists. 9.42: Allan Adcock, entertainer, daffy ditties. 9.50: Victorian Railways Military Band, valse "Blue Danube" (Strauss). 10.0: Hilo Duo, songs of the Southern Seas. 10.5: Allan Adcock, entertainer, request items. 10.12: Victorian Railways Military Band, cornet solo, "Serenade" (Schubert), march, "The Hussars" (Ellenberg). 10.20: Meteorological information; British official wireless news; items of interest. 10.30: Dance music, supplied by 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: See Friday.

MIDDAY SESSION

12.0: G.P.O. chimes. 12.15: Fifteen minutes' synopation. 12.30: Luncheon music, supplied by the National Broadcasting Orchestra, under direction of Wm. G. James (conductor, Percy Code). 2.0: Interesting sidelights by our special representatives. 2.35: Musical interlude. 2.40: Personal Adventures While Exploring, by Lieut.-Col. Eldred Pottinger, D.S.O., F.R.G.S. 2.55: Musical interlude. 3.0: G.P.O. chimes. 3.0: National Broadcasting Orchestra, under direction of Wm. G. James (conductor, Percy Code), selection, "Her Soldier Boy" 3.10: Liliane Gay, soprano, "Louise" (Chamberlain). "The Magpie and the Coocherin-Kreiserl," "Gavotte" (Rameau). 3.27: Alan Mitchell, tenor, "Thy Beaming Eyes" (MacDonnell). "In the Great Unknown" (D'Harlelot). 3.35: Orchestra, "Three Dances from 'Henry VIII'" (Orman). 3.45: Rita Fleming, "Ten Things of Wonder" (Dorothea Newman). 3.52: Orchestra, "Malaguena" (Moszkowski), humoresque. "The Magpie and the Parrot" (Bendix). 4.0: Liliane Gay, soprano, "Nymphs and Sylvians" (Bemberg). "The Princess"

(Helnrich). 4.7: Rita Fleming, humorous monologue, "He Led Me Up the Garden" (E. A. Seanson). 4.15: Tom M'Pherson, baritone, "The Two Grenadiers" (Schumann). "Tommy Lad" (Margotson). 4.22: Orchestra, suite, "L'Arlesienne" (Bizet). 4.30: Alan Mitchell, tenor, "Ma Little Banjo" (Dichmont). "Ich-abcd" (Tschalkowsky). 4.37: Orchestra, "Morning, Noon, and Night in Vienna" (Suppe). "Waltz Scherzo" (Strauss). 4.45: Tom M'Pherson, baritone, "The King of Minsk" (Finzi). "The Arrow and the Song" (Bale). 4.52: Orchestra, selections, "Tangerine" (Sanders). 5.0: G.P.O. chimes. 5.1: Melody broadcast. 5.30: Weather data. 5.35: Melody broadcast. 5.45: Close down.

EVENING SESSION

6.15: Dinner music, supplied by the National Broadcasting Orchestra, under direction of Wm. G. James (conductor, Percy Code). 7.30: What's on the air to-night? 7.32: Sporting results. 7.40: Latest musical releases.

NIGHT SESSION

8.0: The Regal Male Quartette, "Route Marchin" (Speaks), "Women". 8.7: Amy Rochelle, soprano, selected. 8.14: National Broadcasting Orchestra, under direction of Wm. G. James (conductor, Percy Code), "Dream Melody" (Victor Herbert). 8.24: Tasma Tiernan, cello, "Kol Nidrei" (Bruch). 8.50: Regal Male Quartette, "The Bee Song," "Sweet Sixteen." 8.57: One-act play, "Op-o'-Me-Thumb," produced by Terence Crisp; characters, Madame Jeanne Marie Napoleon de Gallifre Didier—Betty Rae, Clem (Mrs.) Galloway—Agnes Crouch, Rose Jordan—Phyllis Orford, Celeste Ruby, Mary Amanda Aflieck—Hilory Blake, Horace Greensmith—Terence Crisp; scene, Working Room at Madame Didier's Laundry, in Soho. 9.12: Orchestra, overture, "Orpheus" (Offenbach). 9.20: Amy Rochelle, soprano, selected. Musical Novelties and Fun. 9.27: Hedley and Bartlett, musical novelties. 9.37: Charles O'Mara, Irish songs and humor; song, "The Darling Girl from Clare" (P. French); Irish stories; song, "M'Namara's Band" (Stanford). 9.47: Orchestra, novelty number, "The March of the Marionettes" (Saveno). 9.52: Regal Male Quartette, "Coquette," "Limousine." 10.0: Charles O'Mara, Irish song and story; song, "The Wedding of Molly Magee"; recitation, "The Rocky Road to Dublin" (Teresa Braynton). "A Serious Interlude. 10.5: Martin La Matt, tenor, "Angels Guard Thee" (Godard). "I Hear a Thrush at Eve" (Cadman). 10.12: Orchestra, "Rondo Capriccioso" (Mendelssohn). 10.22: Martin La Matt, tenor, "No Murr'nin' Beloved" (Tschalkowsky), selected. 10.30: Hedley and Bartlett, musical novelties. 10.45: A. Urquhart, saxophone, selected. 10.50: Weather information and "Herald" news. 11.0: Rex Dance Band, "Hurry Lander," "Doughy, the Baker." 5.0: G. T. Patman, organ, "Firey." 5.30: Close down. EARLY EVENING SESSION. 6.0: H. M. Grenadier Guards Band, "Barcarolle" (Tschalkowsky). 6.30: Sporting results. 6.45: Julia Culp, "Faithful Johnnie." 7.0: Robert Easton, bass, "Hybla's the Creation." 7.30: Chernavsky Trio, "At the Brook" (de Borsdeffer).

3DB

The "Herald" Broadcasting Station, Flinders St., Melbourne (Wavelength, 233 Metres).

AFTERNOON SESSION

2.0: Bournemouth Municipal Orchestra: "Gee Whizz" 2.30: Robert Radford, bass, "Four Jolly Sailormen." 3.0: J. H. Squire, Celeste Octet: "Grass-hoppers Dance." 3.30: Norman Long: "The Drage Way." 4.0: Sir Henry Wood and Orchestra: "Danse Macabre" 4.30: Harry Lander: "Doughy, the Baker." 5.0: G. T. Patman, organ, "Firey." 5.30: Close down.

EARLY EVENING SESSION

6.0: H. M. Grenadier Guards Band, "Barcarolle" (Tschalkowsky). 6.30: Sporting results. 6.45: Julia Culp, "Faithful Johnnie." 7.0: Robert Easton, bass, "Hybla's the Creation." 7.30: Chernavsky Trio, "At the Brook" (de Borsdeffer).

EVENING SESSION

8.0: Maria Kurenko, soprano, "Sing, Smile, and Slumber" (Gounod). 8.30: Victor Salou Orchestra: "Eternal Secret." 9.0: J. H. Sharwood's Sponsered Programme, Joe Watson's Band, transmitted from the Green Mill. 10.0: B.B.C. Wireless Symphony Orchestra: "The Barber of Seville" (Rossini). 10.30: Cedric Sharpe, cello, "Chanson de Nuit" (Elgar). 10.40: News. 10.45: God Save the King.

4QG

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

EARLY MORNING SESSION

7.43 to 8.30: See Friday.

MORNING SESSION

11.0: The complete morning service will be relayed from the Seventh-Day Adventist Church, South Brisbane. 12.0 (noon): Close down.

AFTERNOON SESSION

3.0: Records. 3.30: Mail train running times. 3.31: More records. 4.15: News. 4.30: Close down.

EARLY EVENING SESSION

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

NIGHT SESSION

8.0: The Studio Orchestra, overture, "Marriage of Figaro" (Mozart). 8.8: James Hunter, baritone, "Bells of San Marie" (Massefield).

8.13: Stanley Wardle, elocutionist, "The Yogi's Curse" (Winter).

8.18: W. H. Davies, cornetist, "Remembrance" (Willis).

8.23: The Studio Orchestra, ten minutes' dance music.

8.33: Mrs. Phil Stewart, contralto, "In Old Madrid" (Trotter). Motor-cycle races. Two semi-finals and the final of the main trophy race at the Davies Park Speedway will be described during the running. The exact time of the relaying of these descriptions will, of course, depend upon the times they commence.

8.45: Merna Gillies, pianiste, "Prelude" (Pachulski).

8.50: James Hunter, baritone, "Like to the Damask Rose" (Elgar).

8.55: Stanley Wardle, elocutionist, "The Blackest Man I Know."

9.0: Metropolitan weather forecast.

9.2: The Studio Orchestra, valse, "Love's Proposal" (Moses-Tobani).

9.9: Mrs. Phil Stewart, contralto, "Beauty's Eyes" (Tosti).

9.14: W. H. Davis, cornetist, "Dreaming of Thee" (arr. Riviere).

9.30: James Hunter, baritone, "Nelson's Gone a Saillon" (March).

9.25: Merna Gillies (pianiste), "Romance" (Sibelius).

10.0: The Studio Orchestra, dance music.

10.0: News supplied by the metropolitan dailies; weather information; close down.

SCL

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

AFTERNOON SESSION

During the afternoon a progress description of the Dunlop-Perdriau cycling championship will be broadcast. 12.0: Chimes. 12.1: Late selections for Mentone, probable starters, and selections for races at Cheltenham. 12.15: News. 1.15: Cheltenham riders and positions for Koonowla Hurdle Race. 1.20: Mentone race result. 1.30: Cheltenham, running description of Koonowla Hurdle Race. 1.55: Cheltenham riders and positions for Lindsay Park Handicap. 2.0: Cheltenham, running description of Lindsay Park Handicap. 2.15: Mentone race result. 2.35: Cheltenham riders and positions for the Australian Hunters' Steeplechase. 2.50: Cheltenham, running description of the Australian Hunters' Steeplechase. 2.55: Description of League football by "Mo" Manning. 3.1: Mentone race result. 3.2: Description of sports from Norwood Oval. 3.15: Cheltenham, riders and positions for Kidman Handicap. 3.20: From Norwood Oval. 3.30: Cheltenham, running description of Kidman Handicap. 3.35: Norwood Oval. 3.55: Cheltenham, riders and positions for Naryilloc Welter. 4.0: Mentone race result. 4.1: League football. 4.10: Cheltenham, running description of Naryilloc Welter. 4.15: League football. 4.35: Cheltenham, riders and positions for Morambro Handicap. 4.40: Norwood Oval. 4.50: Cheltenham, running description of Morambro Handicap. 4.55: League football; resume of race results and football scores; resume of results of sports at the Norwood Oval. 5.5: Dividends of Morambro Handicap. 5.10: Close down.

EVENING SESSION

6.0: Chimes. 6.1: Resume of race results. 6.2: Birthday greetings. 6.30: Dinner results. 7.1: Senior Elrthada League greetings. 7.10: Rev. G. E. Hale, B.A., on "Australia's Mental Age." 7.25: Mr. C. G. Riley on "Items of Interest." 7.40: SCL's sporting service, including Cheltenham Park and Mentone race results; country sporting. Soccer scores; hockey, cycling, lacrosse. An result of 132 miles Dunlop-Perdriau cycling championship, and other sporting results; results of country football carnival.

NIGHT SESSION

8.0: Chimes. 8.1: Rev. G. N. White will give a talk, entitled, "Everybody Happy." 8.10: S.A. Railways Band—Overture, "Semiramide." 8.20: Phyllis Everett, contralto—"Irish Folk Song" (Ftote), "Morning" (Oley Speaks). 8.27: The last appearance of Rupert Hazell and Elsie Day. 8.39: S.A. Railways Bands—Intermezzo, "In a Persian Market" (Ketebery); waltz, "Baracca" (Carosi). 8.49: Marcelle Berardi and Dino Pelardi, vocal duettists. 8.53: S.A. Railways Bands—Selection, "The Arcadians" (Monckton). 9.6: Phyllis Everett, contralto—"Tommy Lad" (Margotson), "Come to the Fair" (Eathope-Martin). 9.13: S.A. Railways Band—March, "B.B. and O.F." (Hume), one step, "Misery Farm" (Hume). 9.23: The very last appearance of Rupert Hazell and Elsie Day. 9.35: S.A. Railways Band—Fox trot, "Cusablanca" (Evans); march, "dopeful and Bold" (Rust). 9.41: Dino Pelardi, tenor—"What a Wonderful World It Would Be," "Serenade" (Turelli). 9.48: A. Hatcheson, euphonium solo, "The Skipper" (Jude). 9.53: Marcelle Berardi, soprano—"Air and Variations" (Proch), "The Swing Song" (Liza Lehmann). 10.0: P. H. Nicholis and Bessie Francis in a Tennyson interlude, entitled, "The Passing of Arthur." 10.20: SCL's sporting service, including Cheltenham Park and Mentone race results; country sporting, Soccer scores, hockey, cycling, lacrosse, and results of 132 miles Dunlop-Perdriau cycling championship, and other sporting results; results of country football carnival. 10.30: Recordings. 11.0: Close down.

6WF

Australian Broadcasting Company, Ltd. Wellington St., Perth (Wavelength, 435 Metres).

EARLY MORNING SESSION.

7.30: Town Hall chimes. 7.31: Meteorological report. 7.32: The day's maxim. 7.35: Early rising music (reproduced). 7.55: Mails and shipping intelligence. 8.0: What's on to-day? 8.15: Early rising music (reproduced). 8.22: Comments on news. 8.27: Features of to-day's programme. 8.30: Close down.

MORNING SESSION—TRADERS' DEMONSTRATION.

10.0: Town Hall chimes. 10.1: Popular music (reproduced). 10.15: Resume of to-day's racing, sporting, and athletic fixtures. 10.30: Studio music. 11.0: Close down.

MIDDAY SESSION.

12.30: Town Hall chimes. 12.31: Vocal recital (reproduced). 12.45: Special midday news service. 12.50: Items of interest. 12.58: Weather report. 1.0: Perth Observatory time signal. 1.1: Luncheon music by the National Broadcasting Orchestra. 2.0: Close down.

THE RADIO MATINEE.

(During the afternoon, results and sporting information will be broadcast immediately received.)

3.0: Town Hall chimes. 3.1: Vocal recital (reproduced). 3.15: Captain Donald McLean—"How Blackbeard Held Up the City of Charleston." 3.30: Popular music (reproduced). 3.45: Sporting results and progress information. 4.0: Town Hall chimes. 4.1: Instrumental music (reproduced). 4.30: Vocal recital (reproduced). 4.55: Features of to-night's presentation. 5.0: Close down.

EARLY EVENING SESSION.

5.45: Children's "Good-night" stories by Uncle Bas and Auntie Max. 6.15: Studio dinner music. 7.00: Weather report. 7.31: News service. 7.35: A.B.C. market reports. 7.40: Complete resume of to-day's racing, with results of all athletic fixtures. 7.55: The A.B.C. sporting observer's impressions of to-day's games. 7.57: Features of to-night's presentation.

EVENING SESSION.

Special dance night. 8.0: Harmony Girls. 8.15: Novelty piano solo—Dorothy Saker. 8.19: Harmony Girls. 8.34: Interlude. 8.40: Harmony Girls. 8.53: Captain, Donald McLean—"Blackbeard's Last Fight." 9.10: Harmony Girls. 10.0: Temple Court dance orchestra, conducted by Merv. Lyons. 11.0: Close down. God Save the King.

7ZL

Tasmanian Broadcasters Pty. Bursary Buildings, Elizabeth St., Hobart (Wavelength, 316 Metres).

11.30: Recital. 11.34: Midlands weather forecast. 11.35: Recital. 11.55: Tasmanian stations' 9 a.m. weather report. 12.0: Chimes. 12.1: Shipping information, mail notices, housewives' guide. 12.8: Recital. 12.30: News service, announcements. 12.40: Recital. 1.5: British official wireless news, railway auction sales. 1.10: Recital. 1.30: Close down. 2.45: Transmission from the North Hobart Oval: Football match, League premiership, described by Sid Jones. 4.50: All sporting results to hand. 5.0: Close down. 6.10: All sporting results. 6.30: Children's hour with "Uncle David." 7.10: Record music. 7.30: News session. 7.40: Belle St. Lawrence will continue her travel talks. 7.50: J. M. Counsel on "European Affairs." 8.0: Chimes. 8.1: Recital. 8.15: A request programme of popular records specially arranged by Paton's Music Warehouse. 9.30: News session. British official wireless news. 9.35: Request programme (continued). 10.20: Close down.

NEXT WEEK

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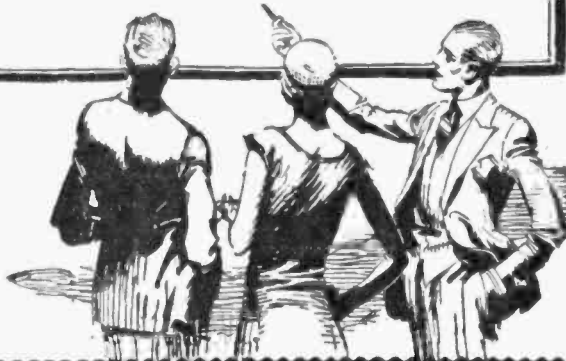
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Local Programmes, Sunday, September 22

2FC

Australian Broadcasting Company, Ltd., Market St., Sydney (Wavelength. 451 Metres).

CHURCH HOUR—10.0 a.m. to 12.30 p.m.
 10.0: Announcements.
 10.5: Studio Music.
 10.30: This morning's news from "Sunday Sun," "Sunday Times," "Truth."
 10.35: British Official Wireless Press.
 10.45: Musical items.
 11.0: From Glebe Presbyterian Church: Morning service, conducted by Rev. W. W. Paton—
 Organist—Alf Newcombe.
 Doxology and Invocation.
 Hymn, "O Worship the King."
 Lesson (Old Testament).
 Prayer.
 Quartette—"When Mother Prayed."
 Thirroul Male Voice Party.
 Lesson (New Testament).
 Children's Talk, "Broadcasting."
 Lord's Prayer.
 Anthem—"Sing the Gospel Story"—Junior Choir.
 Psalm, "The Lord is My Shepherd."
 Intimations and Offertory.
 Anthem—"Gloria"—Senior Choir.
 Sermon—"Listening In."
 Quartette—"He Died of a Broken Heart."
 Prayer.
 Hymn—"O Love That Will Not Let Me Go."
 Benediction.
 12.15: From the Studio—Studio Music.
 12.30: Close.

AFTERNOON CONCERT—3 to 4.30.

3.0: From the Christian Science Church—Organ Recital arranged by G. Vern Barnett.
 3.20: Etta Field, soprano—
 (a) "Se Tu M'Ami" (Pergolesi).
 (b) "Nina" (Pergolesi).
 (c) "J'ai pleure en reve" (Hule).
 3.27: From the Christian Science Church, Organ Recital, arranged by G. Vern Barnett.
 3.47: From the Studio: Herbert Hinchcliffe, baritone—

(a) "For Thee" (Pechotsch).
 (b) "In the Silence" (Loughborough).
 3.54: From the Christian Science Church—Organ Recital arranged by G. Vern Barnett.
 4.14: From the studio: Etta Field, soprano—
 (a) "The Vesper Hymn" (Woodman).
 (b) "The Soldier's Bride" (Rachmaninoff).
 (c) "How Lovely are Thy Dwellings" (Liddle).
 4.21: Herbert Hinchcliffe, baritone—
 (a) "Drumadoun" (Sanderson).
 (b) "The Great Awakening" (Kramer).
 4.30: Close.

EVENING PROGRAMME—6 to 10.30.

6.0: Programme arranged by Mischa Dobrinski—
 "Sarabande with Variations" for violin and viola, upon a theme of Handel.
 Violin—Mischa Dobrinski.
 Viola—Sigmund Menchinsky.
 Musical Monologues—Madame Dobrinski—
 (a) "Soliloquy of an Old Piano" (Harris).
 (b) "When I'm a Grown Up Lady" (Fischer).
 Violin Solos—Mischa Dobrinski—
 (a) "Meditation" (Glazounov).
 (b) "Serenata" (D'Ambrosio).

(c) "Serenade" (Lehar).
 Songs, Herbert Cosgrove—
 (a) "Until the Night" (Steel).
 (b) "In a Garden" (Hawley).
 (c) "O Cease Thy Singing" (Rachmaninoff).
 Piano solos, Madame Dobrinski—
 (a) "Scherzino" (Karganoff).
 (b) "The Fairy Queen" (Lavers).
 (c) "Arabesque" (Debussy).
 6.40: The Rev. C. J. Prescott will speak on "Our Greatest Legacy."
 7.0: Second half of programme arranged by Mischa Dobrinski—
 Violin and Viola, Mischa Dobrinski and Sigmund Menchinsky—
 "Passacaglia" (Halvorsen), upon Handel's Theme.
 Musical Monologue—"Dear Little Jammy Face" (Russel).
 Poem, "Good-bye, God Bless You," Madame Dobrinski.
 Violin, Mischa Dobrinski—
 "Andante and Rondo," from "Spanish Symphony" (Lalo).
 Songs, Herbert Cosgrove—
 (a) "Bitterness of Love" (Dunn).
 (b) "I Know a Hill" (Whelpley).
 (c) "Shepherd See Thy Horse's Foaming Mane" (Korbay).
 Piano solos, Madame Dobrinski—
 (a) "Humoresque" (Swinstead).
 (b) "Allegretto and Presto" from "Moonlight Sonata" (Beethoven).
 Violin and Viola, Mischa Dobrinski and Sigmund Menchinsky—
 "Londonderry Air" (Kreisler).
 Violin solos, Mischa Dobrinski—
 (a) "Slavonic Dance" (Dvorak-Kreisler).
 (b) "Pierrot Serenade" (Randegger).
 8.0: Studio Concert Programme, arranged by Albert Cazabon, Musical Director of the Prince Edward Theatre.
 10.0: Meditation music.
 10.30: Close.

2BL

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

MIDDAY SESSION—10.55 a.m. to 3 p.m.

10.55: Announcements.
 11.0: From St. Andrew's Cathedral, the morning service, conducted by the Very Rev. The Dean of Sydney, Dean Talbot.
 Sentence, Confession, etc.
 Venite.
 Psalm.
 First Lesson—Jeremiah XVII., 5-14.
 Te Deum.
 Second Lesson—St. Luke XI., 29-36.
 Jubilate.
 Creed, etc.
 Anthem, "I waited for the Lord" (Mendelssohn).
 Prayers.
 Hymn 350 (H.C.), "All people that on earth do dwell."
 Sermon—The Very Rev. The Dean of Sydney.
 Hymn 397 (H.C.), "The Church's one foundation" (omitting verse 3).
 12.15: From the Studio, musical items.
 12.30: News from the "Sunday Sun" "Sunday Times" and "Truth."
 12.38: Studio presentation of a programme of music specially arranged.
 2.15: "Cheer-up" Session, conducted by Uncle Frank.
 2.30: Austradio musical reproduction.
 3.0: Close.

LATE AFTERNOON SESSION—4.30 p.m. to 6 p.m.

4.30: A celebrity recital, featuring—"The Carnival of Animals," arranged by Madame Evelyn Greg.
EVENING SESSION—6 p.m. to 10 p.m.
 6.0: For children in hospital, session conducted by Uncle Steve, assisted by Aunt Goodie.
 6.40: From the Hoskins Memorial Presbyterian Church, Lithgow.
 Organ recital, arranged by Edward J. Massey.
 (a) "Prelude in C Sharp Minor" (Rachmaninoff).
 (b) "Ave Maria" (Schubert).
 (c) "Minuet" (Beethoven).
 (d) "Under the Palms" (Thome)

(e) "Vesper Chimes" (arr. E. J. Massey) 7 p.m.: The Evening Session, from the Hoskins Memorial Presbyterian Church, Lithgow, conducted by Rev. P. Hope.
 8.30: From the Studio, G. V. Barnett, pianoforte solos.
 8.40: From the Trades Hall, Lithgow, concert arranged by the Lithgow Municipal Band.

Official accompaniste, Mrs. Harold Cox.
 Conductor, Mr. Chas. Lewins.
 March, "Brilliant," Lithgow Municipal Band.
 Song, "The Floral Dance" (Moss), Mr Laurie Oaks.
 Sacred number, "Nearer My God To Thee" (Caros), Lithgow Municipal Band.
 Song, "Mary" (Richardson), Mr Josiah Pryor.
 Pianoforte solo, "Romance" (Salmon), Mrs. Harold Cox.
 Characteristic number, "Sliding Thru' the Rye" (Truman), Lithgow Municipal Band.
 Song, Wilfrid Thomas.
 Song, "Elegie" (Massenet), Miss Rita Lawless.
 Euphonium solo, "The Broken Melody" (Van Bien), Mr. Horact Simpson.
 Duet, "Your Eyes Have Told Me So" (Hardie), Miss Lottie Pryor and Mr. Josiah Pryor.
 Selection, "William Tell" (Rossini), Lithgow Municipal Band.
 Song, "The Watchman" (Squire), Mr Richard Thornburn.
 Song, "Carmena" (Wilson), Mrs. Thomas Simon.
 Popular numbers, (a) "Chiquita," (b) "Misery Farm," Lithgow Municipal Band.
 Song, Wilfrid Thomas.
 March, "Oriental" (Rimmer), Lithgow Municipal Band.
 10.0: Close.
 National Anthem.

2GB

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

9.0: Address by Miss Mary Rivett, "Concerning Reals," 2. 9.30: Address by Mr. Victor E. Cromer, "Religion and the Kingdom of God." 10.0: Music from Studio. 10.15: Music from St. Alban's Church, Regent Street, Sydney. 10.30: Morning service from St. Alban's Church. 12 (noon): Music from Studio. 12.30: Close down. 3.0: Music. 5.15: Children's session by Uncle George. 8.0: Lecture from St. Alban's Church. 7.35: Lecture from Adyar House. 8.15: Sacred concert from Adyar House by courtesy of Messrs. Suttons, Ltd.; Miss Kathlene Cracknell, contralto. 8.23: Mr. William Green, tenor. 8.30: Mr. Gregory Valentine, violinist. 8.38: Miss Elsie Brown, soprano. 8.45: Mr. Barend Harris, baritone. 8.52: Miss Kathlene Cracknell, contralto. 9.0: Weather report. 9.1: Mr. William Green, tenor. 9.8: Mr. Gregory Valentine, violinist. 9.16: Miss Elsie Brown, soprano. 9.22: Mr. Barend Harris, baritone. 9.30: Address by Mr. Victor E. Cromer, "The Kingdom Within." 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: Children's Hour, conducted by Uncle Jack. 6.30: Close down. 7.0: Musical programme. 10.30: Close down.

2UE

Broadcasting Station 2UE, Everett St., Maroubra, Sydney (Wavelength. 293 Metres).

MIDDAY SESSION
 11.0: Mass from St. Mary's Church, Ridge Street, North Sydney. 12.15: Orchestral and vocal selections. 1.0: Close down.

EVENING SESSION
 6.0: Music from Catholic Studio. 6.10: Session conducted by Rev. Father T. Walsh, S.J. 6.30: Music. 6.35: "Question Box" talks, arranged by Dr. L. Rumble, M.Sc. 7.45: Evening devotions from St. Mary's Church, Ridge Street, North Sydney. 8.15: Announcements. 8.20: Music. Overture—"Pique Dame." 8.30: Orchestral and vocal selections. 10.15: Close down.

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Interstate Programmes, Sun., Sept. 22

3LO

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

MORNING SESSION

10.0: Melbourne Observatory Time Signal. 10.1: Special Programme of Reproduced Music. 10.23: British Official Wireless News and Items of Interest. 10.30: Express Train Information. 10.31: Bells of St. Paul's Cathedral. 10.45: Morning Service from St. Paul's Cathedral, Melbourne. Mattins (Choral) and Intercessions. Te Deum and Jubilate. Noble In 3 Meas. Anthem. "Rejoice in the Lord Alway" and Again I Say, Rejoice" Preacher, Rev. F. E. Maynard.

AFTERNOON SESSION

4.0: Pleasant Sunday Afternoon Service from Wesley Church Central Mission. 4.30: Close down.

THE CHILDREN'S CORNER.

6.0: Brother Bill's Story this week is entitled, "Suppose." 6.15: A Recital of specially selected Children's Music. 6.30: Birthday Greetings and Stories, by "Billy Bunny."

EVENING SESSION

7.0: The Cremona Trio. Trio, op. 52, in D Minor. Allegro Moderato. Fugale (Antoninsky). 7.16: Gwen Selva (soprano). "Die Lotusblume" (Schumann). "Widmung" (Schumann). "Auf dem wasser zu Singen (Schubert). 7.23: Cecil Parkes (violin). "Melodie" (Tschaiakowsky). "Variations" (Tartini-Kreisler). 7.30: An Old Story Re-told, by Margaret Kerr. 7.45: The Cremona Trio. "Prayer" (Schubert). "Scherzo" (Reissiger). 7.53: Gwen Selva (Soprano). "Bid Me Discourse" (Bishop). Selected.

NIGHT SESSION

8.0: Stan Porter and his Orchestra. Overture—"Pique Dame" (Suppe). Mr. Homer Lucas, flute—"The Nightingale" (Denjov). Vocal item, selected. Bob M'Queen and his band. Melody Numbers—(a) "I Can't Give You Anything But Love." (b) "That's What Puts the Sweet in Home, Sweet Home." (c) "Russian Moods." Vocal item: Selected. Stan Porter and his Orchestra: Selections from the Works of Moszkowski. C. Wheatland, trombone. Selected. Accompanied by Stan Porter and his Orchestra. Vocal item. Selected. Bob M'Queen and his Band. A rhythmic arrangement of "When Summer is Gone." A Norit violin; E. Challinor, violin; W. Whittingham, viola; and Miss Joan Smith, "cello. String Quartette—Fourth Movement "Finale Tarentelle" (Grieg). Vocal item. Selected. Stan Porter and his Orchestra—(a) "Minuet." (b) "Gavotte," from the opera "Manon" (Massenet). Vocal item. Selected. Mr. A. Norit, violin—"Gavotte" (Bach-Kreisler). Bob M'Queen and his Band—"Where the Sky Little Violets Grow." "Just an Old Fashioned Locket." "A Precious Little Thing Called Love." Vocal item. Selected. Stan Porter and his Orchestra—"I'm a'Longing for You, Honey" (Hathowdy). "Bon Vivant" (Zamecnik). Joan Smith, cello. Selected. Bob M'Queen and his Band—Melody numbers. Vocal item. Selected. Stan Porter and his Orchestra—Ballet Music from "Faust" (Gounod). 10.15: Meteorological Information. British official wireless news from Rugby. Items of interest. 10.30: God Save the King.

3AR

Australian Broadcasting Co., 190A Russell St., Melbourne (Wavelength, 481 Metres).

MORNING SESSION.

11.0: Chimes. 11.1: Divine Service from the Independent Church, Collins Street, Melbourne. Sermon: Rev. A. Perry. Subject: "Doors Which None Can Shut." Organist: Herbert Davis.

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: Symphony from "The New World," Op. 92, No. 5, played by Sir Hamilton Harty and The Halle Orchestra. 5.10: The Week's Good Cause: The Welfare of Partially Blinded Soldiers. Mr. J. M'Kenzie. 5.20: Baritone solo: Largo. "Al Factotum." "Foreador Song" from "Carmen" (Bizet), sung in Italian by Straciarolo. 5.28: Piano recital, Levitski. 5.40: Choral. "Jesu, Lover of My Soul." "Nearer, My God, to Thee." B.B.C. Choir. 5.58: Violin solo. "Wieniawski Romance." "Legende Nave" (Jogen). Bratza. 6.4: Soprano solo: "My Mother Bids Me Bind My Hair" (Haydn). "Who is Sylvia?" (Schubert). Dora Labette. 6.12: Orchestral: Overture. "Zatnpa" (Kerold). Bournemouth Municipal Orchestra. 6.20: A recital of request numbers. 6.45: What's on the Air To-night. 8.47: St. Paul's Cathedral Bells.

EVENING SESSION

7.0: Divine Service from Wesley Church Sermon Dr. F. W. Boreham. 8.30: Transmission from Sydney, relayed by 2FC. Programme by Albert Cazabon (Prince Edward Theatre). 9.58: Weather information. 10.0: God Save the King.

3DB

The "Herald" Broadcasting Station, Flinders St., Melbourne (Wavelength, 335 Metres).

AFTERNOON SESSION.

3.0 A light classical programme. 4.30: Close down.

NEXT WEEK

The 1930 Super-heterodyne described by Ross A. Hull—the latest word in receiver design, and the finest ever published in WIRELESS WEEKLY

EVENING SESSION.

6.30: A Symphonique Session. 8.0: The Astor Session. Eddie Fitch and the Mighty Wurlitzer, Regent Theatre. Request items. 10.0: God Save the King.

4QG

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

MORNING SESSION

11.0: The complete morning service will be relayed from St. Barnabas' Church of England, Waterworks Road, Ithaca. From St. Barnabas' Holy Eucharist Book of Common Prayer, sung by congregation to Merbecke's music; Introit 315. "Once, Only Once, and Once for All"; Epistle Ezechians. Chapter 4, to verse 6; gradual, solo, Mr. W. G. Ashlin, "How Many Hired Servants" (from "The Prodigal Son"); Holy Gospel, St. Luke, Chap. 14 to Verse 11; sermon by Canon Garland; Offertory 184, "Rock of Ages"; Communion 322. "And Now, O Father, Mindful of the Love" Ablutions 522, "O for a Thousand Tongues to Sing." 12.15 (approx.): Close down.

AFTERNOON SESSION

3.15: Concert by the Brisbane Federal Band. 4.30: Close down.

EARLY EVENING SESSION

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

NIGHT SESSION

7.0: The complete evening service will be relayed from St. Barnabas' Church of England, Children's Service. Hymn 207, "Our Blest Redeemer, 'Tis He Breathed." Hymn 334, "Loving Shepherd of Thy Sheep." Lesson, St. Mark, chap. 2, to verse 12. Hymn 565, "Up in Heaven." Catechising of Children, by Canon Garland. 7.30: Evensong. Book of Common Prayer. Hymn 268, "Lead, Kindly Light." Psalm 116. Lessons. Isaiah, chap. 58; St. John, chap. 8 to verse 32. Hymn 23, "Glory to Thee, My God, This Night." Solo, Mrs. Spangler. "There is a Green Hill" (Gounod). Hymn 254, "Art Thou Weary, Art Thou Languid?" Hymn 30, "Our Day of Praise is Done." Sermon by Canon Garland. Hymn Book. "Ancient and Modern." 8.30: 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.

6WF

Australian Broadcasting Company, Ltd., Wellington St., Perth (Wavelength, 435 Metres)

MORNING SESSION:—10.40: Sporting resume. 10.50: Sunday news service. 11.0: Church service. St. Mary's Cathedral. 12.30: Reproduced music. 1.0: Close down.

AFTERNOON SESSION:—3.0: Reproduced music. 4.0: "Magic Carpet" series: "Ceylon, the Jewel of the Indian Ocean," by Basil Kirke. 4.15: Reproduced music. 5.0: Close down.

EVENING SESSION:—6.30: Children's session. 7.15: Orchestral music (reproduced). 7.30: Church service, Baptist Church. 8.45: Musicale, arranged by Bert Howell, broadcast from Ambassadors Theatre 10.30: Close.

7ZL

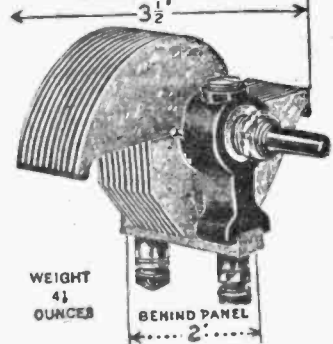
Tasmanian Broadcasters Pty., Buryard Buildings, Elizabeth St., Hobart (Wavelength, 316 Metres).

11.0: Morning service from Memorial Congregational Church, Hobart. 12.15: Close down. 3.30: A programme arranged by the Derwent Concert Band. Conductor, Tom Hopkins. 4.30: Close down. 6.15: Children's chorus singing. Conductor, Trevor M. Morris. 6.45: Bertha Southey Brammhall will read a poem to the wee folk. 7.0: Evening service from Holy Trinity Church, Hobart. 8.25: From the studio: A Sacred and Classical programme, arranged by James Counsel. 9.45: News session. 9.50: Close down.



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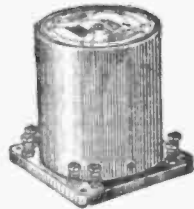


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Local Programmes, Monday, September 23

2FC

Australian Broadcasting Company, Ltd., Market St., Sydney (Wavelength, 451 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: Austradio musical reproduction.
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: Horace Weber at the Grand Organ.
11.0: Household Hints: Cooking, by Miss Ruth Furst.
11.10: Cables: A.P.A. and "Sun"—"Herald" news service; British Official Wireless Press.
11.15: Morning devotion.
11.30: Austradio musical reproduction.
12.0: "Big Ben": Stock Exchange and metal quotations.
12.5: V. C. Bell, B.A., will speak from "The Public Forum."
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 p.m. 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 news.
2.7: Popular Education: W. S. Reay will speak on "Literary Personalities."
2.27: Announcements.

THE RADIO MATINEE—2.30 to 4.30 p.m.

- 2.30: The Warwick Strollers.
2.42: Agnes M'Diarmid, soprano—
(a) "Bird of Love Divine" (Wood).
(b) "Across the Blue Sea" (Somerset).
(c) "Songs My Mother Taught Me" (Dvorak).
2.49: Florence Luber, pianist—
(a) "Scarf Dance" (Chaminade).
(b) "Arabesque Opus 18" (Schumann).
2.56: The Warwick Strollers.
3.8: Norman Martin, cellist.
3.15: Agnes M'Diarmid, soprano—
(a) "A Birthday" (Woodman).
(b) "Open Thy Blue Eyes" (Massenet).
(c) "How Yon Clear Brooklet" (Paradise).
3.22: The Warwick Strollers.
3.32: Florence Luber, pianist—
(a) "Valse Suite" (Taylor) No. 5.
(b) "June" from "Months" Series (Cowen).
(c) "Valse Suite" (Taylor) No. 6.
3.39: Norman Martin, cellist.
3.46: The Warwick Strollers.
4.0: This Afternoon's Story.
4.15: The Warwick Strollers.
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 Aunt Elly.
6.45: The National Broadcasting Orchestra will play Dinner Music.
7.30: A.B.C. Sporting Service.
7.37: Special Country Session. Stock Exchange resumé. Markets. Weather forecast. Late news service from the "News." Truck bookings.
7.58: To-night's programme.

THE EVENING PRESENTATION—8 to 11.30.

The feature of 2FC's programme to-night is Senia Chostiakoff, late of the Don Cossack Choir, who will give a recital featuring lesser known as well as well-known Russian composers. Just as brilliant an exponent of art but of a slightly different nature will attract many 2BL listeners when famous wrestlers pit their strength and the A.B.C. sporting expert will convey a vivid mind picture to the listening thousands.

- 8.0: Wilfred Arlom, pianist—
"Chromatic Fantasia and Fugue" (Bach-Busoni).
8.12: Joyce Lang, harpist—
(a) "Sans la Fenillee" (Thome).
(b) "Waltz in A Flat" (Brahms).
8.19: Senia Chostiakoff, late principal tenor soloist of the famous Don Cossack Choir—
(a) "Elegie" (Massenet).
In French, with 'cello obligato.
(b) Russian songs—
1 "Evening Bells" (Jaroff), Russian Folk Song with organ accompaniment.
2 "Russian Gipsy Romance" (Korniloff).
3 "The Red Sarafan," Russian Folk Song with orchestral accompaniment.
4 "The Song of the Volga Boatman," Russian Folk Song with orchestral accompaniment.
8.39: The National Broadcasting Orchestra—
(a) "Ruy Blas" (Mendelssohn).
(b) Grand Selection of Mendelssohn's Songs (Basquit).
(c) "Suite for Flute, Oboe, and 'trings" (Sibelius).
(d) "Fantaisie-Impromptu" (Chopin).
9.0: The Country Man's Weather Session—
(a) New South Wales forecasts.
(b) Interstate weather synopsis.
9.2: Margaret James, soprano—
(a) "Twas in a Land" (Chaminade).
(b) "Tell Me Nightingale" (Lehmann).
9.9: Wilfred Arlom, pianist—
(a) "Noel" (Gardiner).
(b) "Irish Tune" from "County Derry" (Grainger).
(c) "Guttersnipes' Dance" (Scott).
(d) "Saxophone Blues" (Benjamin).
(e) "Nigger Dance" (Scott).
(f) "Christmas Day in the Morning" (Holst).
9.21: The National Broadcasting Orchestra—
(a) "Romance" (D'Ambrosio).
(b) "Valse Celebre" (Mozzkowski).
9.45: The National Broadcasting Orchestra—
"Walze No. 1, No. 4, and No. 5" (Dvorak).
10.0: An address by Tom Gurr.
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 a.m. to 11 a.m.

- 8.15 a.m.: G.P.O. Chimes.
Music for every mood.
8.45: Meteorological data for the country.
8.50: Austradio Musical Reproduction.
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: Austradio Musical Reproduction.
10.45: This morning's story.
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—Dr. Sandford Morgan—
"Hygiene of the Home" (Part One).
1.30: Austradio Musical Reproduction.
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 Talk—
"Psychology," by Miss Hale.

- 2.45: "The Magic Carpet," C. Price Coni-grave—

"Cliff Climbing—Admiralty Gulf."

- 3.0: From the Oriental Cafe—
Sydney Simpson's Syncopaters in dance music.

- 3.12: Esther Gunton, Mezzo—
(a) "I Wonder if Love is a Dream" (Forster).
(b) "Ah! Sweet Mystery of Life" (Herbert).

- 3.19: Melody Memories.
3.22: From the Oriental Cafe—
Sydney Simpson's Syncopaters in Dance Music.
3.32: From the Studio: Bob Graham and his Spanish Guitar—

- (a) "Broadway Melody" (Brown).
(b) "Sweetheart of All My Dreams" (Monaca).
(c) "Tweet Tweet" (Sarony).

- 3.39: A popular number.
3.42: From the Oriental Cafe—
Sydney Simpson's Syncopaters in Dance Music.

- 3.52: From the Studio: Ruby Dent, songs at the piano.
3.59: Musical Interlude.
4.2: From the Oriental Cafe—
Sydney Simpson's Syncopaters in Dance Music.

- 4.12: From the Studio: Esther Gunton, Mezzo—

- (a) "I Kiss Your Hand, Madame" (Erwin).
(b) "Kiss Me Again" (Herbert).
4.19: Bob Graham and His Spanish Guitar—

- (a) "Blackbirds are Blue" (Kahn).
(b) "The Song is Ended" (Berlin).
4.26: From the Oriental Cafe—
Sydney Simpson's Syncopaters in Dance Music.

- 4.32: From the Studio—Ruby Dent, songs at the piano.

- 4.39: From the Oriental Cafe—
Sydney Simpson's Syncopaters in Dance Music.

- 4.45: "The Trade Hour"—Demonstration Music.

- 5.45: Weather information. Close.
THE DINNER HOUR—6.15 to 7.55 p.m.
6.15: The National Broadcasting Orchestra.
6.45: The "Yonger Set" Session. The A.B.C. Boys' Aero Club conducted by Mr. Norman Lyons.

- 7.5: Studio Music.
The Country Man's Market Session—
Wool, Wheat, Stock, Farm Produce, Fruit, Vegetables, Pig, and Poultry Markets.

- 7.30: The National Broadcasting Orchestra.
7.45: Austradio Musical Reproduction.
7.55: What's on the air to-night?

TO-NIGHT'S PRESENTATION—8 to 10.50 p.m.

Sport lovers eagerly anticipate 2BL's programme on a Monday night. They know the big feature is the Wrestling Match. To those whom sport does not attract, 2FC holds just as big a feature only in the artistic sense. Senia Chostiakoff of the Don Cossack Choir, will give a 20-minutes' song recital, featuring Russian Composers old and new.

- 8.0: The Three Lads, in popular numbers—
(a) "Sweetheart on Parade" (Newart and Lambardo).
(b) "Carolina Moon" (Davis and Burke).
(c) "Broadway Melody" (Fred and Brown).
(d) "Sleepy Valley" (Sterling, Hanley, and Dowling).

- 8.10: Bert Gilbert, entertainer—
The first of his famous Hopcroft series.

- 8.25: Robert Agnew, popular ballads—
(a) "Old-fashioned Rose" (Prior).
(b) "Coquette" (Berlin).

- 8.30: From the Stadium, description of the wrestling match.

- 10.0: From the Studio—The Three Lads, in popular numbers—

- (a) "Me and the Man in the Moon" (Monaco and Leslie).
(b) "To-night You Belong to Me" (Rose and David).

- (c) "Rainbow Man" (Dowling and Hanley).
- (d) "My Blackbirds are Bluebirds Now" (Caesar and Friend).
- 10.10: Robert Agnew, popular ballads—
 - (a) "The Song I Love" (Sylva).
 - (b) "I'll Always Be in Love With You" (Sept).
- 10.17: Austradio Musical Reproduction.
- 10.25: Late news service from the "News."
- Late weather forecast.
- 10.30: Close.
- National Anthem.

2GB

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

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: Address by Mary Rivett. 11.45: Close down. 2.0: Music. 2.5: Women's Radio Service by Mrs. Dorothy Jordan. 2.50: Movie Know All. 3.0: Music. 3.15: Address. 3.30: Close down. 5.15: Children's session, by Uncle George. 7.0: Music. 7.45: Feature story. 8.0: Miss Lily Davies, contralto. 8.7: Instrumental Trio. 8.15: Mr. Leslie Herford, baritone. 8.22: Symphony Orchestra. 8.30: Mr. Jack Win and Mr. Heath Burdock, humor. 8.35: Miss Dorothy Stacey, soprano. 8.45: Address. 9.0: Weather report. 9.1: Instrumental Trio. 9.10: Miss Lily Davies, contralto. 9.20: Symphony Orchestra. 9.30: Mr. Jack Win and Mr. Heath Burdock, humor. 9.35: Mr. Leslie Herford, baritone. 9.45: Cello solo. 9.50: Miss Dorothy Stacey, soprano. 10.0: Instrumental Trio. 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. 7.45: Radio talk by Mr. E. Homfray. 8.0: Wagnerian 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, 286 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: Women's session; home hints and information, conducted by Mrs. Gray. 11.0: A few laughs. 11.5: Piano-forte 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: 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 Brunswick, Columbia, Parlophone, Regal, and Golden Tongue records. 10.0: Closing announcements.

2UE

Broadcasting Station 2UE, Everett St., Maroubra, Sydney (Wavelength, 293 Metres).

EARLY MORNING SESSION.

7.15: Breakfast-time orchestral music. 8.0: Clock and chimes. 8.1: Music. 8.30: Weather forecast. Close down.



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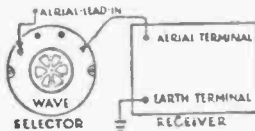
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Interstate Programmes, Monday, September 23

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: Melody Broadcast. 12.0: Melbourne Observatory Time Signal. 12.1: Melody Broadcast. 12.15: News service. 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. 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: Relay from Showgrounds. Speeches from Commonwealth Luncheon.

EDUCATIONAL SESSION

2.0: Boys and Girls of Other Days. Miss D. Babington. 2.15: Musical Interlude. 2.20: Science in Every-day Life. Dr. Loftus Hills, D.Sc. 2.35: Musical Interlude. 2.40: Our Australian Writers. Mr. Percival Serle. 2.55: Musical Interlude.

THE RADIO MATINEE.

POPULAR BAND CONCERT.

3.0: Victory Brass Band (deputy-Conductor, W. Honey). Intermezzo—"Penelope's Garden." 3.5: Tom Semple, tenor—"Blow, Blow, Thou Winter Wind" (Quilter). "O Mistress Mine" (Quilter). 3.12: W. Honey, cornet—"La Paloma" (Yradier). 3.15: Freda Treweek, mezzo-soprano—"If My Socks Were Only Winged" (Hahn). "Obstination" (De Fontaines). 3.22: Victory Brass Band. Waltz—"September."

A POPULAR PARTY.

3.30: The Aristo Quartette: Ensemble (baritone, soprano, violin, piano). Violin: "Hungarian Dance" (Brahms). Baritone: "Flower of the Desert" (Lohr). Piano: "Shadow Dance" (M'Dowell). Soprano: "By the Waters of Minnetonka" (Liaurance). Ensemble 3.50: Victory Brass Band. Two Gavottes—"Cherry Time." "The Cost of Woaming." 4.0: Tom Semple, tenor—"Pleading" (Elgari). Selected. 4.7: Victory Brass Band. Popular Numbers: "I Lift Up My Finger" Vocal chorus by Hugh Huxham. 4.11: Freda Treweek, mezzo-soprano—"Beloved, It is Morn" (Allward). "Danny Boy" (Old Irish Air). 4.18: Victory Brass Band. Medley Waltz—"Carolina Moon." 4.24: Acceptances and barrier positions for the Werribee Races, on 25th September. 4.30: Close down. During the afternoon results of the Richmond Trotting Races will be broadcast as they come to hand.

THE CHILDREN'S CORNER

5.45 "Billy Bunny" has a story for the wee ones who love animals. 6.0 Birthday Greetings, by "Billy Bunny." 6.20: "Billy Bunny" has a story for the older ones.

EVENING SESSION

6.35: Melody Broadcast. 6.40: Public School Activities. Mr. F. C. H. Taylor. 6.55: Melody Broadcast. 7.0: Melbourne Observatory Time Signal. 7.1: Countryman's Session. 7.25: Recent Discoveries and Inventions. 7.40: News service. 7.45: The World's Kaleidoscope. Professor K. H. Batley, B.A., LL.B. 8.0: Melbourne Observatory Time Signal.

NIGHT SESSION

OLD-TIME DANCE NIGHT

PROGRAMME	
8.0	1. Waltz, "Sunset Glow."
2	Schottische, "Oh Dem Golden Slippers."
3	Quadrilles, "Regimentals."
4	Valetta, "Chain of Daisies."
5	Waltz, "Blue Danube."
6	Lancers, "Hurrah for the Irish."
7	Barri Dance, "Old Log Cabin."
8	Polka, "Wee Deoch and Doris."
9	Alberls, "Welcome."
10	Waltz, "Just One Girl."
11	Varsoviana, "Babes in the Wood."
12	Royal Irish, "All Irish."

10.20: Meteorological Information. British Official Wireless News. Items of Interest. 11.0: "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: Chimes. 12.1: Food and Cookery: Cheese Dishes. Miss Kathleen Bentingfield. 12.15: Fifteen minutes synopcation. 12.30: Luncheon music, supplied by the National Broadcasting Orchestra. 2.0: Chimes.

AFTERNOON SESSION

2.1: Melody broadcast. 2.15: Your Clothes. Miss M. Nicholson. 2.30: Musical Interlude. 2.35: Your Garden. 2.50: Musical Interlude. 3.0: Chimes. 3.1: A visit to the Show by our special representative. 3.55: Musical Interlude. 4.0: Travelling Abroad: Through Feminine Eyes. Mrs. Maurice Fosner. Traders' Demonstration Session. 4.15: Reproduced music. 5.0: Reproduced music. 5.30: Weather data. 5.45: Close down.

EVENING SESSION

6.15: Dinner music, supplied by the National Broadcasting Orchestra. 7.30: What's on the Air To-night? 7.32: Sporting results: Acceptances and barrier positions for the Geelong races on Wednesday, September 25. 7.35: Latest musical releases. 8.0: Chimes.

NIGHT SESSION

8.1: Caledonian Pipe Band: "Bonnie Ann." "Ben Hill." "M'Alister's Dirk." 8.4: "The Eilmorals": Scottish mirth and melody. 8.14: Madame Gregor Wood, contralto: "Flora MacDonald's Lament." "Auld Scots' Sangs." 8.21: Caledonian Pipe Band: "Canadian Highlanders." "Braes o' Benachrie." 8.25: One-act play: "The Change House." by John Braine. Chorus: Jean Dubh, Colin Campbell; Snora, Janet Blair. The scene is laid in the interior of a Change House—a large, mean, dimly-lit room, half kitchen and half drinking chamber—at Groggail, late on a September night in 1752. 8.40: Madame Gregor Wood, contralto: "Banks of Allan Water." "Charlie is My Darling." 8.47: Caledonian Pipe Band: "Barren Rocks of Aden." "Road to the Isles." "A Man's Man for a' That." 8.51: "The Balmorals": Scottish mirth and melody. Recent books of note. 9.15: National Broadcasting Orchestra: Underdirection. Wm. G. James, conductor. Percy Code "In a Monastery Garden" (Keeley). "I Hear You Calling Me" (Marshall). 9.25: Gwen Selva, soprano. Selected. 9.32: Ted Nelson: Songs and novelties at the piano. 9.40: Orchestra: Selection from Musical Comedy, "Lady Be Good" (Gershwyn). 9.45: Gwen Selva, soprano. Selected. 9.52: Elise Stewart and Victor Brooke, Entertainers at the piano: "I'll Sit and Talk to the Moonbeams." "Let Me Call My Sweetheart." "That's You, Baby." "Wonder Where His Gone." 10.5: Weather information and "Herald" news. 10.15: Ted Nelson: Songs at the Piano. 10.22: Orchestra: "Bacchante" from "Samson and Delilah." 10.30: God Save the King.

3DB

The "Herald" Broadcasting Station, Flinders St., Melbourne (Wavelength, 255 Metres).

MORNING SESSION

11.0: Dajos Bela Orchestra: "Casino Tanze" (Ganger). 11.30: Paul Whiteman and his Orchestra: "Driftwood" (Davis). 12.0: Essie Ackland, contralto. "Ombra Mia Fu" (Handel). 12.30: Market reports. John M'Namara and Co. Pty., Ltd. 12.35: Raymond Dance Band: "Only a Bow." (Friml). 1.0: Margherita Lalvi soprano: "Mirella" (Gounod). 1.30: Edgar Coyle, baritone: "She is Far From the Land" (Lambert). 1.45: Close down.

AFTERNOON SESSION

2.15: Orchestra Militaire Francaise: "March of the Plumed Helmets." 2.30: Jimmy Rodgers: "Treasures Untold." 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: Silver Stars Band: "Monastery Bells." 6.0: J. Pettes and his Pets: "A Bag of Blues." 6.30: Sheffield Choir: "Italian Salad." 7.0: Reginald Whitehead, bass: "Song of the Bow." (Friml). 1.0: Margherita Lalvi soprano: "Mirella" (Gounod). 1.30: Edgar Coyle, baritone: "She is Far From the Land" (Lambert). 1.45: Close down.

EVENING SESSION

8.0: Aeolian Company's session. 8.30: J. F. Mitchell's sponsored programme. 9.0: Frank Beaurepaire's sponsored programme. 9.30: J. H. Squire, Cessie Octet: "Hungarian Rhapsody No. 11" (Liszt). 10.0: Berlin State Opera Orchestra: "Pilgrims Chorus" (Wagner). 10.30: Leslie Harvey: "Georgette" (Brown). 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. Selection, "The Chocolate Soldier" (Strauss). 8.10: Ben Cloirec (tenor). "Slumber On" (Jackson). 8.14: E. S. Campbell and his Mouth Organ. 8.15: Mrs. Robert Bell (soprano). "Let All My Life Be Music" (Spross). 8.25: The Studio Orchestra. March, "Flash of Steel" (Collin). 8.34: J. W. Burgemeister (Cornetist). "Ah, Summer's Night" (Hume). 8.40: Ben Cloirec (Tenor). "Star Vicino" (Archer). 8.44: E. S. Campbell and his Mouth Organ. 8.50: The Studio Orchestra. Ten minutes' dance music. 9.0: Metropolitan Weather Forecast. 9.2: Mrs. Robert Bell (Soprano). "Sometimes When I'm Far Away" (Darewski). 9.7: J. W. Burgemeister (Cornetist). "Silver Showers" (Rimmer). 9.12: Monument and Harrow. Another Argument. 9.22: Foster and Dawson (Entertainers). 9.30: Claude Walker. Ten Minutes with Henry Lawson. 9.40: The Studio Orchestra. Valse, "Barcelona Beauties" (Hildreth). 9.49: Foster and Dawson (Entertainers). 9.50: The Studio Orchestra. Ten Minutes' Dance Music. 10.0: News supplied by the Metropolitan Dailies Weather information. Close down.

6WF

Australian Broadcasting Company, Ltd. Wellington St., Perth (Wavelength, 453 Metres)

EARLY MORNING SESSION:—7.30: Town Hall chimes. 7.31: Meteorological report. 7.32: The day's max. 7.35: Early-rising music (reproduced). 7.55: Mails and shipping intelligence. 8.0: What's on Today? 8.5: Early-rising music (reproduced). 8.22: World-wide cables from A.P.A. 8.27: Features of to-day's programme. 8.30: Close down.

MORNING SESSION—TRADERS' DEMONSTRATION: 10.0: Town Hall chimes. 10.1: Reproduced music. 10.15: Women's interest talk. 10.30: Organ recital from the Ambassadors, Jack Laing at the Console of the Wurliitzer Organ. 11.0: Close down.

MIDDAY SESSION:—12.30: Town Hall chimes. 12.31: Reproduced music. 12.45: Special midday news service. 12.50: Items of interest. 12.58: Weather report. 1.0: Town Hall clock. 1.1: Luncheon music by the National Broadcasting Orchestra. 2.0: Close down.

THE RADIO MATINEE:—3.0: Town Hall chimes. 3.1: Reproduced music. 3.45: Talk of interest to women: "The National Council of Women." 4.0: Town Hall chimes. 4.15: Concert broadcast from Musgroves. 4.55: Features of to-night's presentation 5.0: Close down.

EARLY EVENING SESSION:—5.45: Children's "Goodnight" stories by Uncle Bas and Auntie Maxine. 6.15: A.B.C. Younger Set session Y.A.L. night. 6.30: Dinner music by the National Broadcasting Orchestra. 7.30: Weather report. 7.31: "Sun" Herald world-wide cables. 7.35: Special A.B.C. market reports. 7.40: Stock Exchange. 7.42: Travelogue. 7.57: Features of to-night's presentation.

EVENING SESSION:—Grand Memorial Concert broadcast from Ross Memorial Hall. 11.0: Close down. "God Save the King."

7ZL

Tasmanian Broadcasters Pty., Bursary Buildings, Elizabeth St., Hobart (Wavelength, 516 Metres).

11.30: Recital. 11.34: Midlands weather forecast. 11.35: Recital. 11.55: Tasmanian nations' 9 a.m. weather report. 12.0: Chimes. 12.1: Shipping information, mail notices, housewives' notice. 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. 9.0: G.P.O. clock chimes the hour. 3.1: Record recital. 3.4: Weather information. 3.5: Record recital and player selections. 4.15: "Aunt Edna" will speak on "Gloves, Shoes, and Hosiery." 4.30: Close down. 6.15: Children's hour with "Uncle David." 7.10: Recorded music. 7.30: News session. 7.40: Under the auspices of the Tasmanian University, Professor T. T. Flynn, D.Sc., will speak on "Our Daily Debt to Science." 7.50: Geo. Collis will speak on "Australian Boxing and Wrestling Championships." 8.0: G.P.O. clock chimes the hour. 8.1: Record recital. 8.15: Transmission from the Memorial Congregational Church, Hobart: A concert arranged by James Marsh. Artists: James Marsh, organ; Mrs. Saunders, piano; Hazel Guey, violin. Voices from the Memorial Choir. 8.30: News session. 9.45: Record recital. 10.0: Close down.



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Local Programmes, Tuesday, September 24

2FC

Australian Broadcasting Company, Ltd., Market St., Sydney (Wavelength, 451 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: Austradio musical reproduction.
- 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: Horace Weber 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. British Official Wireless Press.
- 11.15: Morning devotion.
- 11.30: Austradio musical reproduction.
- 12.0: "Big Ben." Stock Exchange, and metal quotations.
- 12.5: A Literary Talk, by C. N. Baeyertz.
- 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 p.m. 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 "News."
- 2.7: Popular Education.
- 2.7: Announcements.

THE RADIO MATINEE—2.30 to 4.30 p.m.

- 2.30: The Fontenay Concert Trio.
- 2.42: Robert Scott, tenor—
 - (a) "Songs of Araby" (Clay).
 - (b) "Secrets" (Schubert).
- 2.49: Jean M'Arthur, pianist.
- 3.56: The Fontenay Concert Trio.
- 3.8: Florence Bentley, mezzo—
 - (a) "I Hid My Love" (D'Hardelot).
 - (b) "Until" (Sanderson).
- 3.15: Ethel Holden, violinist—
 - (a) "Romance" (Wienlawski).
 - (b) "Rondino" (Kreisler).
- 3.22: The Fontenay Concert Trio.
- 3.37: Robert Scott, tenor—
 - (a) "A Spirit Flower" (Campbell-Tiplon).
 - (b) "To a Brooklet" (Schubert).
- 3.44: Jean M'Arthur, pianist.
- 3.51: The Fontenay Concert Trio.
- 4.6: Florence Bentley, mezzo—
 - (a) "Slave Song" (Del Riego).
 - (b) "Till I Wake" (Woodforde-Flinden).
- 4.13: The Fontenay Concert Trio.
- 4.28: Stock Exchange, third call.
- 4.30: Close.

EARLY EVENING SESSION—5.45 to 7.55

- 5.45: Kiddies' "Good-night" Stories, told by Aunt Willa, assisted by Cousins Gwen and Clarice.
- 6.45: The National Broadcasting Orchestra will play dinner music.
- 7.30: A.B.C. sporting service.
- 7.37: Special country session. Stock Exchange resume. Markets, weather forecast, late news service from the "News." Truck bookings.
- 7.55: To night's programme.

THE EVENING PRESENTATION—8 to 11.30 O'clock.

Tuesday is 2FC's State-wide Radio Dance Night. The band will play 12-minute groups, with intervals of 7 minutes, between 8 and 11.30 p.m. To night is our night of old-time dance music, and every item is the personal request of one of our listeners. The programme include Charles Lawrence, Mabel Batchelor, Frank Ryan, A. G. Ellis, Harrison White and Maggie Foster. They have been hard put to it to decide which requests they will do. 2BL's programme is an entirely classical lines, under the direction of G. Vern Farnett, featuring Spencer Thomas, to will look forward with much pleasure. At whose first broadcast appearance listeners 9.30 Dr. Harold Norrie will speak on "Purple and Fine Linen."

- 8.0: The Australian Broadcasting Dance Orchestra.
- 8.12: Charles Lawrence, entertainer.
- 8.19: The Australian Broadcasting Dance Orchestra.
- 8.31: Mabel Batchelor, soprano.
 - (a) "The Chimney Corner" (Cowen).
 - (b) "Won't You Tell Me, Molly Darling?"
- 8.38: The Australian Broadcasting Dance Orchestra.
- 8.50: Maggie Foster, violinist.
- 8.57: The Country Man's Weather Session.
 - (a) New South Wales forecasts.
 - (b) Inter-State weather synopsis.
- 8.59: The Australian Broadcasting Dance Orchestra.
- 9.11: Frank Ryan, comedian.
 - "Snorkins" (Spurr)
- 9.18: The Australian Broadcasting Dance Orchestra.
- 9.30: Harrison White, banjolist.
 - (a) March, "Stars and Stripes" (Souza).
 - (b) "Plantation Melodies" (arr. White).
- 9.37: The Australian Broadcasting Dance Orchestra.
- 9.49: A. G. Ellis, baritone.
 - (a) "The Pilgrim of Love" (Bishop)
 - (b) "Ashore" (Trotter).
- 9.56: The Australian Broadcasting Dance Orchestra.
- 10.6: A. G. Ellis, baritone.
 - (a) "Thy Sentinel Am I" (Watson).
 - (b) "Nita Gitana" (Newton).
- 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 a.m. to 11 a.m.

- 8.15: G.P.O. Chimes. Music for every mood.
- 8.45: Meteorological data for the country.
- 8.50: Austradio Musical Reproduction.
- 9.30: British Official Wireless news.
- 9.35: News 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: Austradio Musical Reproduction.
- 10.45: This morning's story.
- 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," Sister Parry. "General characteristics of good and bad food."
- 1.30: Austradio Musical Reproduction.
- 2.0: J. Knight Barnett at the Wurlitzer organ.
- 2.12: Studio music.

AFTERNOON ENTERTAINMENT—2.30 to 5.45.

- 2.30: Business Efficiency Talk—Major Sanford-Morgan.
- 2.45: "The Magic Carpet"—Tom Gurr will speak on "A Maori Tangi."
- 3.0: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
- 3.12: From the Studio: Len Maurice, popular vocalist—
 - (a) "If you Want the Rainbow" (Dixon).
 - (b) "Mississippi Moon" (Terese).
 - (c) "Where the Shy Little Violets Grow" (Warren).
- 3.19: A Studio item.
- 3.22: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
- 3.32: From the Studio: Edith Cowley, entertainer—
 - (a) "All the Men are Wonderful."
 - (b) "The Day he took me to Wembley."
- 3.39: Melody Memories.
- 3.42: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
- 3.52: From the Studio: Carlton Fay pianist—
 - (a) "Harlequin Love" (Ewing).

- (b) "Pierette's Dream" (Ewing).
- 4.0: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
- 4.12: From the Studio: Len Maurice, popular vocalist—
 - (a) "My Troubles are Over" (Manaco).
 - (b) "If I had You" (Campbell).
 - (c) "Blue Hawaii" (Caesar).
- 4.19: Carlton Fay, pianist—
 - (a) "An Autumn Idyll" (Ewing).
 - (b) "A Summer Dance" (Ewing).
 - (c) "A Spring Rhapsody" (Ewing).
- 4.26: Edith Cowley, entertainer—
 - (a) "Up Came Bonzo."
 - (b) "There's a Little Bit of Bad in every Good Little Girl."
- 4.36: Popular music.
- 4.45: "The Trade Hour"—demonstration music.
- 5.45: Weather information. Close.

THE DINNER HOUR—6.15 p.m. to 7.55 p.m.

- 6.15: The National Broadcasting Orchestra.
- 6.45: The A.B.C. "Younger Set" Session—The A.B.C. Girl Guides, conducted by Miss Gwen Varley.
- 7.5: Studio music. The Country Man's Market Session—wool, wheat, stock, farm produce, fruit, vegetables, pig and poultry markets.
- 7.30: The National Broadcasting Orchestra.
- 7.45: Austradio Musical Reproduction.
- 7.55: What's on the air to-night?

TO-NIGHT'S PRESENTATION—8 to 10.30.

Tuesday is 2BL's night for a high-class musical programme. Those to whom the classics do not appeal will turn to 2FC to-night, where Charles Lawrence, Frank Ryan, Maggie Foster, Mabel Batchelor, and A. G. Ellis are contributing old time request numbers between the real old-fashioned dance groups.

- 8.0: G.P.O. chimes. May Willis, pianist—"Rhapsodie" (Liszt).
- 8.10: Amy Ostina, contralto—
 - (a) "The Sea Wrack" (Harty).
 - (b) "Yesterday and To-day" (Spross).
- 8.17: Moore M'Mahon, violinist.
- 8.24: Stanley Catlett, tenor—
 - (a) "Elegie" (Massenet), with "Cello obbligato."
 - (b) "Bird Songs at Eventide" (Coates).
- 8.31: Athos Martelli, cellist.
- 8.38: Amy Ostina, contralto—
 - (a) "Break, Break, Break" (Carey).
 - (b) "Gretina Green" (Olivier).
- 8.45: May Willis, pianist—
 - (a) "Berceuse" (Chopin).
 - (b) "Gardens under Rain" (A. Debussy).
- 9.55: Stanley Catlett, tenor—
 - (a) "O Paradiso" from "Opera L'Africaine" (Meyerbeer).
 - (b) "Had you but Known" (Denza).
- 9.2: Moore M'Mahon, violinist.
- 9.9: Clement Q. Williams, baritone—
 - (a) "Summer Fields" (Brahms).
 - (b) "Song of the Provence" (Schumann).
- 9.16: Athos Martelli, cellist.
- 9.23: Clement Q. Williams, baritone—
 - (a) "The Organ Grinder" (Schubert).
 - (b) "Impatience" (Schubert).
- 9.30: Dr. Harold Norrie will speak on "Purple and Fine Linen."
- 9.45: In lighter vein—Charles Lawrence and his Radio Riots will while away the happy hour.
- 10.25: Late news from the "News." Late weather forecast.
- 10.30: Close. National Anthem.

2GB

Theological Broadcasting Station, 29 Blich St., Sydney (Wavelength, 316 Metres).

- 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. 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. 5.15: Children's session by Uncle George. 7.0: Music. 7.30: "Service Talks by Suttons' Radio Doctor." 7.45: Feature story. 8.0: Miss Marion Wild, contralto. 8.7: Symphony Orchestra. 8.15: Mr. Cecil Chaseling, baritone. 8.22: Miss Belle Young, pianist. 8.30: Mr. Jack Win and Mr. Heath Burdock, humor. 8.35: Miss Gladys Verona, soprano. 8.43: Violin solo. 8.50: Miss Marion Wild, contralto. 9.0: Weather report. 9.1: Address. 9.15: Symphony Orchestra. 9.25: Mr. Cecil

Chaseling, baritone. 9.35: Mr. Jack Win and Mr. Heath Burdock, humor. 9.40: Violin solos. 9.50: Miss Gladys Verona, soprano. 10.0: 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 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: Songs of all Nations. 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: Musical interlude; selection of popular fox trots. 10.15: News items. 10.30: Women's session, home hints and information, conducted by Mrs. Gray. 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. George A. Davis. 7.45: Request numbers. 8.0: Orchestral selections. 8.10: Women's information service, Mrs. Gray. 8.15: Baritone solos, Mr. Higgins. 8.30: Pianoforte selections, Mr. Hancock. 8.45: Request

numbers. 9.0: Sporting feature, presented by Tooth and Co., Ltd., Kent Brewery, from the ringside of M'Hugh's Leichhardt Stadium, results of early events and full description of main 15 rounds event by Herbert Beaver. 9.40: Dance music from the studio. 10.0: Closing announcements.

2UE

Broadcasting Station 2UE, Everett St., Maroubra, Sydney (Wavelength, 293 Metres).

EARLY MORNING SESSION.

7.15: Breakfast-time hour orchestral music. 8.0: Clock and chimes. 8.1: Musical items. 8.30: Weather forecast. Close down.

MIDDAY SESSION

11.30: Vocal and instrumental items. 12.30: Close down.

AFTERNOON SESSION.

1.0: Orchestral and vocal music. 1.45: Organ recital. 2.0: Vocal and orchestral selections. 2.30: Close down.

EVENING SESSION

7.15: Orchestral dinner music. 7.58: Programme announcements. 8.0: Clock and chimes. 8.1: Overture—"La Tosca." 8.10: Orchestral and vocal selections. 10.15: National Anthem.

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DAVID JONES'

Interstate Programmes, Tuesday, September 24

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 Eric Welch.
10.45: Melbourne, 12.0: Melbourne Observatory time signal. 12.1: Melody broadcast. 12.15: News service. British official wireless news. Corn Exchange midway 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. 1.30: Melody broadcast.

EDUCATIONAL SESSION.

2.0: Stories from the operas, with illustrations. Miss D. Babington. 2.35: Musical interlude. 2.40: A talk in French, Mons. Th. Roussel, B.A. 2.55: Musical interlude.

THE RADIO MATINEE.

3.0: National Broadcasting Orchestra—Suite, "Joyous Youth" (Coates). 3.10: Ernest Wilson, baritone—"The Bandolero," by request (Stuart). "Love Lily" (Thomson). 3.17: Guildford Bishop, violin—"Percutative and Polonaise" (McKenzie Murdoch). 3.22: One-act play, "Plot for Plot," a comedy by Charles Young, produced by Catherine Nell. 3.32: Orchestra—Caprice, "The Merry Lark" (Bendix). "In a Chinese Temple Garden" (Ketyelby). 3.50: Owen Selva, soprano—"Vieux Aurore" (old French). "Air de Lis" (Debussy). 3.57: A piano recital—Betty Kelly piano. "Panteste in D Minor" (Mozart). "Rococo" (Paingren). "Rush Hour in Hongkong" (Chasins). 4.5: Ernest Wilson, baritone—"Blow, Blow, Thou Winter Wind" (Sergeant). "The Bitterness of Love" (Jas. P. Dunn). 4.12: Orchestra, Slavonic Dance (Glazounov). 4.17: Owen Selva, soprano—"L'aphonia" (Samuels). selected. 4.34: Orchestra, valse, "Gold and Silver" (Lhara).

THE CHILDREN'S CORNER.

5.45: "Bobbie Bluegum" has a slight difference of opinion with "Etor and Orace," but all ends happily, and "Clever Clarice" celebrates the occasion with some joyful ditties. 6.15: Birthday greetings from "Bobby Bluegum" to lucky little boys and girls.

EVENING SESSION.

6.40: Careers for our boys and girls—(7) Vocational Guidance in U.S.A. by Mr. W. Sae, M.A. 8.55: Melody broadcast. 7.0: Melbourne Observatory time signal. 7.1: Countryman's Session. 7.25: For the Man on the Land. 7.40: News service. 7.45: The things we drink—Champagne, Mr. Francois de Castella. 8.0: Melbourne Observatory time signal.

NIGHT SESSION.

8.0: 59th Battalion Band—"Sergeant J. Doherty, bandmaster"—March. "Colonel Bogey" (Alford).
8.5: Thomas George, bass—"The Two Grenadiers" (Schumann). "Brian of Glenaar" (Graham).
8.12: 59th Battalion Band—A descriptive selection, a battalion marching past on a ceremonial parade from line after review with orders (arranged by Captain A. J. May). Marches: "Freedom and Honor," "O.H.M.S."
8.24: A military play. Tributary Theatre presents a comedy in one act, by Horace Brighouse. "Once a Hero." Players: Sir William Burnbold, Mr. Frank Obboldstone; Edward Fosdike, Mr. F. Goddard; Dolly Wainwright, Miss Lucy Ahon; a Tramp, John Cayne. Produced by John O'Keefe.
8.40: 59th Battalion Band—March, "Full of Go" (Hutcheon).
8.45: Thomas George, bass—"The Trumpeter," by request (Dix). "The Knight's Song" (Shaw).
8.52: Willy Wilding, comedian—"She Was Very Dear to Me" (Sanders), humorous dissertation, "How to Reduce for Women" (Sellers).
9.2: University Extension series. "The Composition of the Stars." Professor E. J. Hartung, D.Sc.
9.17: Lillane Gay, soprano—"The Temple Bell" (Woodforde-Flinden). "A Persian Song of Spring" (McBartrey).
9.22: 59th Battalion Band, fantasia, "Poetic Fancies" (Laurent).
9.32: Lillane Gay, soprano—"Down in the Forest" (Landon Ronald), selected.
9.40: "The Wanderers," in song and story.
10.10: 59th Battalion Band—March, "Divisional Command" (Ord Hume).
10.20: Meteorological information; weather forecast; British official wireless news; items of interest.
10.30: 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: Chimes. 12.1: Beautifying the Home: Colour Recipes, Miss Lucy Ahon, B.A. 12.15: Fifteen minutes' synopses 12.30: Luncheon music, supplied by the A.B.C. Troubadours. 1.0: Chimes.

AFTERNOON SESSION.

2.1: National Broadcasting Orchestra: Overture, "Stradella." "The Broadway Melody." 2.10: Mainly about women. The Baby—Is your Baby Over-clothed? Elster Anne Purcell. 2.25: Musical interlude. 2.30: Useful crafts at home: Mrs. Henrietta Walker. 2.45: Musical interlude. 3.0: G.P.O. chimes. 3.1: A visit to the Show: Comments by our special representatives. 3.55: Musical interlude. 4.0: The latest fashions, Madame La Mode. Traders' Demonstration

3DB

The "Herald" Broadcasting Station, Flinders St., Melbourne (Wavelength, 255 Metres).

AFTERNOON SESSION.

2.15: Philadelphia Symphony Orchestra: "Dance Orientale" (Glazounov). 2.30: Oscar Grogan, tenor: "Vagabond Lover" (Vallee). 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: Milt Shaw's Orchestra: "My Southern Home" (Shilson). 6.0: The Singing Sophomores; "Clione" (Moret). 6.30: De Groot and Piccadilly Orchestra: "Waltz Dream" (Strauss). 7.0: Billy Magel, pianist: "Wistaria" (Mayerl). 7.15: Market reports, John M'Namara and Co. Pty., Ltd. 7.20: Market reports, Gippsland and Northern Co-operative Co., Ltd. 7.30: City Motor Supply sponsored session.

EVENING SESSION.

8.30: Phoenix Biscuit Company's sponsored session. 9.30: Berlin State Opera Orchestra: "The Thieving Magpie" (Rossini). 10.0: Edouard Commette, organ: "Pastorale" (Franck). 10.30: Eton College Musical Society: "Just as the Tide Was Flowing" (Williams). 10.40: News. 10.45: God Save the King.

6WF

Australian Broadcasting Company, Ltd. Wellington St., Perth (Wavelength, 435 Metres).

EARLY MORNING SESSION.—7.30: Town Hall chimes. 7.31: Meteorological report. 7.32: The day's maxim. 7.35: Early rising music (reproduced). 7.55: Mails and shipping intelligence. 8.0: What's on to-day? 8.5: Market reports. 8.10: Early rising music (reproduced). 8.22: World-wide cables from A.P.A. 8.27: Features of to-day's programme. 8.30: Close.

MORNING SESSION—TRADERS' DEMONSTRATION.—10.0: Town Hall chimes. 10.1: Reproduced music. 10.15: Women's interest talk. 10.30: Organ recital from the Ambassadors, Jack Laing at the Console of the Wurliizer Organ. 11.0: Close down.

MIDDAY SESSION.—12.30: Town Hall chimes. 12.31: Reproduced music. 12.45: Special midday news service. 1.50: Items of interest. 12.58: Weather report. 1.0: Town Hall chimes. 1.1: Luncheon music by the National Broadcasting Orchestra. 2.0: Close down.

THE RADIO MATINEE.—3.0: Town Hall chimes. 3.1: Reproduced music. 3.45: Talk of interest to women: "The West Australian Housewives' Association." 4.0: Town Hall chimes. 4.1: Reproduced music. 4.15: The Story of the Day. 4.30: Ambassadors Orchestra, conducted by Bert Howell. 4.55: Features of this evening's presentation. 5.0: Close down.

EARLY EVENING SESSION.—5.45: Children's "Goodnight" stories by Uncle Bas and Auntie Maxine. 6.15: A.B.C. Younger Set session: "The Question Box." 6.30: Dinner music by the National Broadcasting Orchestra. 7.30: Weather report. 7.31: "Sun" "Herald" world-wide cables. 7.35: Special A.B.C. market reports. 7.42: Talk by Dr. Baitje. 7.57: Features of to-night's presentation.

EVENING SESSION.—8.0: Overture. 8.5: Ethel Kelly, soprano. 8.12: A.B.C. Instrumental Trio. 8.22: Ethel Kelly, soprano. 8.29: A.B.C. Instrumental Trio. 8.38: Sketch by Anita Fitzgerald. 8.49: A.B.C. Instrumental Trio. 9.0: Weather report. 9.1: Sketch by Anita Fitzgerald. 9.11: Books reviewed, "Wise and Otherwise." 9.21: Temple Court dance band, conducted by Merv Lyons. 9.31: M'Lennan Lewis, Scotch comedian. 9.38: Temple Court dance conducted by Merv Lyons. 9.48: M'Lennan Lewis, Scotch comedian. 9.55: Charles Wicks, baritone. 10.5: What's on the air to-morrow. 10.10: Temple Court dance band. 11.0: Close down. "God Save the King."

7ZL

Tasmanian Broadcasters Pty., Bursary Buildings, Elizabeth St., Hobart (Wavelength, 516 Metres).

11.30: Selections. 11.34: Midlands weather forecast. 11.35: Adelaide-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, commercial news. 12.8: Selections. 12.30: News, announcements. 12.40: Selections. 1.5: British official wireless news, railway auction sales. 1.10: Selections. 1.30: Close down. 2.0: Chimes. 2.1: Selections. 3.4: Weather information. 3.5: Selections. 4.15: An Educational Talk on "Statistics." Trade between South Africa and Australia. 4.30: Close down. 6.15: Children's hour with "Uncle David" and "The Story Lady." 7.10: Recorded music. 7.30: News session. 7.40: Under the auspices of the Agricultural Department, P. H. Thomas, Chief Horticulturalist, will speak on "The Orchard Spraying Outfit." 7.50: W. E. Fuller will speak on "Literary Lapses and Library Lists." 8.0: Chimes. 8.1: Selections. 8.15: A programme of dance music by the Discus Dance Ensemble. 8.27: James Melton, tenor: "My Tonka." 8.30: Dance numbers. 8.42: Geo. Ross, baritone: "Plenty of Sunshine." 8.45: Dance numbers. 8.57: James Melton, tenor: "The Song I Love." 9.0: Dance numbers. 9.12: Arthur Jacobson, baritone: "I Rather Cry Over You." 9.15: Dance numbers. 9.27: Richard Neller, tenor: "I'm Sorry, Sally." 9.30: News session. 9.40: Dance numbers. 9.52: Slumber music. 10.0: G.P.O. clock chimes the hour. 10.1: Close down.

Ross Hull's 1930 Super-heterodyne Next Week

Session. 4.15: Reproduced music. 5.0: Chimes. 5.30: Weather data. 5.45: Close down.

EVENING SESSION.

6.15: Dinner music, supplied by the A.B.C. Troubadours. 7.30: What's on the Air To-night? 7.32: Sporting results. 7.35: Latest musical releases. 8.0: G.P.O. chimes.

NIGHT SESSION.

8.1: A.B.C. Troubadours: "I'm Crazy Over You" (Sherman). "I Faw Down and Go Boom" (Brookman). "Third Lark" (Vern de Mars).
8.8: Jean Kinross, contralto: "For You Alone" (Geehl).
8.11: A.B.C. Troubadours: "My Inspiration is You" (Nicholls). "Carolina Moon" (Burke). "Two Weeks' Notice" (Seaman).
8.19: Norman Bradshaw, tenor: "I Know of Two Bright Eyes" (Clutsum).
8.22: A.B.C. Troubadours: "Sleep, Baby, Sleep" (Schuster). "A Precious Little Thing Called Love" (Davis). "Rocky Road" (Gibbs).
8.30: Charles O'Mara, Irish entertainer, song, "The Bachelor's Tale."
8.33: A.B.C. Troubadours: "Makin' Whoopee" (Donaldson). "Love Dreams" (Mendoza). "By the Fireside" (Phillips).
8.41: Jean Kinross, contralto: "Bird Songs at Even-tide" (Eric Coates).
8.44: A.B.C. Troubadours: "No Parking" (Rath). "Weary River" (Clarke). "Susie's Sister" (Sarony).
8.52: Norman Bradshaw, tenor: "Danny Boy" (Weatherley).
8.55: A.B.C. Troubadours: "Blue Night" (Rollins). "It Wasn't Meant to Be" (Endor). "Coquette" (Ber-lin).
9.3: Charles O'Mara, Irish story: "Kelly's Dream."
9.8: A.B.C. Troubadours: "Paradise and You" (Packay). "What Do We Care" (Sissie). "Marie" (Ber-lin).
9.15: Jack O'Hagan and his Crooners: Half an hour of mirth and melody.
9.45: Jean Kinross, contralto: "At Dawning" (Cadman).
9.48: A.B.C. Troubadours: "She's Funny That Way" (Moret). "Flower of Love" (Mendoza). "Campus Rush" (Asherman).
10.5: Weather information and "Herald" news.
10.15: Norman Bradshaw, tenor: "Eleanor" (Col-eridge-Taylor).
10.18: A.B.C. Troubadours: "When Summer is Gone" (Whittle). "Which Am de Best Way I'm-a" (Hall). "Where Do I Want to Be" (Barry). "At the End of the Sunset Trail" (Hanson). "All by Yourself in the Moonlight" (Wallis).
10.30: God Save the King.

4QG

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

For day sessions, see Friday.

NIGHT SESSION

"WHO IS THE ARTIST?"

In response to many requests from listeners, to-night's programme will take the form of another "Who is the Artist?" Competition.

It will be provided by well-known artists, who have frequently appeared at 4QG, but who will be referred to by letter only.

Listeners will be asked to identify these performers, and to post their lists to 4QG (taking care to mark the envelopes, "Who is the Artist?"). All lists should reach the station by Friday, September 28.

A prize of £23/3 will be awarded to the listener who is correct. In the event of more than one listener being correct a drawing will be made to determine the winner.

In order to make it reasonably simple for listeners to attempt to identify all items, the programme will be broadcast from the studio, and will take the form of an ordinary concert.

Announcer: Mr. "A."
Accompanist: "B."

8.0: "Who is the Artist?" Programme.
10.0: News supplied by the Metropolitan Dailies. Weather Information. "Queenslander" News for distant listeners. Close down.

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349-351 FLINDERS LANE MELBOURNE

32 CLARENCE STREET, SYDNEY 'PHONE, B 2002

Local Programmes, Wednesday, September 25

2FC

Australian Broadcasting Company, Ltd., Market St., Sydney (Wavelength, 481 Metres).

EARLY SESSION—7 to 9.15 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: Austradio musical reproduction.
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: General sporting talk, by Oscar Lind.
10.45: Horace Weber, at the grand organ.
11.0: Household helps; cooking by Miss Ruth Furst.
11.10: Cables—A.P.A. and "Sun"—"Herald" news service; British Official Wireless Press.
11.15: Morning devotion.
11.30: Austradio Musical Reproduction.
12.0: "Big Ben." Stock Exchange, and metal quotations.
12.5: A Dickens story.
12.20: Midday weather forecast and weather synopsis. Special produce market report for the man on the land, supplied by the State Marketing Board.
12.30: Close.

THE LUNCH HOUR—1 p.m. 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 "News."
2.7: Popular education.
2.27: Announcements.

THE RADIO MATINEE—2.30 to 4.30 p.m.

- 2.30: Eileen Brady, novelty pianist.
(a) "Shadow Dance" (Macdowell).
(b) "Menuet" (Paderewski).
(c) "Waltz in A Flat" (Brahms).
2.38: Len Nugent, tenor.
2.45: Melody memories.
3.0: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
3.12: From the Studio. Harry Skinner and His Banjo.
(a) "American Patrol" (Papworth).
(b) "Dance of the Ducks" (Skinner).
3.18: A popular number.
3.22: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
3.32: If reception is satisfactory, KGO, California, will be relayed.
4.0: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
4.12: From the studio. Eileen Brady novelty pianist.
(a) "Meditation" (Sims).
(b) "Feather Fingers" (Claude Lapham).
4.19: Len Nugent, tenor.
4.23: A popular item.
4.28: Stock Exchange, third call.
4.30: Harry Skinner and His Banjo.
(a) "Mexican Ride" (Grimshaw).
(b) "You Were Meant for Me" (Brown).
4.37: Radio rhythm.
4.45: Close.

EARLY EVENING SESSION—5.45 to 7.55 p.m.

- 5.45: Kiddies' "good-night" stories, told by Uncle Ted and "Sandy."
6.45: The National Broadcasting Orchestra will play dinner music.
7.30: A B.C. sporting service.
7.37: Special country session. Stock Exchange resume. Markets. Weather forecast. Late news service, from the "News." Truck bookings.
7.53: To-night's programme.

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

- The studio play to-night is "Jiggery-Pokery," a whimsicality, arranged by H. W. Varna. Band music by the Salvation Army Congress Band, will attract 2BL listeners, and the Wireless Singers, under the direction of Mr Joseph Post, are preparing concerted numbers, suitably adapted for broadcasting.
8.0: An hour from the State Theatre.

9.0: From the studio. The Country Man's weather session.

- (a) New South Wales forecasts.
(b) Inter-State weather synopsis.
9.2: H. W. Varna and Company present "Jiggery-Pokery," a whimsicality, arranged by H. W. Varna.

Cast:

- Crawford, M.P. H. J. Sailer
Margaret (his wife) Muriel Conner
Violet (his daughter) Meg Service
Merton (another M.P.) William Hume
Clifford (a solicitor) H. W. Varna
Scene: Crawford's Town House.
9.32: Virginia Bassetti, contralto.
(a) "Silent Noon" (Williams).
(b) "Do Not Go, My Love" (Hageman).
9.39: Joan Fry, pianist.
(a) "Two Etudes" (Chopin).
(b) "Two Mazurkas" (Chopin).
(c) "Impromptu G Flat Major" (Chopin).
9.59: Virginia Bassetti, contralto.
(a) "Der Tod Das Ist die Kuhle Nacht" (Brahms).
(b) "Aufenthal" (Schubert).
10.10: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
10.15: From the studio. Late weather forecast. Announcements.
10.20: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
11.30: Close. National Anthem.

2BL

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

OPENING SESSION—8.15 a.m. to 11 a.m.

- 8.15: G.P.O. chimes.
Music for Every Mood.
8.45: Meteorological Data for the Country.
8.50: Austradio Musical Reproduction.
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: Austradio Musical Reproduction.
10.45: This Morning's Story.
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" Goodie Reeve. "Aids to Personality."
1.30: Austradio Musical Reproduction.
2.0: J. Knight Barnett at the Wurlitzer.
2.12: Studio Music.

THE AFTERNOON ENTERTAINMENT—2.30 to 5.45 p.m.

- 2.30: Dr. Harold Norrie, member of Council of Royal Historical Society, will speak on "Outstanding Personalities of Australian History." Lieut. Dawes.
2.45: The Storyteller. "Memories of Great Oratory."
3.0: The Marcotta Trio.
3.15: Olga Rasmussen, Mezzo—
(a) "Love Sends a Little Gift of Roses" (Openshaw).
(b) "The Cossack Slumber Song" (Nicholls).
3.22: Kathleen Roe, Pianist—
"Prelude and Fugue in B Minor" (Mendelssohn).
3.30: The Marcotta Trio.
3.45: Harry Croot, Baritone—
(a) "Cloes Propp" (Melville).
(b) "We Two in Paradise" (Melville).
3.52: The Marcotta Trio.
4.12: Olga Rasmussen, Mezzo—
(a) "If I Might Come to You" (Squire).
(b) "A Castilian Lament" (Del Riego).
(c) "To You" (Speaks).
4.19: The Marcotta Trio.
4.30: Harry Croot, Baritone—
(a) "May Day at Islington" (Oliver).
(b) "Dear Little Star" (Forster).
4.37: A Musical Interlude.
4.45: "The Trade Hour." Demonstration Music.
5.45: Weather Information. Close.

THE DINNER HOUR—6.15 p.m. to 7.55 p.m.

- 6.15: The National Broadcasting Orchestra.
6.45: The A.B.C. "Younger Set" session
The A.B.C. Boys' Radio Club, conducted by Mr. Norman Lyons.
7.5: Graham Kent will give a talk on "Bridge."

7.15: The Country Man's Market Session—Wool, Wheat, Stock, Farm Produce, Fruit, Vegetables, Piz and Poultry Markets.
7.30: The National Broadcasting Orchestra.

- 7.43: Austradio Musical Reproduction.
7.55: What's On the Air To-night?

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

H. W. Varna's Whimsical Radio play, "Jiggery-Pokery," will attract 2FC listeners to-night, in addition there are song groups by Virginia Bassetti and a pianoforte recital by Joan Fry. 2BL feature band music, and the programme to-night is supplied by the Salvation Army Congress Band. Concerted items by the Wireless Singers, solos by Beatrice White (contralto), who makes her first broadcast appearance, and Harold Hickey (tenor).

- 8.0: The Wireless Singers—
(a) "Excelsior" (Balfie).
(b) "I Lay in Sorrow Deep Distressed" (Caber).
(c) "Sweetest Love Do Not Go" (Vincent).
8.10: The Salvation Army Congress Band.
8.25: Beatrice White (contralto)—
(a) "Arise, O Sun" (Craske), organ and Piano Accompaniment).
(b) "The Little Coon's Prayer" (Hope).
8.32: Dulcie Blair (Violinist)—
(a) "Andantino" (Kreisler).
(b) "Praeludium and Allegro" (Pugnani-Kreisler).
8.39: The Salvation Army Congress Band.
8.54: Harold Hickey (tenor)—
(a) "A Brown Bird Singing" (Wood).
(b) "Obstination" (Fontenailles).
9.1: Muriel Lang (Cellist).
9.10: The Salvation Army Congress Band.
9.20: The Wireless Singers—
(a) "Good-night, Beloved" (Pinsuti).
(b) "The Night has a Thousand Eyes" (Caber).
(c) "Cycle of Old English Ballads" (arr. Branscombe).
9.30: Late weather forecast for the man on the land.
9.32: Dulcie Blair, violinist—
(a) "Chanson Hindou" (Rimsky-Korsakoff-Kreisler).
(b) "Danse Espagnole" (Granados-Kreisler).
9.39: Beatrice White (Contralto)—
(a) "My Dear Soul" (Sanderson).
(b) "Lambie Love" (Vandepool).
9.46: The Wireless Singers—
Selected.
9.53: Muriel Lang (Cellist).
10.0: Harold Hickey (Tenor)—
(a) "Little Mother of Mine" (Burleigh).
(b) "The Lilac Tree" (Gartian).
10.7: The Salvation Army Congress Band.
10.25: Late news from the "News."
Late Weather Forecast.
10.30: Close. National Anthem.

2GB

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

- 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. 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. 5.15: Children's session by Uncle George. 7.0: Music. 7.45: Feature story. 8.0: Miss Dorothy Rose, soprano. 8.7: Symphony Orchestra. 8.15: Mr. Cecil Houghton, tenor. 8.22: Miss Ada Brook, pianiste. 8.30: Selections from grand opera. 9.0: Weather report. 9.3: Address. 9.15: Miss Dorothy Rose, soprano. 9.25: Symphony Orchestra. 9.35: Mr. Jack Win and Mr. Heath Burdock, humor. 9.40: Mr. Cecil Houghton, tenor. 9.50: Selections from grand opera. 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 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: Sixty Martial Moments' 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: Hawaiian steel guitar selections. 10.30: Women's session; home hints and information, conducted by Mrs. Gray. 11.0: A few laughs. 11.5: Piano-forte 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. George A. Davis. 7.40: Health feature. 8.0: Hawaiian steel guitar selections. 8.15: Al. Rosenberg, novelty pianist. 8.30: Banjo solos, Master Harry Weir. 8.45: Contralto solos, Miss Rooter. 9.10: Sporting feature, presented

by Tooth and Co., Ltd., Kent Brewery, from Sydney Stadium, full description of main 15 rounds event from the ringside. 9.55: Result of main 15 rounds event. 10.0: Closing announcements.

2UE

Broadcasting Station 2UE, Everett St., Maroubra. Sydney (Wavelength, 293 Metres).

EARLY MORNING SESSION.

7.15: Breakfast-time hour orchestral music. 8.0: Clock and chimes. 8.30: Weather forecast. Close down.

EVENING SESSION

7.15: Orchestral dinner music. 7.58: Programme announcements. 8.0: Clock and chimes. 8.1: Overture—"Bohemian Girl." 8.10: Vocal and instrumental selections. 10.15: National Anthem.

2UW

Thursday, September 26

(Continued from Page 50.)

Radio Broadcasting, Ltd., Palling's Building, Ash Street, Sydney. (Wavelength, 267 Metres.)

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: 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

Thursday, September 26

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: Women's session; home hints and information, conducted by

Mrs. Gray. 11.0: A few laughs. 11.5: Piano-forte 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: A humorous interlude. 8.30: Frederick Holt presents a recital of Australian compositions and composers, 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

Thursday, September 26

Broadcasting Station 2UE, Everett St., Maroubra. Sydney (Wavelength, 293 Metres).

EARLY MORNING SESSION.

7.15: Breakfast-time hour orchestral music. 7.58: Programme announcements. 8.0: Clock and chimes. 8.30: Weather forecast. Close down.

MIDDAY SESSION

11.30: Orchestral and vocal music. 12.30: Close down.

AFTERNOON SESSION.

1.0: Orchestral and vocal selections. 1.45: Organ recital. 2.0: Vocal and instrumental items. 2.30: Close down.

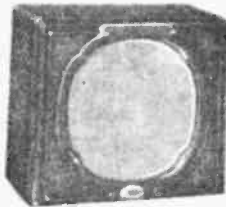
EVENING SESSION

7.15: Orchestral dinner music. 8.0: Clock and chimes. 8.1: Overture—"Barber of Seville." 8.10: Orchestral and vocal concert. 10.15: National Anthem. Close down.

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Interstate Programmes, Wednesday, September 25

3LO

Australian Broadcasting Co., 120A Russell St., Melbourne (Wavelength, 375 Metres).

EARLY MORNING SESSION.

7.0 to 8.15: See Friday.

MORNING SESSION.

10.30: Current happenings in sport, by Mel Morris. 10.45: Melody broadcast. 12.0: Melbourne Observatory time signal. 12.1: Melody broadcast. 12.15: News service. 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; Stock Exchange information; meteorological data; weather forecast for Victoria, New South Wales, South Australia, and Tasmania; ocean forecasts; river reports; rainfall; comments on the day's news. 1.30: Rotary Club, transmission from the Freemasons' Hall, Collins Street, Melbourne.

EDUCATIONAL SESSION.

2.0: Reading Aloud, Miss Alice Smith. 2.15: A sporting interlude: Description, by Eric Welch, of Melbourne Hurdle Race, 2 miles. Geelong races. 2.30: Rambles in the Bush, Mr. Chas. Daley. 2.35: Musical interlude. 2.45: Description of Notice Handicap, 6 furlongs. Geelong races. 2.50: How our laws are made. Hon. J. H. Keating. L.L.B.

AFTERNOON SESSION.

All Tastes Considered. 3.5: Description of football match, Wimmera v. Gippsland, at Melbourne Cricket Ground. 3.13: Description of Spring Handicap, 1 m. 2 furl. 1929/30. Geelong races. 3.20: The A.B.C. Troubadours: "Makin Whoopee" (Donaldson), "I'm Bringing a Red, Red Rose" (Donaldson), 3.26: R. Nicholson, baritone, "Mountain Lovers" (Squire), "From Oberlin to Fairyland" (Slater), 3.33: Peter McCarthy, banjo. Plantation melodies. 3.43: Description of Brush Steeplechase, 2 1/2 miles. Geelong races. 3.50: Violet Jackson, soprano: "The Island" (Rachmauñoff), "The Flutes of Arcady" (James), 3.57: One-act play, "Pais" by Stanley Spoke. Produced by Betty Rae. Cast: Lis to shirhand at the Oceanic Laundry; Betty Rae; Lil (in the label department at Jinks Jam Factory), Ruby May. Scene: A top-floor garret in Peabody's Buildings. 4.9: A.B.C. Troubadours: "Wake Up, Chillun, Wake Up" (Robinson), "Chiquita" (Wayne), "Dawning" (Shiver), 4.17: Description of Three-year-old Handicap, 6 furlongs. Geelong races. 4.24: R. Nicholson, baritone: "The Emperor's Chariteer" (Mornement), "Trade Winds" (Keel), 4.30: A. Urquhart, violin: Selected. 4.35: Violet Jackson, soprano: "My Ain Folk" (Lemon), "All Thro' the Night" (Old Welsh), both by request. 4.42: Description of Barrow Weather, 7 furlongs. Geelong races. 4.50: Description of football match Wimmera v. Gippsland, at M.C.C. 6.10: Close down.

THE CHILDREN'S CORNER.

5.45: "Little Miss Kookaburra" will tell the Tiny Ones a "Fairy Story" 6.0: Birthday greetings from "Little Miss Kookaburra." 6.20: Musical interlude. 6.25: "Little Miss Kookaburra" will tell another instalment of "The Guides at Calanity Hill."

EVENING SESSION.

6.35: Melody broadcast. 6.40: Romantic historical sketches, Mr. J. R. Lynch. 6.55: Melody broadcast. 7.0: Melbourne Observatory time signal. 7.1: Countryman's session. 7.25: Technical talks for mechanics. 7: Wrought Iron, Prof. J. Neill Greenwood. D.Sc. 7.40: "Herald" news service. 7.45: How to attain and retain good health. 8.0: Melbourne Observatory time signal.

NIGHT SESSION.

8.0: National Broadcasting Orchestra. Overture, "Tannhauser" (Wagner). 8.10: A classical hour. One hour with the master, arranged by Professor Bernard Heinze. 9.10: The Orpheus Choristers (Herbert Davis conductor). "They That Go Down to the Sea in Ships" (Bartók), (dedicated to the s.s. "Titanic," April 14, 1912), "I Sowed the Seeds of Love" (G. Holst), Hampshire folk song, "The Banks of Doon" (arr. by J. Robertson).

9.20: National Broadcasting Orchestra: Ballet Suite, "La Source" (Debussy, "Polonaise Militaire" (Chopin).

9.30: "The Two Wags." Fifteen minutes of song and laughter. 9.45: The Orpheus Choristers, English folk songs: (a) "Just as the Tide Was Flowing" (N. Vaughan Williams), (b) "The Lover's Ghost" (N. Vaughan Williams), (c) "The Dark-eyed Sailor" (N. Vaughan Williams).

9.55: National Broadcasting Orchestra: "Cavatone" (Gluck), "Mourning" (Handel). 10.0: The Orpheus Choristers: English folk songs: (a) "The Springtime of the Year" (R. Vaughan Williams), (b) "Wessall Song" (R. Vaughan Williams).

10.5: The North String Quartette.

10.55: Meteorological information; British official wireless news, items of interest. 11.0: "The Rex" Dance Band. 11.30: God Save the King.

3AR

Australian Broadcasting Co., (20A Russell St., Melbourne (Wavelength, 481 Metres).

MORNING SESSION.

8.15 to 11.0: See Friday.

MIDDAY SESSION.

12.0: Chimes. 12.1: Food and Cookery: Miss R. Chisholm. B.A. (Melb.), M.A. (Toronto). 12.15: Organ recital from the Melbourne Town Hall, Dr W.

G. Price. 12.45: Luncheon music, supplied by the National Broadcasting Orchestra. 2.0: Chimes.

AFTERNOON SESSION.

2.1: London Symphony Orchestra. 2.8: Essie Ackland, contralto. 2.16: His Majesty's Coldstream Guards' Band. 2.24: Peter Dawson, baritone. 2.32: Rudolph Priml, piano recital. 2.40: The Pre-school Child: Why do little children have fits of temper? Miss M. Lush. 2.55: Musical interlude. 3.0: A visit to the Show, by our special representative. 3.45: Musical interlude. 3.50: Women's guide to the Show. Miss Hattie Knight. 4.5: Musical interlude. 4.10: Home life in other countries: Egypt, Miss Reva Leon. 4.25: Reproduced music. 5.0: G.P.O. chimes; reproduced music. 5.30: Weather data. 5.45: Close down.

EVENING SESSION.

6.15: Dinner music, supplied by the National Broadcasting Orchestra. 7.30: What's on the Air To-night? 7.32: Sporting results. 7.35: Latest musical releases. 7.45: From the Show Grounds: Show doings, Mr. H. Schwieger (secretary, Royal Agricultural Show). 8.0: G.P.O. chimes.

NIGHT SESSION.

8.1: Alfred Lawrence and his company: Sixty minutes revue.

9.0: Why we behave as human beings: How many senses have we? Prof. J. A. Gunn, M.A., B.Sc., Ph.D. 9.15: Gwen Selva, soprano: "An Old Carol" (Quilter), "Over the Mountains" (Quilter).

9.22: A.B.C. Troubadours: "Louisiana Bo-Bo" (Nixon), "What d'Ya Say?" (Brown), "The Things That Were Made for Love" (Tobias).

9.30: Elsie Stewart and Victor Brookes, entertainers: "Big City Blues" (Conrad), "Breakaway" (Conrad), "Happy Days and Lonely Nights" (Pfecher), "Do Something" (Quilter).

9.42: Frank R. Thomas, baritone: "To the Forest" (Tschalkowsky), "Lassie o' Mine" (Mackenzie-Murdoch).

9.50: A.B.C. Troubadours: "My Mother's Eyes" (Bayer), "Pickin' Cotton" (Henderson), "On the Crest of a Wave" (Henderson).

9.55: Gwen Selva, soprano: Two Old English songs. 10.2: Weather information and "Herald" news. 10.10: Frank R. Thomas, baritone: "Legend" (Tschalkowsky), "Now Sleeps the Crimson Petal" (Quilter).

10.17: A.B.C. Troubadours: "Flower of Love" (Mendoza), "I Love to Hear You Singing" (Wood), "Nothing to Do But Think of You" (Bernard), "I Can't Do Without You" (Berlin), "Reaching for Someone" (Donaldson).

10.30: God Save the King.

3DB

The "Herald" Broadcasting Station, Flinders St., Melbourne (Wavelength, 355 Metres).

MORNING SESSION.

11.0: Ted Wallace and His Compus Boys: "Jericho" (Meyers). 11.30: "La Vogue": "The World's Fashions and Follies." 11.35: International Concert Orchestra: "Lazy Pete" (Wagner), 12.0: Ruth Eiting: "I'm Bringing a Red, Red Rose" (Kahn), 12.30: Market reports, John M'Namara and Co. Pty., Ltd. 12.32: The Paul Godwin Orchestra: "Coppelia Ballet." 1.0: Ipana Troubadours: "Just a Precious Little Thing Called Love" (Costa). 1.15: Pioneer Motors sponsored session. 1.45: Close down.

AFTERNOON SESSION.

2.15: J. H. Squire Celeste Octet: "Whispering Flowers" (Von Blon), 2.30: Mrs. Dorothy Silk: "Homecrafts." 2.45: Ninon Vallin, soprano: "Si mes vers" (Hahn). 3.0: Alwater Kent Radio Hour, sponsored by A. G. Heiling, Ltd., and E. T. Muir. 4.10: Close down.

EARLY EVENING SESSION.

4.45: Choral Evensong from St. Paul's Cathedral. 5.30: Whitehouse Orchestra: "H.M.S. Pinaforte" (Sullivan). 6.0: Rosa Ponselle, soprano, "Elegie" (Massenet). 6.30: Quentin Wilson, organ: "Classical Selection." 7.0: Rai de Costa, piano: "When Day is Done" (De Sylva), 7.15: Market reports, John M'Namara and Co. Pty., Ltd. 7.20: Frank Braidwood: "Virginia" (Bryan). 7.30: Market reports, Gippsland and Northern Co-operative Co., Ltd. 7.40: Guy Lombardo and his Canadians: "I Love to Bumpity Bump" (Lombardo).

EVENING SESSION.

8.0: Gil Dech and his Syncopaters: "My Mammy." 8.30: Rhodes Motors sponsored programme. 9.0: Concerts Colonne Orchestra: "Hop o' My Thumb" (Lecole). 9.30: Yvonne Curti, violin: "Czardas" (Monti). 10.0: Florence Easton, soprano: "Nightingale Song" (Zellar Roekar). 10.30: H.M. Grenadier Guards Band: "Dunedin March" (Alford). 10.40: News. 10.45: God Save the King.

4QG

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

Por day session, see Friday.

NIGHT SESSION.

8.0: Alf. Featherstone and his Dance Orchestra, Fox Trots, "Some Sweet Day" (Shilkret), "Dance-Lag Goblin" (Collins). 8.10: Kenyon, the Entertainer.

NEXT WEEK

The 1930 Super-heterodyne described by Ross A. Hull — the latest word in receiver design, and the finest ever published in WIRELESS WEEKLY

8.20: Alf. Featherstone and his Dance Orchestra, Fox Trots, "Round and Round" (Le Clair), "It Wasn't Meant to be" (Stainberg). 8.30: James Hunter (Baritone), "Mandalay" (Cobb), "My Love is Like a Red Rose" (old Scottish).

8.40: Alf. Featherstone and his Dance Orchestra, Jazz Waltz, "The Druid's Prayer" (Dawson).

8.45: Winnie Haslam (Contralto), "A Summer Night" (Goring-Thomas).

8.50: Foster and Dawson (Entertainers).

9.0: Metropolitan Weather Forecast. Movements of Lighthouse Steamers.

9.5: Alf. Featherstone and his Dance Orchestra, Fox Trot, "Some Haunting Tune" (Bee), "Hot Bricks" (Packey).

9.15: Mrs. Robt. Bell (Soprano), "The Rose Enslaves the Nightingale" (Rimsky-Korsakoff), "Song of the Soul" (Drjel).

9.25: Alf. Featherstone and his Dance Orchestra, Fox Trots, "On Top of the World Alone" (Whiting), "Louise" (Whiting).

9.35: Winnie Haslam (Contralto), "If but a Bird Were I" (Hiller).

9.40: Alf. Featherstone and his Dance Orchestra, Jazz Waltz, "Another Kiss" (Schortinger).

9.50: Arthur Aldridge (Tenor), Popular Numbers.

10.0: News supplied by the Metropolitan Dailies. Weather Information.

10.15: Alf. Featherstone and his Dance Orchestra, Three-quarters of an Hour's Dance Music.

11.0: Close down.

6WF

Australian Broadcasting Company, Ltd, Wellington St., Perth (Wavelength, 435 Metres).

EARLY MORNING SESSION—7.30: Town Hall chimes, meteorological report, the day's maxim. 7.35: Early rising music (reproduced). 7.55: Mails and shipping intelligence. 8.0: What's on to-day? 8.5: Market reports. 8.10: Early rising music (reproduced). 8.22: World-wide cables from A.P.A., 8.27: Features of to-day's programme. 8.30: Close down.

MORNING SESSION—TRADERS' DEMONSTRATION—10.0: Town Hall chimes. 10.1: Reproduced music. 10.15: Women's Interest talk. 10.30: Organ recital from the Ambassadors. Jack Loring at the Console of the Wurliitzer Organ. 11.0: Close down.

MIDDAY SESSION—12.30: Town Hall chimes. 12.31: Reproduced music. 12.45: Special midday news service. 12.50: Items of interest. 12.58: Weather report. 1.0: Town Hall chimes. 1.1: Luncheon music by the National Broadcasting Orchestra. 2.0: Close down.

THE RADIO MATINEE—3.0: Town Hall chimes. 3.1: Reproduced music. 3.45: Talk of interest to women: "The National Council of Women." 4.0: Town Hall chimes. 4.1: Reproduced music. 4.15: The story of the day. 4.30: Reproduced music. 4.55: What's on the air this evening. 5.0: Close down.

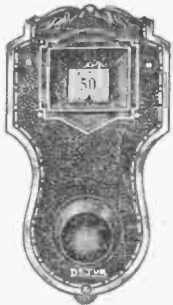
EARLY EVENING SESSION—5.45: Children's "Goodnight" stories by Uncle Ben and Aunt Maxine. 6.15: A.B.C. Younger Set session: "Chris Night." 6.30: Dinner music by the National Broadcasting Orchestra. 7.30: Weather report. 7.31: "Sun" "Herald" world-wide cables. 7.35: A.B.C. market reports. 7.42: Sporting talk. 7.57: Features of to-night's presentation.

EVENING SESSION—8.0: Ambassadors Unit Orchestra entertainment, under the direction of Bert Howell. 8.8: Les Waldron at the Console of the Grand Organ. 8.15: Ethel Treadgold, soprano. 8.22: Zlata Kalmikoff, cellist. 8.29: Ethel Treadgold, soprano. 8.35: Zlata Kalmikoff, cellist. 8.46: Lou Byrne, baritone. 9.0: Weather report. 9.1: Sketch by Marjorie Hodgson. 9.8: Stage presentation, featuring Bert Howell's Unit entertainment, Les Waldron at the Console of the Grand Organ. 9.30: Sketch by Marjorie Hodgson. 9.40: Reuben Betts' Personality Vocalist. 9.47: Temple Court dance band, conducted by Merv Lyons. 9.57: Reuben Betts, Personality Vocalist. 10.4: What's on the air to-morrow. 11.0: Close down. "God Save the King."

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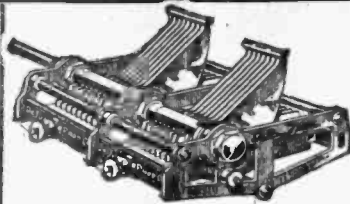


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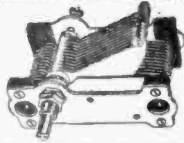


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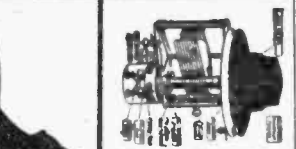
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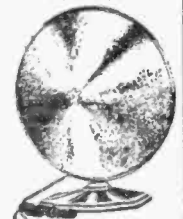


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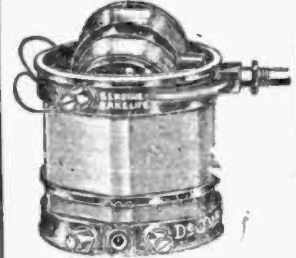
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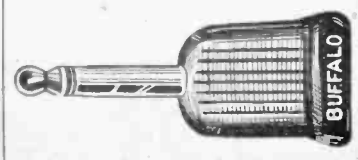


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Local Programmes, Thursday, September 26

2FC

Australian Broadcasting Company, Ltd., Market St., Sydney (Wavelength, 451 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: Austradio musical reproduction.
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: Recital on the grand organ by Horace Weber.
11.0: Household helps; domestic notes by Miss Ruth Furst.
11.10: Cables—A.P.A. and "Sun"—"Herald" news service. British Official Wireless Press.
11.15: Morning devotion.
11.30: Austradio musical reproduction.
12.0: "Big Ben"; Stock Exchange and metal quotations.
12.5: "With the Poets," by Eleanor Ross.
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 p.m. 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 "News."
2.7: To-day's acceptances by the A.B.C. Racing Observer.
2.17: Popular education: "Spoken English," by C. N. Baeyeritz.

THE RADIO MATINEE—2.30 to 4.30 p.m.

- 2.30: The Melody Makers.
2.45: Peggy Dunbar, contralto.
(a) "A Castilian Lament" (Del Riego).
(b) "Swing Low, Sweet Chariot" (Burleigh).
2.52: Enid Hynes, pianist.
(a) "SI Oiseau J'Etals" (Henselt).
(b) "To a Water Lily" (Macdowell).
(c) "Etude F Sharp" (Arensky).
3.0: The Melody Makers.
3.15: Peggy Bell, soprano.
(a) "Elegie" (Massenet).
(b) "Forest Echoes" (Phillips).
(c) "The Bitterness of Love" (Dunn).
3.22: The Melody Makers.
3.32: Enid Hynes, pianist.
(a) "Gavotte" (Gluck-Brahms).
(b) "La Lisonjera" (Chaminade).
3.40: Peggy Dunbar, contralto.
(a) "Arise, O Sun" (Day).
(b) "On Wings of Song" (Mendelssohn).
3.47: The Melody Makers.
3.53: Peggy Bell, soprano.
(a) "Seguidilla," from "Carmen" (Bizet).
(b) "The Cloths of Heaven" (Dunhill).
4.0: An afternoon story.
4.15: The Melody Makers.
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 Aunt Goodie.
6.45: National Broadcasting Orchestra will play dinner music.
7.30: A.B.C. Sporting Service.
7.37: Special country session. Stock Exchange resume. Markets. Weather forecast. Late news service from the "News." Truck bookings.
7.58: To-night's programme.

THE EVENING PRESENTATION—8 to 11.30 p.m.

2FC's Night of Contrasts. To-night's feature is the two-pianofortes recital by Frank Hutchens and Lindley Evans, to be broadcast from the Conservatorium. In sharp contrast is a novelty vaudeville note, by Harry Lindrum and Ida Berridge. Laurence Macaulay and Ad Cree will delight Scottish hearts with song and jest "o' the Hielans." Constance Burt will feature modern compos-

ers in her 20-minute vocal recital. Jack Lumsdaine and Goodie Reeve are offering "something different"—something here to please all tastes!

- 8.0: From the Conservatorium. Two-pianoforte recital, by Frank Hutchens and Lindley Evans.
8.20: From the studio. "Cameos of Our City," by C. R. Hall.
8.40: Harry Lindrum and Ida Berridge, in 20 minutes of vaudeville vignettes.
9.0: The Country Man's weather session.
(a) New South Wales forecasts.
(b) Inter-State weather synopsis.
9.2: Constance Burt, in a radio song recital, featuring modern composers.
9.22: Laurence Macaulay and Ad Cree, bringing a breath o' the Hielans, in Scottish song and story.
9.42: From the Conservatorium. Two-pianofortes recital, by Frank Hutchens and Lindley Evans.
10.0: From the studio. Jack Lumsdaine and Goodie Reeve, in "Something Different."
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 a.m. to 11 a.m.

- 8.15: G.P.O. chimes.
Music for every mood.
8.45: Meteorological data for the country
8.50: Austradio musical reproduction.
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: Austradio musical reproduction.
10.45: This morning's story.
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," Annie Hughes.
"Great Personalities whom I have known."
1.30: Austradio musical reproduction.
2.0: J. Knight Barnett at the Wurlitzer.
2.12: Studio music.

AFTERNOON ENTERTAINMENT—2.30 p.m. to 5.45 p.m.

- 2.30: Business efficiency talk. Brunton Gibb.
2.45: "The Magic Carpet," Jean Armstrong will speak on "Gleanings from the East."
3.0: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
3.12: From the Studio. Ann Melhuish, soprano.
(a) "Just Remember" (Lohr).
(b) "Take Your Lute and Sing" (Clarke).
3.19: A popular number.
3.22: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
3.32: From the Studio, John Haddock, entertainer.

- (a) "The Cautious Curate" (Western).
(b) "It may be influenza but I think it's Love" (Longstaffe).
3.39: The latest dance music.
3.42: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
From the Studio—
3.52: Ruby Dent, popular vocalist.
(a) "You'll Never Grow Old" (Drummond).
(b) "Contentment" (Dent).
3.59: A popular number.
4.2: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
From the Studio—
4.12: Ann Melhuish, soprano.
(a) "The Dove" (Ronald).
(b) "Summer Time in Athelney" (Phillips).

- 4.19: John Haddock, entertainer.
(a) "Getting My Temper Up."
(b) "Ah've had t' Nose Pulled."
4.26: Ruby Dent, popular vocalist.
(a) "Your Mother's Eyes" (Drummond).
(b) "Girl on the Stairs."
4.33: A musical interlude.
4.45: "The Trade Hour." Demonstration music.
5.45: Weather information; close.

THE DINNER HOUR—6.15 p.m. to 7.55 p.m.

- 6.15: The National Broadcasting Orchestra
6.45: The A.B.C. "Younger Set" Session; the A.B.C. Girls' Radio Club, conducted by Miss Gwen Varley.
7.5: Studio music. The country man's market session—Wool, wheat, stock, farm produce, fruit, vegetables, pig and poultry markets.
7.30: The National Broadcasting Orchestra
7.45: Austradio musical reproduction.
7.55: What's on the air to-night?

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

2BL's programme to-night features an hour from the Capitol, with orchestral music by Ted Henkels' band and organ solos by Fred Scholl. A talkie short will introduce a novel touch. Through 2FC every taste is catered for. The programme is sectionalised into 20-minute groups. Classic pianoforte, vaudeville, Scottish humor, modern art songs, the drama of the "Cameos of Our City," and a mysterious something different to intrigue radio listeners.

- 8.0: An hour from the Capitol.
From the Studio—
9.0: Francis Jackson in a sketch entitled "Governor Bligh is Deposed" (Jackson).
9.30: From the King's Hall, Columbia recital, with novel accompaniment by the 2BL Instrumental Trio.
From the Studio. Guy Moore, tenor.
(a) "Boat Song" (Ware).
(b) "There is a Lady Sweet and Kind" (Warloch).
10.2: Victor M'Mahon, flautist—
(a) "Humoreske" (Hahoeske).
(b) "The Gossips" (Terschak).
10.8: Guy Moore, tenor.
(a) "Have you seen but a White Lily Grow" (Old English).
(b) "Mary of Allendale" (Hook).
10.16: Victor M'Mahon, flautist.
"Hungarian Pastoral Rhapsody" (Dopp-ler).
10.25: Late news from the "News."
Late weather forecast.
10.30: Close.
National Anthem.

2GB

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

- 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. 2.0: Music. 2.5: Women's Radio Service by Mrs. Dorothy Jordan. 2.50: Movie Know All. 3.0: Labor Saving Demonstration from Buckingham's, Ltd. 4.0: Close down. 5.15: Children's session by Uncle George. 7.0: Music. 7.45: Feature story. 8.0: Sydney Symphonic Saxophone Orchestra. 8.8: Miss Briggs Clarke, contralto. 8.15: Saxophone Sextette. 8.23: Mr. J. Lou Walters, basso. 8.30: Mr. Jack Win and Mr. Heath Burdock, humor. 8.35: Miss Gladys Aubin, soprano. 8.42: Sydney Symphonic Saxophone Orchestra. 8.50: Miss Briggs Clarke, contralto. 9.0: Weather report. 9.3: Address. 9.15: Mr. Cecil Little, saxophonist. 9.25: Mr. J. Lou Walters, basso. 9.35: Mr. Jack Win and Mr. Heath Burdock, humor. 9.40: Sydney Symphonic Saxophone Orchestra. 9.50: Miss Gladys Aubin, soprano. 10.0: Instrumental music. 10.30: Close down.

2UW

Radio Broadcasting, Ltd., Faling's Building, Ash St., Sydney (Wavelength, 367 Metres).

MIDDAY SESSION.

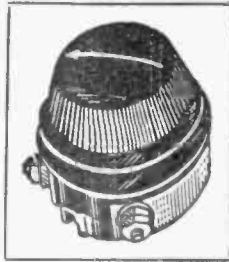
- 12.30: Request numbers. 1.0: G.P.O. clock and chimes; music. 1.15: Talk on Homecraft by Pandora. 1.40: Music and request numbers. 2.30: Close down. 4.30: Musical pro-

(Continued on Page 47.)



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Interstate Programmes, Thursday, September 26

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 Eric Welch.
 10.45: Melody broadcast. 12.0: Melbourne Observatory time signal. 12.1: Melody broadcast. 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. 1.20: Community singing transmitted from the Melbourne Town Hall; conductor, Frank Hatherley.

EDUCATIONAL SESSION.

2.0: Great Austrarians—(B). Mr. Charles Daley. 2.25: Musical Interlude. 2.35: Music explained and illustrated. 2.35: Musical interlude. 2.40: Romantic stories of Australian Early Days, Mr. C. R. Long. M.A. 2.55: Musical interlude.

THE RADIO MATINEE.

3.0: Brunswick City Band, Organ. Hugh Niven)—Serenade, "A Night in June" (Niven). 3.5: Lilliane Kay, soprano—"Hymn to the Sun" (Rimsky-Korsakov), "The Princess" (Hilcher). 3.12: Cecil Parkes, violin—"Caprice Viennois" (Kreisler), "Polchihelle" (Kreisler). 3.19: Brunswick City Band, fantasia, "John Peel" (Grove).

CHAMBER MUSIC.

3.25: The Cremona Trio, second movement, "The Serenades" (Beethoven). "Adagio-Polacco." 3.33: Lilliane Kay, soprano—"Vol che Sapete" (Mozart), "O Lay thy Cheek on Mine" (Jensen). 3.40: The Cremona Trio—"Trio, Op. 99, in B Flat, first movement only (Schubert).

AN ENTERTAINING INTERLUDE.

3.50: Elise Stewart and Victor Brooks, 15 minutes popular music. 4.5: Brunswick City Band, selection, "Mariana" (arr. interlude). 4.15: Grace King, contralto—"Love's Valley" (Forster), "Garden of Happiness" (Wood). 4.22: Brunswick City Band, waltz, "Prairie Queen" (Greenwood). 4.30: Close down.

THE CHILDREN'S CORNER.

5.45: "Bobby Bluegum," assisted by "Clever Clarice" is holding a little sing-song for children of all ages from 3 to 53. Then "Bobby Bluegum" sends his "Many Happy Returns" to the lucky ones for to-day.

EVENING SESSION.

6.35: Melody broadcast. 6.40: Let's talk about our animals—The Arab Horse, Linnet, J. W. M. Carroll. 6.55: Melody broadcast. 7.0: Melbourne Observatory time signal. 7.1: Countryman's Session. 7.25: For the Man on the Land—"Potato Culture, Preparation for Cropping," Mr. J. T. Ramsay. 7.40: News service. 7.45: Novels and Authors of To-day.

NIGHT SESSION.

8.0: National Broadcasting Orchestra, suite, Nautical Scenes—"Fleeter".
 8.9: Norman Bradshaw, tenor, "Life and Death" (Coleridge-Taylor); James Hall, baritone, "I Did Not Know" (Trotter), "Sylvia" (Speaks).
 8.16: You will hear the outstanding personality or subject of the week.

OUR DANCE NIGHT.

8.30: The A.B.C. Troubadours—"Third Rail" (Vern De Mars), "I'm Crazy Over You" (Sherman), "In a Little Town" (Donaldson).
 8.39: Nina Seax, contralto, "There's a Song Down Every Roadway" (Hodges).
 8.42: The A.B.C. Troubadours—"Two Weeks' Notice" (Seaman), "I Paw Down and Go Boom" (Brockman), "My Inspiration is You" (Nicholls).
 8.50: Ted Nelson will entertain at the piano.
 8.53: The A.B.C. Troubadours—"Old Fashioned Letter" (Martin), "Catharina Moon" (Burket), "Sleep, Baby, Sleep" (Schusters).
 9.2: Norman Bradshaw, tenor, "Your Heart" (Hildelet).
 9.5: The A.B.C. Troubadours—"Rocky Road" (Gibbs), "Seachests on Parade" (Lombardot), "A Precious Little Thing Called Love" (Davis).
 9.14: James Hill, baritone, "The Top of the Hills" (Allen).
 9.17: The A.B.C. Troubadours—"By the Fireside" (Phillips), "I Can't Give You Anything but Love" (Fildes), "Makin' Whoopee" (Donaldson).
 9.26: Nina Seax, contralto, "June's Golden Song" (Del).
 9.29: The A.B.C. Troubadours—"Susie's Sister" (Saony), "I'm Bringing a Red, Red Rose" (Donaldson), "Love Dreams" (Mendoza).
 9.38: Ted Nelson will entertain at the piano.
 9.41: The A.B.C. Troubadours—"It Wasn't Meant to Be" (Endor), "Chilly Pom Pom Pee" (Wending), "No Parking" (Rath).
 9.50: Norman Bradshaw, tenor, "The Summer Wind" (Bianchi).

INTERLUDE.

10.25: F. J. McGregor will speak on football. 10.35: Meteorological Information: British official wireless news from Rugby; items of interest. 10.40: The A.B.C. Troubadours—"Which Am De Best

Way Home" (Hall). "Where Do I Want to Be" (Barry).
 10.49: Ted Nelson will entertain.
 10.52: The A.B.C. Troubadours—"High, Ho! Everybody Heigh Ho" (Woods), "Paradise and You" (Packay), "Marie" (Berlin).
 11.1: Norman Bradshaw, tenor, "All for You" (Easthope Martin).
 11.4: The A.B.C. Troubadours—"Shout Hallelujah" (Dixon), "That's How I Feel about You" (Davis), "Down South" (Myddleton), "She's Funny that Way" (Moret), "Think of Me Thinking of You" (Marvin), "Wake Up, Chillun, Wake Up" (Robinson), "At the End of the Sunset Trail" (Hanson).
 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: Chimes. 12.1: Community singing from the Melbourne Town Hall. Conductor, Frank Hatherley. 1.1: Luncheon music, supplied by the National Broadcasting Orchestra. 2.0: Chimes.

AFTERNOON SESSION.

2.1: Brunswick City Band: Overture, "Chanson Du Soir" (Verner). 2.10: Mainly for women: Seeing of the Sydney Express, Miss Hattie Knight. 2.25: Musical Interlude. 2.30: Food and Cookery: Gas Cooking, Miss E. Noble. 2.45: Musical Interlude. 3.0: A visit to the Star by special representative. 3.55: Musical Interlude. 4.0: Your health and appearance: Exercise and the Complexion, Miss Evelyn N. Ellis. 4.15: Reproduced music. 5.0: G.P.O. chimes, reproduced music. 5.30: Weather data. 5.45: Close down.

EVENING SESSION.

6.15: Dinner music, supplied by the National Broadcasting Orchestra. 7.30: What's on the Air To-night? 7.32: Sporting results; Acceptances and barrier positions for Moonee Valley races on Saturday, September 28. 7.35: Latest musical releases. 8.0: Chimes.

NIGHT SESSION.

8.0: "The Sundowners" Male Quartette: "I Got a Home in Dat Rock" (Brown), "I'm a Rollin'" (Prey). 8.7: A Neapolitan Programme. Madame Elsie Davies and Signor Manzoni: "Mati, Mari," with mandolin obligato; mandolin solo, "Serenade"; "Vlioni Sul Mar." Spanish guitar accompaniment; "Retorno Surrento" (De Capua).
 8.17: National Broadcasting Orchestra: "Scenes Neapolitane" (Massenet).

8.22: "The Sundowners" Male Quartette: "The More We Are Apart" (Holt); duet, "In the Morning Light," Tom Semple and Herbert Sanderson. 8.30: Madame Elsie Davies and Signor Manzoni: "Addio, Mio Bello-Napoli" with mandolin obligato; mandolin solo, "Fioretti," "Mia Piccerella," with mandolin obligato.

8.40: One-act Play: "Showing Lucy Ann" (Neil Young), produced by Winifred Moverley. Character: Leonard Sayle, Norman E. Blackler; Lucy Ann Dale, Miss Winifred Moverley; Hilda Dabber, Miss Mary Page; Barbara Swanston, Miss Doris Little; Clara Riddell, Miss Elaine Townsend. Time Evening Scene, Reading-room in a Women's Club.

9.0: Transmission from Cairns Memorial Church, East Melbourne, by the Choir. Organist, Miss F. F. Thurmann. Conductor, Mr. R. J. Oehr. "The Lord is King" (H. J. King), "Comes at Time a Stillness" (Woodward), "God Hath Appointed a Day" (Tourist), "Softly Fall the Shades of Evening" (Hutton), "Is It Nothing to You?" from "The Crucifixion" (Stainer).
 9.30: National Broadcasting Orchestra: "I Passed by Your Window," "Dance de Filles"; trumpet solo, "The Two Imps".

9.40: Gwen Selva, soprano: "Song of the Palanquin Bearers" (Shaw), "A Swan," "In the Boat."
 9.47: "The Sundowners" Male Quartette: Aalto solo, "Sapphic Ode" (Brahms); Robert Allen; quartette, "Coppah Moon" (Shelley).
 9.54: National Broadcasting Orchestra: "Polnaisa Militaire" (Chopin).

9.58: Gwen Selva, soprano: "What I Have Often Heard" (Purcell), "Nymphs and Shepherds."
 10.6: Weather Information and "Herald" news.
 10.16: Charles O'Mara, Irish entertainer: Song, "Muldoon's Ball"; Irish stories; folk song, "Slieve Mellon".

10.25: National Broadcasting Orchestra: "The Wedding of the Painted Doll."
 10.30: God Save the King.

3DB

The "Herald" Broadcasting Station, Flinders St., Melbourne (Wavelength, 255 Metres).

MORNING SESSION.

11.0: St. Louis Symphony Orchestra: "Piano" (Mendelssohn). 11.30: Turner Layton, pianist: "Popular Piano Medley." 12.0: Lucrezia Buri, soprano: "Connais tu je pajs" (Thomas), 12.30: Market reports, John M'Namara and Co. Pty., Ltd. 12.32: Musical Arts Quartet: "To a Wild Rose" (M'Dowell); 1.0: Richard Bonelli, baritone: "Love Was With Me Yesterday" (Gold-Hanson). 1.30: Albert Keteley's Orchestra: "The Sacred Hour" (Keteley). 1.45: Close down.

AFTERNOON SESSION.

2.15: Lauri Kennedy, cello: "Old Scotch Melody," 2.30: Clara Serena, contralto: "Slips That Pass," 3.0: Atwater Kent Hour, sponsored by A.G. Healing, Ltd., and E. T. Muir. 4.0: Close down.

EARLY EVENING SESSION.

5.30: San Francisco Symphony Orchestra: "Midsummer Night's Dream" (Mendelssohn). 6.0: Dora

Labette, soprano: "Rose Softly Blooming" (Spohr). 6.30: Coldstream Guards Band: "Softly Awake: My Heart" (Saint-Saens). 7.0: Edgar Coy: "The Vacant Chair." 7.15: Market reports, John M'Namara and Co. Pty., Ltd. 7.20: Drury Lane Theatre Orchestra: "Show Boat Selection." 7.30: Market reports, Gippsland and Northern Co-operative Co., Ltd. 7.40: The Happiness Boys: "Where Did You Get That Name."

EVENING SESSION.

8.0: The Home Beautiful Hour. 9.0: Columbia Symphony Orchestra: "Scarf Dance." 9.30: Winnie Melville and Derek Oldham: "Love's Dream." 10.0: Trix Sisters: "Ready for the River." 10.30: Terrie Casey, organ: "Broken Dreams." 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: To-night's programme will consist of a popular studio concert.
 10.0: News supplied by the Metropolitan Dailies.
 Weather Information. Close down.

6WF

Australian Broadcasting Company, Ltd. Wellington St., Perth (Wavelength, 435 Metres).

EARLY MORNING SESSION.—7.30: Town Hall chimes. Meteorological report, the day's maxims, 7.35: Early rising music (reproduced). 7.55: Mails and shipping intelligence. 8.0: What's on to-day? 8.5: Market reports. 8.10: Early rising music (reproduced). 8.22: World-wide cables from A.P.A. 8.27: Features of to-day's programme. 8.30: Close down.
MORNING SESSION.—TRADERS' DEMONSTRATION.—10.0: Town Hall chimes. 10.1: Reproduced music. 10.15: Women's interest talk. 10.30: Organ Recital from the Ambassadors, Jack Laing at the Console of the Wuriltzer Organ. 11.0: Close down.
MIDDAY SESSION.—12.30: Town Hall chimes. 12.31: Reproduced music. 12.37: Racing acceptances. 12.45: Midday news service. 12.50: Items of interest. 12.58: Weather report. 1.0: Town Hall chimes. 1.1: Luncheon music by the National Broadcasting Orchestra. 2.0: Close down.

THE RADIO MATINEE.—3.0: Town Hall chimes. 3.1: Reproduced music. 3.45: Talk of interest to women: "Women's Service Guild." 4.0: Town Hall chimes. 4.1: Reproduced music. 4.15: The Story of the Day. 4.30: Ambassadors Orchestra, conducted by Bert Howell. 5.0: Close down.

EARLY EVENING SESSION.—5.45: Children's "Goodnight" stories by Uncle Gas and Amity Maxine. 6.15: A.B.C. Younger Set session: "A.B.C. Junior Radio Club." 6.30: Dinner music by the National Broadcasting Orchestra. 7.30: Weather report. 7.31: "Sun" "Herald" world-wide cables. 7.35: A.B.C. market reports. 7.42: F. Alexander, M.A.: "Current Events in World Politics." 7.57: Features of to-night's presentation.

EVENING SESSION.—A novelty programme, "A Night at Home." 10.0: What's on the air to-day? 10.10: Temple Court Dance Band, conducted by Merv Lyons. 11.0: Close down. "God Save the King."

7ZL

Tasmanian Broadcasters Pty., Bursary Buildings, Elizabeth St., Hobart (Wavelength, 516 Metres).

11.30: Recital. 11.34: Midlands weather forecast. 1.35: Adeine-Eager will speak on "Household Hints." 11.50: Recital. 11.55: Tasmanian stations' 24-hour weather report. 12.0: Chimes. 12.1: Shipping information, mail notices, housewives' guide, commercial news. 12.8: Recital. 12.30: News service, announcements. 12.40: Recital. 1.5: British official wireless news railway auction sales. 1.10: Recital. 1.30: Close down. 3.0: Chimes. 3.1: Recital. 3.4: Weather information. 3.5: Recital. 4.15: A representative of the Child Welfare Association will speak on "An Early Arrival." 4.30: Close down. 6.15: Children's Hour with "Uncle David and the Story Lady." 6.30: Gladys Ferriman will sing to the we folk: "Daddy's Wonderful Cow." "Crowning." 7.0: Children's Hour (continued). 7.10: Recorded music. 7.30: News session. 7.40: Under the auspices of the "Come to Tasmania" organisation, Leo M'Parlan will speak on "The Coming Rowing Season." 7.50: H. J. Corrigan will speak on "Soccer." 8.0: Recital. 8.1: Recital. 8.15: Transmission from the Theatre Royal, Hobart: Commonwealth boxing and wrestling championship, described by Geo. Collins. 10.0: News session. 10.10: Close down.

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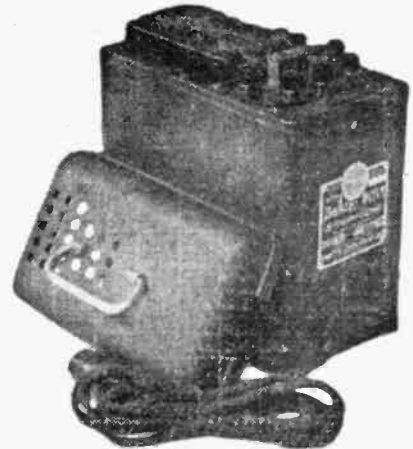
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The Radio Information Service

Changing Over to All-Electric

E.G.F. (Epping): "Please tell me how to make my receiver all electric. At present I am using dry batteries throughout, with 201A valves in all stages except the last, where I have a power valve."

Answer: It will be necessary to change all valves but the last. The A.C. type valve should be used. Firstly, remove all valve sockets but the last and disconnect all filament wiring. Place A.C. sockets in place of those removed, and connect grid and plate terminals up as usual. Next connect the cathode terminal of each A.C. type valve socket to the grid returns of each circuit (as would be done if the filament was being used). The filaments are then wired up with twin flex, and these leads are taken to the filament transformer. Power supply may be a straight-out power pack or a "B and C" eliminator and filament transformer. Filament terminals of power valve should be wired up to secondary of filament transformer in same manner as A.C. valves. If you still wish to use General Purpose valves of the A.C. type, the E415, E424, or UY227 type will be found excellent. Keep power supply away from set, as, being of old type, you will probably experience hum, owing to the fact that it is not sufficiently shielded. If you desire to use the power pack inside the cabinet, earth the power pack shield, also screen and earth the receiver.

In modern A.C. type receivers it is usual to obtain the "C" voltage for each valve from a resistor included in the set proper. In such an arrangement all grid returns are taken to the shielding of the set—to ground—and the cathodes are then all separated from the ground by a resistor by-passed with a one microfarad condenser. The negative high voltage goes to the ground and has to flow through the resistors on the way to the cathode. The voltage drop incurred by this current flow provides the bias. The value of the resistors, of course, depends on the bias required at a given plate voltage and the plate current at that voltage. In the case of the output valve the bias resistor is connected between the centre-tap of the filament supply winding (or a centre-tapped resistor across the filament terminals) and the shielding. In this case also the grid return from the audio transformer is connected to ground. An example of this type of wiring is the "Standard A.C. Four" described recently.

CHIPS (No address): Probably due to the capacity across the filament. Place additional condensers in parallel with those already in use in the filter.

W.E.C. (Bankstown): Depends on ratio of transformer.

W.R.B. (Hamilton):—Try reducing detector plate voltage, and experiment with different grid leaks, also grid bias. If results still the same, almost certain receiver is not neutralised. Instructions for neutralising receivers have appeared in these columns many times.

E.W. (Mile End): "What is the name of the announcer at 2UW, 2UE, and 2FC?"
Answer: 2UW, Mr. Jack Prentice. 2UE, Mr. Stevenson. 2FC, Capt. Stevens and Messrs. Cochrane and Halbert.

Y.D. (Newcastle): "What causes a filament to burn out when it has been operated properly, for say, a year."
Answer: A filament burns out when a certain proportion to its mass has been evaporated in electrons.

(2) "How does the life of the filament compare when filament voltage is not normal?"
Answer: About a 3 per cent. increase or decrease in filament current will respectively halve or double the life of a filament. Some modern valves are harmed by insufficient filament brilliance.

(3) "What is about the temperature of the filament when in use?"
Answer: This varies with the type valve used. It may be approximately 2700 degrees.

(4) "Please give details in brief for winding a choke coil of 50 henries to carry .05 amps."
Answer: Use 36 gauge enamelled wire. Wind 11,000 turns. Air gap .1 inches. Length of coil, 1.1 inches. Depth of coil, .75 inches. Cross section, 1 x 1 inches. Core piece 1 x 3.5 inches. Length of short core piece, 1 x 1 inches. The approximate resistance of this choke will be 127ohms, the weight of the wire 15oz., and the weight of the core 2.5lbs. For voltages above 500, carefully insulate the coil, and insulate layers with thin waxed paper. It is

then necessary to allow a larger winding space than that mentioned.

U.F.G. (Kogarah): "What is the effect of placing valves in parallel?"
Answer: The output is increased, in an audio amplifier. Practice is undesirable in other parts of receiver.

T.R.W. (Maitland): "I tried to calculate the capacity of some variable condensers I have on hand from instructions given by a periodical. After trying for an hour or so, I worked out one, but it was a ridiculous figure. The formula was $C = \frac{AKN}{1000}$. Is this correct? It does not compare with the formula given in "Proving Radio," which read $AK (n-1)$ over $499pi$ (10 to the fifth). Which is correct?"
Answer: Both formulas are correct, but the first one gave you your answer in "jars," and this term is now seldom used. The formula shown in "Proving Radio" gives you your answer in microfarads. The formula given for jars is only approximate. It should be AKN over $4000 pi$ (d). This latter formula is used when sq. cms. are used for A and d. When inches and sq. inches are used, the formula shown by you is near enough.

C.F.A. (Boorowa): Does not harm set. We do not reply by post.

INQUIRER (Lismore): I received a station on a wavelength between that of 2VA, Wellington, and 2FC Sydney. There were several musical items, following which an announcement was made. This I missed through static. The station then closed down. The approximate time of receiving this station was 7.45 p.m. Sydney time. Could you give me an idea as to the identity of this station?"
Answer: Possibly COMK, China, on 425 metres.

GENERAL: Can any reader please supply Mr. K. Bass, c/o Leeton Packing Co., Arcadia Avenue, Leeton, with a copy of WIRELESS WEEKLY containing the Marco Four Receiver.

GENERAL: Can any reader please supply Mr. N. Crook, private Bag, Coraki, with a copy of WIRELESS WEEKLY containing the Schnell Three Valve, or the Go-Getter short wave receiver, and also the copy containing the "All Wave" receiver.

N.C. (Coraki): Messrs. Harringtons can supply diagram, etc., of an All Wave receiver, i.e., The Wasp, plug in coils.

F.M. (Abbotsford): Place a .001 fixed condenser across the primary of the first transformer, and increase detector plate voltage, then adjust reaction condenser to see if set will oscillate. If not, trouble is in detector stage. Try reversing reaction coil.

J.W.R. (Via Bega): Yes, could be made into a short wave receiver by using coils and condensers mentioned in a general answer which was published last week in these columns. Look at the GENERAL para for the information. Cannot place the station. The A.R.R.L. Handbook is obtainable from Messrs. Angus and Robertson, Castlereagh Street, Sydney, price 5/-, postage 6d.

D.J.S. (Tumut): Probably due to an electrostatic charge which had accumulated on the aerial, equivalent to part of a condenser. When aerial and earth were connected to a spark gap, the charge jumped across the gap in an effort to reach earth potential.

N.M. (Hurstville): Probably due to a faulty valve, or one which has lost its emission, wrong grid bias, or faulty transformer.

V.V.J. (Lower Portland): No, the Maxpure will not give the same results as the Marco. The former receiver uses three stages of audio, and is intended for local reception only. The latter receiver has a stage of radio and only two audios, and is suitable for reception of more distant stations. Yes, consumption would be the same. Maxpure gives greater volume on local stations than Marco.

L.H. (Manly): Circuit O.K., but wouldn't guarantee reception of Manila, etc., on it. Your only error was in drawing lines which represented transformer core in transformers. First two transformers are R.F. Only last two (audio) have core. Suggest you might build the Screen Grid Marco published recently.

J.P. (W. Kogarah): One ohm resistance will give desired drop. Circuit correct.

T.K. (Beeroft): No, you will experience interference from 2FC. A wavetrap will probably be necessary.

GENERAL: Mr. E. Hunter, Corndale, via Lismore, writes: "I have not touched my short wave set since you answered my query because I cannot get

a copy of WIRELESS WEEKLY which contained the article on the Screen Grid Wave Midset. Perhaps some reader can supply me with a copy? I will pay cost of paper and postage, or double the cost, because it will be worth it. I was glad to read your answer to W.C.R. (Dungog) as I was in the same position."

L.S. (Moonee Ponds): Copies cannot be forwarded unless their cost and postage is enclosed, or unless you are a subscriber. Letter has been forwarded to Mr. Lyons, of 2BL.

W.G.C. (Mosman): O.K. See below.

GENERAL: Mr. W. G. Cumming, 89 Shadforth Street, Mosman, 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 for 3d per copy plus postage."

GENERAL: Can any reader please supply A. Elliott, 19 Bruce Street, Newcastle, with a copy of RADIO containing the 1929 transmitter?

M.G.D. (Five Dock): We have a few copies left. Send stamps covering cost and postage.

E.M. (Newcastle): KGO is on 379.5 metres and power is 10,000 watts. Japanese time at 10 p.m. in Sydney is 9 p.m.

I.K.McK. (Purlewaugh): Please repeat query.

DALGRAITH (Adelaide): Coils O.K. Try another detector valve. Perhaps set is not neutralised. Are you using transformers specified or some other good make? Valves O.K., but you might find an A409 better in the first audio stage in place of the special detector. Home-made coils O.K., 1-4 inch separation, Valves O.K., but suggest some alteration as regards first audio. Quite selective.

R.S.H. (Clarence River): Use aluminum cups which allow about 1/4 inch distance all round coils.

S.C. (Marbleville): The copy you require will be forwarded on receipt of stamps covering cost and postage.

S.J.T. (Waterloo): Plates of reaction condenser must be straightened or condenser replaced.

CRIMMINS (St. Peters): This is an amateur experimental station in Wellington.

JAMBOREE (No address): No, volume will not be affected by the change, but it will be necessary to alter filament ballasts if these are used.

E.W.B. (Mt. Morgan): Each cell should be detached from the other, otherwise a direct short will occur.

C.A.P. (Paddington): Yes, but what type of receiver are you using, a crystal or a superheterodyne? Detail your aerial-earth system, valves, etc., used, make of set, how long you have had it, etc.

S.W.O. (Redcliffe): It has been answered many times that queries be re-entel when letters concerning them are forwarded. Have no trace of your former letter, but queries would have been answered in this space if you had repeated them. Please write again.

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, Box 356/1117, W.P.O., Sydney.
Please enclose the accompanying queries in the information Service Department, at your earliest convenience. I enclose this coupon in order to indicate that I am a bona-fide reader.

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'PHONE, FW2328.

A.J.B. (Newcastle): Your article by R.W.M. on "Inductive Interference" was very interesting, and no doubt will be useful to readers. There is a class of interference which R.W.M. would do well to take up, and publish an article on. I refer to interference caused by the carrier wave system now in use by the telegraph offices. This causes great interference in some towns, for instance, Armidale, where it is impossible to use radio in the main street block in which the post office is situated. Dealers have even removed their premises from this block. Very little seems to be known of this class of interference, and any telegraphic engineers whom I have spoken to say it would be impossible to eliminate it. An article hereon would be of great benefit to readers.

Answer: The interference is really nothing more than a modulated continuous wave, and is heard as such on a radio receiver. Where the set is well away from the source of interference, no trouble is experienced, but when the set is near that source, it picks up energy in the same way as it would from a nearby broadcasting station. Possible remedies would be to use a highly selective receiver, a counterpoise instead of an earth, or possibly a wave-trap tuned to the carrier frequency.

N.C. (Gurley): Circuit of wavemeter appears in A.W.A. Handbook. An oscillator is used to transmit a carrier wave on various wavelengths so that receivers can be tested for selectivity, range, etc. Proving Radio was the elementary side of electricity and radio. An Amateur Proficiency series should be used in conjunction with "Proving Radio." The noise of which you complain on 4GG is as yet unexplained, though several theories have been advanced.

GENERAL: Mr. W. G. Robinson, No. 2 Myall Street, Oatley, writes: "I often notice in your paper readers inquiring for back numbers. I can supply any number for three years back. Readers can have same by paying cost of postage."

G.L.D. (Roseville): "Would you please give me through your Radio Information Service, full constructional details of audio frequency chokes?"

Answer: These columns are reserved for answers to queries, not technical articles. Your best plan is to study "The Radio Amateur's Handbook" (A.R.R.L.) in which the matter is given detailed treatment. It may be possible, however, to publish an article on the subject. If you had requested particulars of a choke of so many Henrys, to carry so much current, then we may have been able to help you.

J.C. (Newcastle): This cannot be done. Readings will vary. However, you could draw an approximate chart on graph paper.

C.R. (Anna Bay): Hard to say, but in the vicinity of two months.

TROUBLED (Manly): Valves may have lost their emission or transformer may be faulty.

C.K.P. (Sydney): Mr. L. W. B., 117 Cumberland Road, Auburn, N.S.W., wishes to get in touch with you.

R.T. (Orange): We do not reply to queries by post. You expect too much of a portable set. No portable set will give you Brisbane, Sydney, and Melbourne, etc., in daylight, and few portables will even get them at night. The set would hardly be "portable" if it had a pile of r.f. stages. You also ask whether you should purchase an "all-electric" or battery-operated receiver, adding that you are a traveller, and desire to use your set at various places. For an all-electric receiver it is necessary to have some source of supply, i.e., a.c. 240-volt mains, and these will not always be available, therefore the set should be battery operated.

E.R. (Adelaide): Rheostat may be used. Correct bias must be found by experiment. No, negative of one C battery is connected to positive of the other C positive is connected to A negative. Order amperities by amperage required by filaments of valves.

E.A.T. (Arlah Park): This was KGO. They were giving a description of the arrival of the Graf Zeppelin. They were working on 379.5 metres, and were also on short waves. You are getting good reception.

E.E.M. (Yalgoe): Do not advise the change. You will pick up even more interference using an outdoor aerial in place of the loop. Remedy is to fix trouble at its source. Did you see the article on interference elimination recently?

"PUZZLED" (Taree): In spite of what you say, we are inclined to think that the A battery is the cause of the trouble. After the next charge wait for two or three days, then, when set starts to fade, plug a valve with visible heated filament (say a UX199) in the socket, and watch to see if filament varies in brightness. Failing this, there is a loose connection somewhere in the set or aerial-earth system.

GENERAL: In an early issue of WIRELESS WEEKLY a special free supplement will be given away. This should prove of immense interest to readers who are having, have had, or are expecting trouble with their receivers, for it is a special trouble-finding chart, compiled in the main from query letters, etc., and so made up that the faults and their remedies are easily found without wading through the whole chart. The supplement will not be published in the paper itself, but will be enclosed in the issue to be shortly announced.

GENERAL: Can any reader please supply Mr. A. B. Hart, Wentworth Road, Eastwood, with a copy of WIRELESS WEEKLY dated May 31, 1929, containing the supplement of radio stations and call signs.

M.E. (Tweed Heads): This has always been our procedure. Evidently you've misread it.

I.R. (Warley): "Where should the morse key be connected in a transmitter?"

Answer: In the B negative lead, in the centre tap to filament. The subject is an important and complex one. See A.R.R.L. Handbook.

S.O.S.—WIRELESS WEEKLIES WANTED

Seldom a week goes by without some reader's request for an otherwise unobtainable back copy of WIRELESS WEEKLY being published in these columns. Now, however, WIRELESS WEEKLY itself finds some back copies are missing from its files, and seeks the assistance Readers courteously forwarding copies of the following numbers will be remitted cost of copy and postage:—

April 1928, 20th, 27th.

May, 1928, 4th.

June, 1928, 29th.

September, 1928, 21st.

October, 1928, 5th, 12th, 19th, 26th.

November, 1928, 2nd.

J.F.W. (no address):—Extraordinary one-valver may be used. The .00025 mfd. condensers will be O.K. Yes, will receive overseas stations. Audio stage or stages would be an advantage. Dials will not read the same.

G.H.R.M. (Queensland):—Read the article. R2 is not a condenser, but a resistance. It is a filament ballast, such as an amperite. Valve O.K. Get the 199 tube amperite.

"SWEET SIXTEEN" (Maroubra):—Try reversing connections to condenser and placing a .002 fixed condenser across the 'phones.

A.C.D. (Lakemba):—What parts would be required, and how would I go about building an r.f. stage to add to my receiver?"

Answer: An article appears in this issue that will cover your requirements.

J.T. (Rose Bay):—Aerial about 100ft. long, including lead-in.

P.J.W. (N.S.W.):—Disconnect each cell from the other otherwise they are shorted during re-activating process.

"SHORTY" (Victoria):—How about the Reimartz? Several S.W. circuits have appeared in these columns from time to time.

G.W.A. (Gileandra):—Rheostat not necessary with this type valve. Makers advise this on sheet accompanying valve.

M.W. (Ultimo):—Use sponge rubber ear-pads, which cut out outside noises. (2) "When are you going to publish an all-electric circuit with r.f., detector, and audio stages, and throw in a few photographs?"

Answer: How about the Standard A.C. Four, published recently?

GENERAL:—Can any reader please supply Mr. Surtees, 22 King Edward Street, Rockdale, with a copy of WIRELESS WEEKLY dated May 31, 1929, containing the supplement of stations? Willing to pay cost of copy and postage.

J.A.H. (Five Dock):—Condenser O.K. Yes, good make.

H.C.B. (N.S.W.):—Try Colville Moore, Economic Radio Stores, and Wallace's radio shop. We do not reply to queries by post.

P.G. (Queensland):—Agent for Purfin batteries is Boyd Edkins.

J.C.McG. (St. John's Park):—Either make suitable. Not of importance.

G.C.M. (Ryde):—No, but a permit to use certain patents must be held.

"LICENSE" (Gouburn):—No, this cannot be done. It was tried several years ago, but proved a loss.

(2) This is static. Understand Gouburn is very bad during summer months. Use counterpoise instead of earth, and try underground aerial.

C.C.N. (Hurstville):—Can be done. S.W. condenser must be used. Coils O.K.

GENERAL:—The attention of readers is drawn to the panel published elsewhere in these columns in connection with some back numbers of WIRELESS WEEKLY urgently required by this office.

L.M. (Marriekville):—See last week's WIRELESS WEEKLY.

F.H. (S.S. Dimboola):—Between grid and filament of detector valve or to primary of first transformer.

P.C.B. (Mosman):—Shorten aerial, try fixed or midget condenser in series with aerial, move primary coil farther away from secondary, try counterpoise instead of earth.

Y.J. (Orange):—Either a pirate or a new ham, since we have no such call sign on our latest lists.

C.D.B. (Brisbane):—Valves O.K., but change over the C603 with the last valve.



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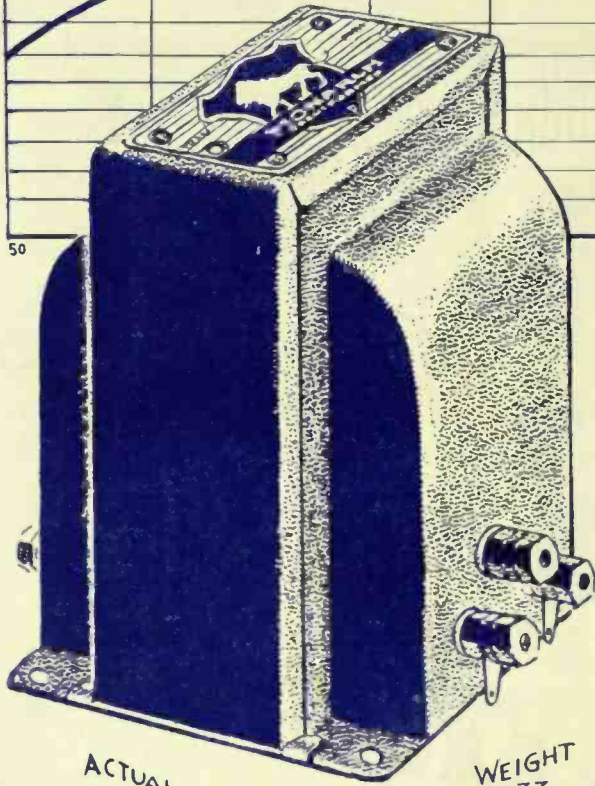
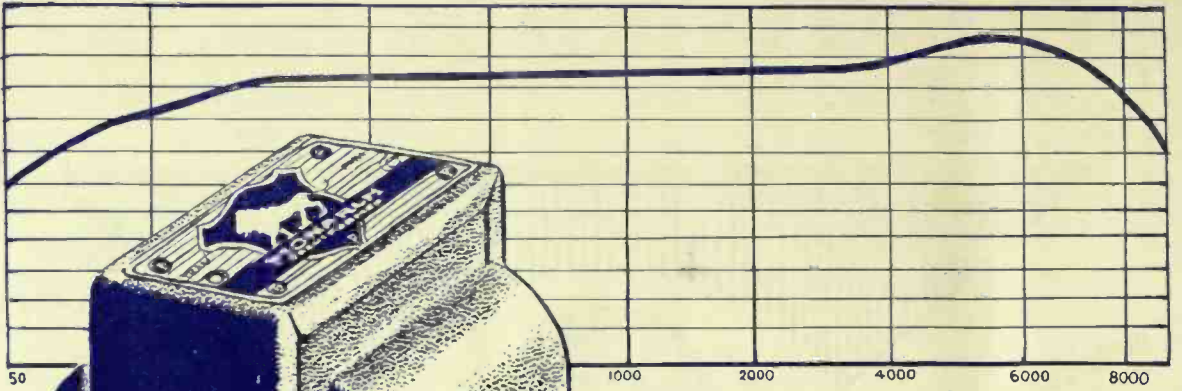
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