

Detailed Broadcasting Programmes a Week in Advance

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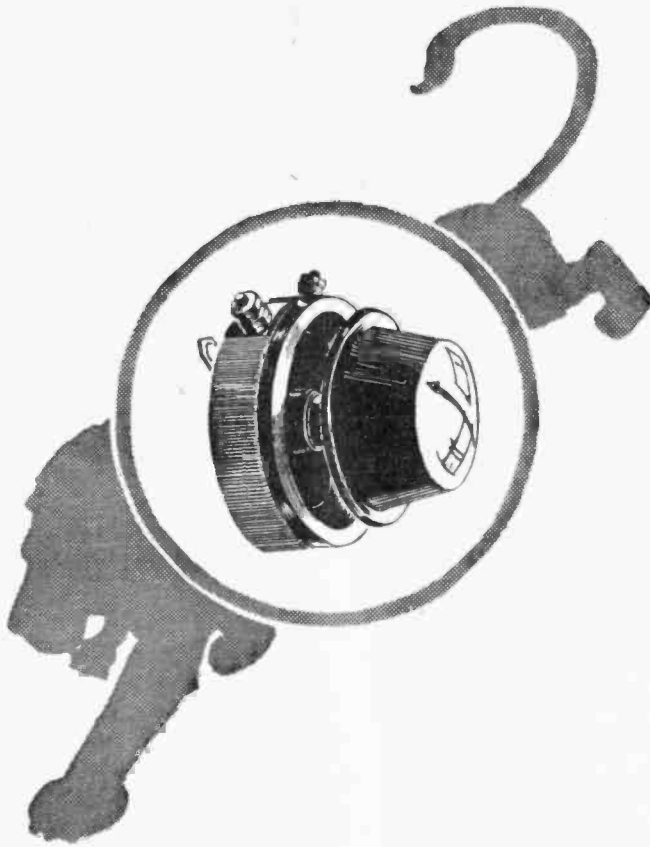
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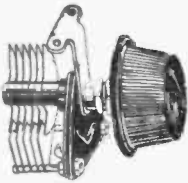


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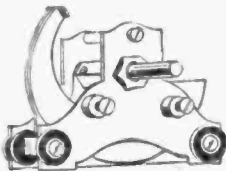
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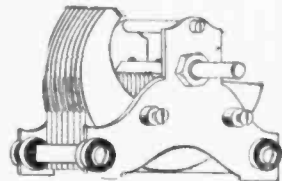
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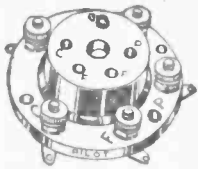
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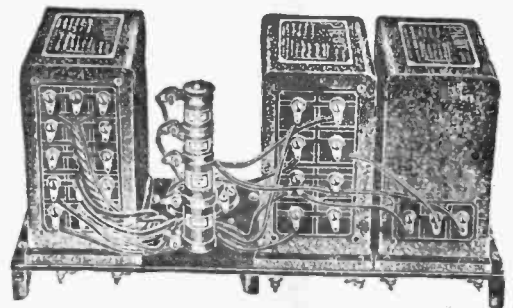
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Ask or send for Data Sheet No. 702, which gives full instructions, including diagrams, for the uses of the Volumgrad.

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Photographs Transmitted on a BEAM of LIGHT



A new and reliable method of picture transmission has been developed. In the picture on the left Dr. Vladimir Zworykin, W.E. research engineer, is holding the projector of the beam of light over which he transmits photographs and messages

PHOTOGRAPHS and messages were transmitted on a beam of light through space recently in Atlantic City, U.S.A. This beam of light forged the only connection between a facsimile transmitter and receiver, which by electrolytic process reproduces transmitted images. The device is the latest development of Dr. Vladimir Zworykin, research scientist of the Westinghouse Electric and Manufacturing Company.

The extent to which Dr. Zworykin has developed his device reveals a new step in facsimile transmission. In the devices previously demonstrated, photographic development was necessary after the transmission had been completed. With the new receiver the transmitted image will be produced without further developing, so that an onlooker may see the image being formed at the receiving end.

Not the least interesting thing about the facsimile transmission was the fact that the waves which form the image on the receiving end are carried from the transmitter on a beam of light. This beam of light acts in the same way as the invisible waves of a radio station.

To the casual onlooker, the facsimile transmission is extremely interesting. First the picture to be transmitted is placed on a cylinder on the sending device. As the transmission starts a beam of soft light gleams from an ordinary appearing lamp, and is

trained on a reflector, which may be placed at a considerable distance away. As the cylinder on the transmitter revolves, another on the receiver revolves at exactly the same speed. And passing across the cylinder is a long roll of paper, upon which is being reproduced the original photograph or message

LONG STRIP OF PICTURES.

These reproductions are five inches by six and one-half inches in size, and they can be printed at the rate of one every four and one-half minutes. They may be reproduced continuously, one after another, on the long roll of paper.

The transmitting equipment used by Dr. Zworykin in this demonstration is the same as used in previous types. The only change in the equipment is in the receiving end.

In the sending set, an ordinary photograph or typewritten letter is placed on the cylinder, which rotates slowly, and at the same time progresses longitudinally. A beam of light is sharply focussed on the surface of the picture, and in this way every point of the picture is explored by this beam of light. The reflected light is gathered by a parabolic reflector, which conveys the reflection to the photo-electric tube, or "electric eye," which issues an electrical impulse corresponding to the density of the image on the photograph.

As demonstrated by Dr. Zworykin, the im-

pulses from the photo-electric tube are simplified, then passed through the gas-glow tube, which produces the carrier beam of light. This beam is trained on another photo-electric tube in a parabolic reflector located across the room. The photo-electric tube transforms the variations of intensity of the beam into electric impulses, which, in turn, are transmitted to the receiving equipment.

Instead of changing the electrical impulses into light again, as in previously demonstrated equipment, the new device reproduces the picture by sending the actual current through a specially compounded paper. The action of the electricity on the chemicals in the paper, through electrolysis, changes the color of the paper, and recreates the original image.

To accomplish this, the special paper from the roll is passed first through a water bath in order to make it more conductive, thence over a cylinder, which is rotating in synchronism with the transmitting cylinder.

On the surface of the cylinder there is a knife edge curved in spiral from one side to the other. On top of the paper there is a straight knife edge, which, with the spiral edge, forms the two electrical contacts of the receiver. As the cylinder with the spiral rotates, it produces the sliding contact along the straight edge. This contact moves from one side to the other, and makes one line of the reproduced image with each complete revolution.

The paper slowly advances through the receiver, the motion being exactly the same as the motion of the transmitting cylinder. Therefore the two motions reproduce exactly the scanning of the photograph by the transmitter to recreate the image on the paper as the varying current produces more or less chemical change in the paper.

BETWEEN YOU AND ME AND THE MICROPHONE



RADIONA'S FEAST

A POEM—Written by JAMES JEAMES JAMES

in the manner of the Late Mr. Pope

Dedicated to Mr. Stuart F. Doyle and Mr. Bacchus

With Annotations by the Author

"What mighty contests arise from trivial things."—Pope.

Queen of the Air, fair Radiona sat
High, on a gilded throne of royal State;
Her Cheeks were Blushful, for her Feet were bare
And she was clad in purest mountain Air (2)
And Sydney's greatest Radio Men were there (3)

Aetherial Sylphs, who hovered o'er the scene,
Flew at the bidding of their aerial Queen
To bring the Revelers, in their cloudy Seats
The scaly Fare supplied by Horace Keats (4)
Who stirred his softly simmering Orchestra
From a white Cloudlet, floating out afar.
The Night was starred with Fireworks gay, and
Bolts
Of Contacts made at forty thousand Volts
By valiant Burb'ry, he assumed the Risk—(5)
The work was supervised by Mr. Fisk. (6)

This glorious Feast had not continued long
Ere Radiona asked to hear a Song;
Then Anderson arose, a brilliant elf, (7)
And sang through Thirty he'd composed himself.
Loud were the Plaudits of the assembled Guests;
And, urged by Radiona's soft requests,
The subtle Williams made a little Speech, (8)
Congratulating one and all and each:
"Well, well, we're here! And here we are again!
You understand? Of course, you see, and then—
If anything should happen I'm a Mug."
He gave a queer, symbolic sort of Shrug
Which made his Meaning clear as clearest Day,
But didn't give his inner Thoughts away.
Then Radiona clapped her lovely Hands—
"Go, bring the Nectar!" At these sweet Com-
mands.
A hundred Sprites set off for foreign Lands.

Hast heard of Keats, and his Poetic Whim (9)
For beaded Bubbles, winking at the Brim? (10)
His Beaker of the blushful Hippocrene
Tasting of Flora and the Country green?
Well, Radiona's Nectar held more Sweets
Than anything conceived by Mr. Keats;
Take all the Letters, sending Thanks and Praise
To Wireless Studios since their opening Days;
Take all the Smiles of Children wonder-eyed,
And Happiness of Listeners satisfied—
Melt all these in a Vat of old Champagne;
Leave for awhile, then let the Mixture strain—
Such was the sparkling Nectar, subtly made
That Radiona's Servants might be glad!

An Instant saw the hurrying Sprites return,
Carrying the Beverage in full many an Urn; (11)
An Instant saw the Guests' gold Goblets filled.
Another saw them properly bespilled;
Another saw the Goblets filled once more.
Another saw them emptied as before.
And Shouts of Laughter rose into the Sky,
Till the Old Moon looked down with envious Eye
In time to see the noted Ewart Chapple (12)
Bringing his past Experience to grapple
With G. Verr Barnett's Claim, however porous.
(13)
That no good Ballet ever was dechorous. (14)

Just then, Miss Baumberg, who controls Publicity
(15)
Arose and said, with exquisite Felicity:
"Sweet Radiona, we shall now present
The Evening's greatest, thrillingst Event.
Arranged, regardless of all Cost or Fee,
For this Occasion—this Stupendous Spree,
The greatest Presentation seen of late,
Whose Artists are the highest paid to date.

Something of which I hardly dare to speak—
It is so Great, Magnificent—Unique!—
A Super Ballet, featuring the Staff
Whose Beauties I can not describe by half—
The music kindly lent by Mr. Albert; (16)
Rehearsed, arranged, and led by Laurence Hal-
bert! (17)

And if Miss Baumberg's Pen were no avail (18)
To etch such Splendors, ours must surely fail;
And so we'll simply have to be content
To pass these few Remarks of Compliment;
Miss Gibson's little Act of Combumbe (19)
With twenty, Artist-Harlequins, was fine;
And Mr. Ferry's story of the run (20)
When Moore McMahon, the Racing Fiddler, won
From all the Field, the evening Relay Race (21)
Down Castlereagh Street, by a half a Pace
Outdid all racing Broadcasts we have heard;
While Mistress Haddon's "Would I were a Bird"
(22)

Was noted for an Air of calm Restraint;
And then, we had no motive for Complaint
Against the shy Remarks of Captain Stevens (23)
On Woodbine Willie's "Thoughts on Odds and
Evens." (24)
We also had to throw a Large Bouquet
At Miss Gwen Varley's Dance—"The Flowers of
May" (25)
Supported by Girl Guides and Mr. Norman (26)
Who seemed, in this Assemblage, quite the Nor-
mon;
And also we derived a Kind of Joy
From Mr. Cochran's "When I was a Boy;" (27)
And the Duet, when Carlton sang with Graham
(28)
"We Two are New" left us no wish to slay "em
(29)

(Although there was a damper on our Mirth—
Our dear Friend, Basil Kirke, had gone to
Perth); (30)
And Madame Grieg's short Sermon of Advice (31)
Was (we've forgot the Subject) very nice.
To end, the Tote Ensemble was so grand
As none who saw it not can understand;
And Mr. Halbert well deserved the Cheers
Which, at the Curtain, dinned upon his Ears. (32)

Now, all this While, the gentle H. G. Horner (33)
Was sitting, like his Namesake, in a Corner;
He was not pulling out the puerile Plum—
In fact, he looked quite sad, and even Glum;
But to look glum is really his Delight;
And sitting in the Corner all the Night,
Noting what People do and what they Say
For Reference on some Propitious Day,
Has made him wise in Men and their Desires
Of which he spends his lifetime pulling Wires:
(34)
The Hand that holds the Ribbons never shows
But Horner in his Corner Knows—HE KNOWS!
Well, Radiona saw him sitting there,
And beckoned him to stand beside her Chair—
"I'm always pleased to learn a Thing or two
And I am sure to learn Some Thing from you!"
And then they talked in Manner confidential
On aerial Matters very consequential.

Meantime, the guests upon their Legs do prance
(35)
Or, as the Moderns have it, Jazz or Dance,
Through clouded Halls, all glitteringly sublime
(36)
While the bright Morrisonian Band beats time;
(37)

And everywhere is Bliss and scraping Feet.
When, suddenly, a Voice more stern than sweet
(38)

Says "On behalf of all the A.B.C.
And my Directors, both in Tune with me,
Sir Benjie Full'r and Mr. Albert, I—"
There is a crystal Silence under the Sky—(39)
The crowded dance Floors bubble no more, nor
boll—
Whispers are heard, "Shut up! It's Mr. Doyle!"
(40)

Yes; there he stands—Broadcasting's newest King!
And there they all stand round him in a Ring,
As he addresses Radiona, who
Smiles, just to show him she is listening too—
"Great Radiona, for the Cakes and Ale
I thank you; and I say we will not fail (41)
In any Radio Work we undertake
For all of us are firm-resolved to make
Much better Programmes—though harsh Wind or
Hall
May tear the Aerials down, we will not fail!
We breathe a Note of careless Optimism
And not the World's most violent Cataclysm—
Not ev'n the Critic's Wrath—the Listener's Wall
Can turn us from our Course—We Will Not Fail!
We bring New Schemes; new Men and New
Ideas—

All Revolutionary! Have no fears—
For even though we have to go to Jail
We promise this, We Shall Not—WILL NOT—
We FAIL!
He ceases. There are Lightnings all around (42)
And Heaven and Earth with Cheers and Shouts
resound—
"Just put me down for Ditto," says Sir Ben; (43)
And Mr. Albert breathes the glad Amen.

Then Radiona rose; the Skies were riven
With beaming Light—the mighty Winds of Heav'n
Hover'd above, with awful murmuring;
And, from her Lips, the Zephyr Breath of Spring
Issued a Message to all Mortals there—
"I am the deathless Queen of all the Air
Since first the Sky arched blue o'er a burning
Sun,
And till all Suns and Stars are wither'd and done,
I am the Queen of the Wind and the Hall and the
Rain.

And of the raging Blizzards and Tempests in-
sane;
And I have watched through the Ages Men strug-
gle and fight
Against my tireless Hosts by Day and by Night,
I have heard again and again the despairing cry
Of Wretches shaken and lost and falling to die,
And these things never have moved me, nor
haunted my Sleep—
Not the Bodies torn on the Earth, or a-rot in
the Deep;
I have seen Men planning their Plans and
dreaming their Dreams
And Death has always completed their mightiest
Schemes;
For Death is the Consummation of all men's Toil.
To end, I am pleased to hear the Remarks of
Mr. Doyle."

By this, the rising Sun proclaimed the Day,
And soon the Guests were hurrying away:
And Radiona swiftly went to Bed
All weary, with a horribly achey Head;
But, ere she slept, the fair aerial queen
Murmured, "Oh, what a lovely Night it's been!"
Straight did we make our Exit, all unseen. (44)



FITTING *the* RIGHT KIND OF ITEMS TOGETHER

Elementary Psychology for the Programme Director

By L. E. Strachan

(Formerly Station Director and Programme Organiser, 3ZC, Christchurch, N.Z.)

SO much comment has been made on the quality of broadcast programmes, both in Australia and New Zealand, that it would almost seem there is little left to be said.

There is, however, one aspect of the matter which has apparently not been touched on by the many who have voiced dissatisfaction with existing conditions—that is, the apparent lack of understanding of the principles of programme arrangement, as exemplified in the finished products of those responsible for the “lay-out” of the items broadcast in the so-called “concert programmes” from the various stations.

Before proceeding to discuss briefly these principles it will be advisable, perhaps, to consider the psychological effect of practically every form of entertainment in these days of hustle and bustle, as by noting the effect it is usually possible by a process of simple analysis to arrive at the cause, or reason, therefor. It is a truism, of course, that if the result be unsatisfactory the remedy is to be found by altering the principal factor, or factors, responsible for the unsatisfactory result.

Mankind to-day lives in a highly complex age—an age which imposes great mental and nervous strain on its members—particularly the town dwellers. This fact is now generally accepted in scientific and medical circles, and readers will no doubt recollect recent cable messages from England referring to the investigations being carried out by eminent specialists into the effect of everyday noises on the nervous system.

Emotional Outlet

These modern conditions not only impose great nervous strain on those whose occupations render it necessary for them to live in close proximity to towns, but they have had an even more serious effect in that they have imposed a barrier which precludes to a very

great extent a natural outlet for man's emotions. The need for this emotional outlet is very real, and is evidenced by the fact that the demand for entertainment (which is in reality relaxation) is greatest where men or women are worked to their fullest capacity. Picture theatres, for example, or dances in country districts do not receive the same support proportionally as similar entertainments in industrial areas, where the nature of employment keeps the mind working along certain well-defined grooves.

“In Tune” With Programmes

In early days the natural occupations of mankind provided a certain emotional outlet. When it was necessary, for instance, to hunt for one's food the thrill of the chase provided a very definite and healthy emotional outlet, while the necessity of being constantly on guard against marauding tribes or animal foes, provided a very effective antidote against ennui. This fact is recognised, if not actually postulated, by most leaders in the educational world. For this reason organised games are considered essential in any well-ordered school curriculum, not only for their physical results, but also that the adolescent mind may have a healthy outlet for its emotional content.

At first sight it may appear that this digression into elementary psychology can have no bearing on the matter of broadcast programmes, but in reality it is an important factor in the dissatisfaction which is apparently so widespread among listeners-in.

In the first place, it will be generally conceded that the greater part of listening-in is done in the evenings. Probably at least 75 per cent. of those who have taken up their pens to castigate the broadcasting companies have based their criticisms on evening programmes which did not appeal to them. They have probably never stopped to consider

whether they themselves were “in tune” with the type of programme being presented.

This matter of being “in tune” with the entertainment being broadcast is in reality the crux of the whole position as regards the listeners' attitude to broadcasting. And it is here where the whole trouble lies with most programme organisers. They do not realise, or apparently do not know, how to so utilise the material at their disposal to put themselves “en rapport” with their unseen audience.

An analysis of most of the published programmes shows an almost complete lack of knowledge of the principles underlying the scientific arrangement of programme material. To be deemed successful a programme must exemplify four essential factors—proportion, balance, contrast, climax. The first three named factors are, of course, well known to anyone with even a rudimentary knowledge of design or display. They are to be seen any day, and every day, in a well-dressed shop window. To these factors a fourth—climax—is added when the appeal is made through the ears. The simplest melody reaches some sort of climax, and the storyteller whose tale had no point would find himself in the same unfortunate position as programme organisers to-day.

Goods to Display

After all, a programme organiser is faced with the same problems as a window-dresser. He has certain goods to display—to arrest and hold the attention of an unknown public. If he follows the recognised principles underlying display he will succeed in his purpose, but apparently most programmes are arranged in the same way as if a window-dresser picked up his goods at random and jumbled them into his window higgledy-piggledy.

The psychological effect on a listener is a series of clashes, or what in musical parlance

The Author's ANNOTATIONS

To Radiona's Feast

(Turn back edge of this page to face Page 4.)

(1) "In the manner of the late Mr. Pope." Of course, it will be noted that the style of this poem sometimes divigates from the classical formulae of Mr. Pope. The Casuista, for instance, is to often absent; and more too often, in the wrong position. Moreover, there is here and there a distinct Miltonic cast, as, for instance, in the second line, which is highly reminiscent of that poet; and a great deal of the latter part of our poem is Byronically flavored, as we read through Byron's "Don Juan" on the afternoon preceding the night on which we completed our work. However, we can still allow Mr. Pope the credit of the Perfected Couplet; and if the complete poem is a combination of many great styles, some immensely superior to Mr. Pope's, their attribution to that gentleman is more complimentary to him than derogatory to their owners; a fact, we have no doubt, which Mr. Pope would be among the first to appreciate.

(2) "And she was clad in purest mountain Air." This kind of phrase is known technically, among Poets, as a Bare Statement.

(3) "Sydney's Greatest Radio Men." It is presumed that these might cause Anyone to blush.

(4) "Scaley Fare." Our meaning, here, is uncertain. Horace Keats. A fine chap. A.B.C. Orchestral Conductor.

(5) Vallant Burbury. 2FC Radio Engineer. A fine chap.

(6) Mr. Fisk. Builds Noise Screens for Windows. A fine chap.

(7) Anderson. A fine chap. N.S.W. Mgr. A.B.C. Cmpser. "A Brilliant Elf." Rhymes with "Himself."

(8) Subtle Williams. H.P. Asst. Mgr. N.S.W. A.B.C. A fine chap.

(9) "Keats' Poetic Whim." No; not Horace. John. A fine chap.

(10) "Beaded Bubbles Winking at the Brim." Not ours. Too near End of Week.

(11) "In full Many an Urn." Or in Many a Full Urn. Poetic Inversion.

(12) Noted Ewart Chapple. A fine chap. Accpst. 2FC.

(13) G. Vern Barnett. Accpst. 2BL. A fine chap.

(14) "No Good Ballet ever was decorous." Quite right, too.

(15) Miss Baumberg. A Dreamer of Beautiful Dreams. A good woman.

(16) Mr. Albert. A musical Millionaire! A fine chap.

(17) Mr. Halbert. Studo Prder., A.B.C. N.S.W. Rhsl. Mgr. A fine chap.

(18) Miss Baumberg's Pen. A weary instrument.

(19) Miss Gibson. Prgyme Bkr. 2BL, 2FC. A good woman. Columbine. Don't know who she was.

(20) Mr. Ferry. Racng. Cmmr., 2BL, 2FC. A fine chap.

(21) "The Evening Relay Race." A quaint new custom, which causes artists to finish their programmes from one station; then run like mad down Castlereagh Street to the next. Good Exercise.

(22) Mistress Haddon. O/C Office Staff. A good woman.

(23) Captain Stevens. Annrc. 2BL. Mgr. Talks Stdo. Supvsr. A fine chap.

(24) Woodbine Willie. Old friend of Captain Stevens.

(25) Miss Gwen Varley. 2BL Women's Sessns Grls. Rdo. Clb. A good woman.

(26) Mr. Norman. A fine chap. Boys' Rdo Clb., Aro. Clb., By. Scls., etc.

(27) Mr. Cochrane. Studio Annrc. 2FC. Hell Mr. A fine chap.

(28) Carlton. Mr. New Annrc. 2FC. A fine chap. Graham. A fine chap. Mr. New Annrc. 2BL.

(29) Basil Kirke. Formr Studio Mnger 2BL. Mgr. Tlks. Annrc. A fine chap.

(30) Madame Grigg. A good woman. Breu Advc. N.S.W. A.B.C. Artists.

(31) "At the Curtain," i.e. as the Curtain fell.

(32) "Gentle H. G. Horner." Sec. A.B.C. A fine chap. Hope you like what we said about you, Mr. Horner.

(33) "Pulling Wires." Also descriptive Modern Business.

(34) "Upon their Legs do Prance." Archaism. introduced for effect.

(35) "Clouded Halls, all glitteringly sublimar." Moonshine, shining through cigar smoke.

(36) "Morrisonian Band." Referring to Cec Morrison's Band. Cec. M. a fine chap.

(37) "A voice more stern than sweet." No harm meant.

(38) "There is a crystal silence under the Sky." This is a beautiful line. Teach it to your children.

(39) "Shut up! It's Mr. Doyle." When he speaks let no dog bark. A fine chap.

(40) "WE WILL NOT FAIL." A common fallacy.

(41) "He ceases. There are lightnings all around." But don't you believe it: we had to say something like that.

(42) Sir Ben. Sir Benjamin Fuller. A fine chap.

(43) "And straight we made our exit, all unseen." In the circumstances, a Gesture of great delicacy.

are termed discords—or, to use another musical term with a rather different meaning, false relations. What, for example, could be more incongruous than the two following examples, actually heard from one of the A grade stations: An inspiring sermon by the Bishop of London, followed immediately by a cacophonous fox-trot; Saint-Saens' "Le Cygne," 'cello solo by Gasparo Cassado, followed immediately by "The Two Black Crows." So long as such appalling faux pas are permitted so long will trenchant criticism be levelled at broadcast programmes.

Another factor which is apparently unknown to many programme organisers is the fact that master musicians do not compose melodies without giving due consideration to the mood they will awaken in their auditors. An operatic composer, for instance, does not compose his melodies first and then hunt round for suitable words to string to them. Consider for a moment any well-known operatic aria, excluding perhaps those of the Rossini school, which were admittedly vocal pyrotechnics. It will be found that the composer has so created his melodies that they in turn create the correct "atmosphere," or mood, for the story which is being unfolded. And this mood is subconsciously awakened in the auditor, even though he or she may not hear, or know, the meaning of the words.

Probably no better example of this can be found than the works of Richard Wagner. Here are pure tone pictures, created by the composer for the specific purpose of awakening certain definite emotions on the part of his auditors. And yet we find Wagnerian excerpts and operatic arias jumbled up in the most amazing manner in broadcast programmes with numbers which are entirely different in content. One could point to scores of examples in broadcast programmes in Australia and New Zealand, but time and space do not permit of elaboration of this point.

Still another fact is overlooked, or unknown, by most programme organisers—the

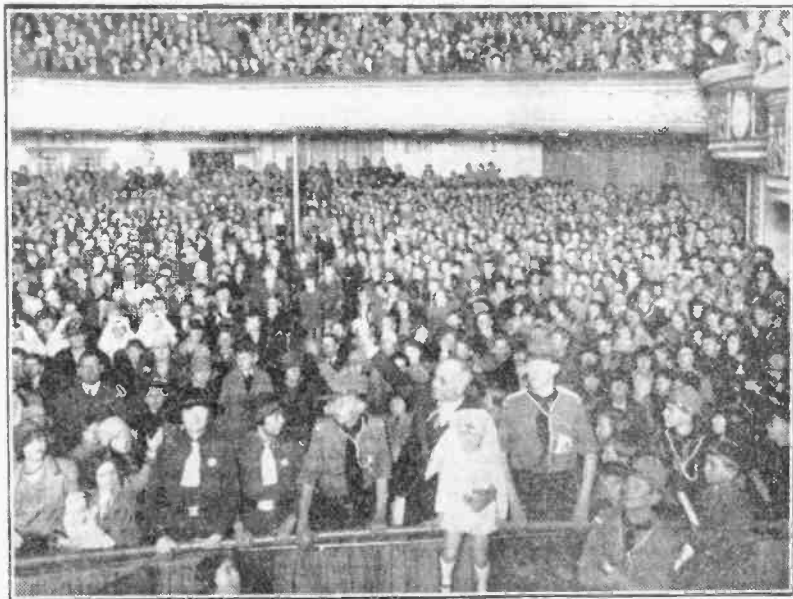
effect on the auditor of different rhythms. How many of those responsible for the arrangement of broadcast programmes could state the difference between a fox-trot in 6/8 time and a fox-trot in common time? That there is a difference they will no doubt readily admit, but do they know the effect on a listener? It will be obvious, of course, that if a band march causes the feet to start tapping and arouses a martial feeling in the hearer there must be a reason—the reason, of course, being the well-marked and well-defined rhythm. If this is true of one form of rhythm is it not equally true of other forms? This is a subject about which most programme organisers have yet quite a lot to learn.

Summed up, then, it would appear that there can be little hope for improvement in the standard of programmes unless and until they are arranged by those who possess the necessary qualifications for this by no means easy task. The material is available, particularly in recorded music—it remains for the broadcasting companies to secure the services of those who can "dress the window" effectively. Such men are admittedly not easily found, but a man or a woman with a good all-round musical knowledge can be trained to apply to musical knowledge the basic principles of artistic programme construction.

The programme organiser's task is by no means an easy one. He must be prepared for long hours of work, and must be unremitting in his efforts to present a well-balanced, well-proportioned entertainment, with judicious contrasts and a well-thought-out climax.

Window-dressers, of course, are highly paid by the firms who know their worth—and programme organisers, with such a vast number to appeal to, and seven or more "windows" to dress each week, should command substantially higher salaries. Perhaps in the case of broadcasting companies "that's the rub."

SUCCESS OF CHILDREN'S PARTY



Probably the largest audience that has ever taxed the capacity of the St. James Theatre, assembled there on Saturday week, when the Radio Uncles and Aunts invited members of the Radio Club to be present at a gala entertainment provided by the Junior Red Cross, Girl Guides, Boy Scouts, and the pupils of Miss Kathleen Hannabury. Opportunity was afforded at the same time for the children to take leave of their "Uncle Ben" (Mr. Basil Kirke), who left the following day for Perth in the interests of GWF. The entertainment was held by the kind permission of Sir Benjamin and Mr. John Fuller, and the two thousand children present voted it one of the best entertainments ever provided for members of the Radio Children's Session. It was the first held under the auspices of the Australian Broadcasting Company, Limited.

Your Morning Newspaper At Sea

A new service for voyagers which keeps them in touch with the world.

OUR first choice for the title of this article was "Newspapers at Sea," which, taken literally, is exactly what we are to write about. But, as someone was sure to read into it an underground reference to the condition of the modern press, we decided upon the one which now decorates the top of the page. Yet the first title might easily have stood in all senses, if we are to believe Mr. Marr, M.H.R., who had some caustic things to say about newspapers at sea, on his arrival in London recently. Why, asked Mr. Marr, wasn't there a better wireless news service on the ship on which he travelled? Why was it not possible for passengers to follow world events in exactly the same way as they do at home?

In the Beginning

Ships' newspapers are not new by any means, but singularly few, except the widely travelled, know very much about them.

They were begun many years ago, almost as soon as radio stations on shore began broadcasting news, and their development was rapid. In the first place they were just notes, scribbled by a wireless operator for the amusement of his favorite passengers. The shipping companies soon realised the value of this new service, and gave the operators duplicators, typewriters, and instructions to issue a daily news bulletin. Then came the advertisement sheets, already made up in magazine form, in which the operator pasted his typewritten news reports, and which were sold for a consideration.

But it is the source of the news which evidently aroused Mr. Marr. Every powerful nation was quick to realise the propaganda possibilities of a free radio news service. Thus we have Nauen, Germany, transmitting news of a distinct German flavor; Rochester, with a peculiarly American leaning; and Rugby, with the taste of whatever party is in power in England. The wireless operator, therefore, must choose his news with a good deal of discrimination. Then there are other factors which prevent him extending his usefulness in this direction. News reports are probably the least vital of his duties; he has to handle a large amount of ordinary traffic in messages to and from passengers. Weather reports, time signals, and other necessities of navigation, also occupy him. It is not always possible, therefore, to provide news at sea in the way everyone would like, without considerable expense to the steamship companies.

Australian Service

But the demand for wireless news at sea is becoming more insistent, and more attention is being paid to ships' bulletins than ever before. This is well demonstrated by the rapid rise of the wireless newspapers of our own ships and ships on the Australian run.

On the right we reproduce a selection of the handy daily news sheets published aboard ships trading with Australia.

Early in 1923 the Niagara left Sydney for Vancouver with all the necessary equipment for the inauguration of the "Wireless News," the first daily newspaper to be published on board a British steamship in the Pacific Ocean. The issue of May 4, 1923, was an immediate success, and since that eventful day publication has been extended to most of the principal Australian and New Zealand passenger steamers. Still later, the paper was published daily on the five Bay steamers of the Australian Commonwealth Line, which has since been sold to English interests. At one time the Bay steamers enjoyed the distinction of being the only daily newspaper publishers on the England-Australia voyage. And, indeed, to this very day, the only other ocean news sheets published on the Orient, P. and O., and other lines, are news bulletins which are not for sale, and do not carry advertisements, but are simply typewritten sheets of news drawn from Rugby and Australian stations, and distributed a few to each department of the ship.

"Wireless News"

Since its inception, the "Wireless News" has grown from an eight page to a twenty-four page paper, which sells at threepence, and is published on all the larger passenger ships of the Australian mercantile marine. It is read by ocean travellers between all States of the Commonwealth, and between Australia and New Zealand, and Australia and the Far East. The news is typed on specially prepared stencils, is printed on board ship, and is released in magazine form for early morning distribution. The advertising columns contain a list of hotels, and firms interested in securing the patronage of sea travellers.

There are special settings for every port of call; for instance, a ship nearing Sydney prints advertising peculiar to Sydney firms, and a full sheet map of the harbor and city, and many interesting details, of which the following is an excellent example: "The traveller from abroad, entering the harbor for the first time, obtains his earliest impression of the city from the metropolitan air imparted by a mass of immense buildings, standing on the elevations back from the water, and silhouetted in clear-cut outline against the western sky." Thus does the wireless newspaper add patriotism to a strong sense of public service, and put Sydney on the map.



Then there is what an announcer might call an interesting resume of Sydney, and a list of places worth seeing. Turning over, we come to "Harbor Trips," which give details of the various places to which one may go when one hasn't the time to go anywhere else. Also an essay on Sydney's historic features: another on Manly, and another on the Blue Mountains. Thus the traveller to Sydney is instructed in the necessary features of our civilisation, as well as in the general happenings of the world, before he enters our harbor. The same is done with every other port of call.

How It's Done

The actual preparation of the news copy is done in Sydney, at the offices of Amalgamated Wireless, whence it is transmitted by land-line to the transmitting station at Pennant Hills. Thence it is transmitted simultaneously on two wavelengths; one for steamers nearby, the other for steamers in distant parts. All publishing steamers are equipped with the company's receivers, and, irrespective of distance, Australian news bulletins are always available for publication.

It is certain that we are fast approaching the time when complete and probably illustrated newspapers will be published aboard ships touching Australian ports regularly. Already this is done on the large Atlantic liners, as Mr. Marr will, no doubt, observe, if he returns via America.

A BAN on BEETHOVEN and CHOPIN

An answer to Mme. Sonya Michell's suggestion that the works of the above composers be omitted from all musical programmes for two years.

By C. N. BAEYERTZ

IN the last issue of WIRELESS WEEKLY, under the above caption, appeared an interview with a visiting American "pianiste" (why pianiste?), Madame Sonya Michell. In which the lady, protesting too much methinks, is reported to have said *inter alia*—

"I am thoroughly convinced that all musicians should agree, in the interest of both artists and audiences, to omit from their programmes for at least two years all compositions of (by?) Beethoven, and probably of Chopin as well. The world, including all musicians, who are too timid to admit the fact, is fed up with Beethoven.

"Some people have simply got the Beethoven habit as others have the opium habit. It prevents them from hearing the wonderful new harmonies of which the air is full. A great modern school of composers is at work to-day. Some of them will outlive Beethoven. Why should we cram Beethoven down the throat of our students when we can give them Stravinsky, Prokofieff, Schoenberg, and Ravel? It is like teaching a modern soldier to shoot with a crossbow."

Madame Michell professes amazement that Pizzetti is practically unknown in Australia, asserts that Beethoven's Symphonies, Sonatas, Quartettes, and Trios are so overdone as to become positively revolting, and that people look at her when she tells them that she hears with keen enjoyment and admiration such compositions as Honegger's "Pacific 231," Varese's "Americas," and Stravinsky's "Sacre de (du) Printemps." Madame plays all the moderns she can lay her hands on—and loves them.

Dislike for Beethoven allied to a love for "all the moderns" is an eccentricity which would arouse as little surprise in certain circles in America as the profession of hatred of Shakespeare and the reverential worship of Edgar Lee Masters and Miss Amy Lowell, or of contempt for Velasquez and Raphael, and adoration of Cezanne or Kandinsky.

Perhaps it is matter of taste, but I find it difficult to believe that any sane musician could stigmatise the symphonies, sonatas, quartettes, and trios of the greatest master of modern instrumental music as positively revolting, merely because of frequent repetition.

Madame Michell does us a service when she calls our attention to the work of the moderns, but she does her cause a dis-



service when she sacrifices Beethoven and Chopin on the altar of her modernity.

"The world is fed up with Beethoven," yet his compositions still find an honored place in the programmes of every great pianist and violinist and all the most illustrious orchestras in Europe and America (where, indeed, the finest orchestras in the world are to be heard). And why? Because all the great conductors and pianists and violinists are too timid, forsooth, to admit it.

Two years ago in Vienna, on the centenary of Beethoven's death, musicians from all over the world met and were "fed up with Beethoven," pure and unadulterated, for nearly two weeks.

As an American, it is perhaps not surprising that Madame Michell should hear with keen enjoyment Honegger's "Pacific 231"—an expressionist, patternless symphonic composition inspired by what was, when it was written, the latest American locomotive; and Paul Varese's "Americas," a frenetic imitation of Schoenberg. Stravinsky's "Rite of the Spring" may express the spirit of the age, but, to the sensitive ear, it seems barbarous, uncouth, cacophonous.

Pizzetti, director of the Milan Conservatorium, is in different category, and, in common with others of the modern Italian school, Malipiero, Casella, and Respighi, has done fine work. But these, though influ-

enced by Debussy, are not disciples of Schoenberg or Stravinsky.

Prokofieff, though he formerly out-Stravinskied Stravinsky in the outrageousness of his harmonies and his impressionism ("Sarcasmes," "Sinfonetta," and the "Scythian Suite," for instance) is now writing more or less in the diatonic scale with some approach to lyricism.

Ravel is a refined and finished craftsman, chiefly in miniature. He has a typical French mind. Stravinsky's work is atonal, all sound and rhythm, signifying cynicism. The graphic ballet "Petrouchka" is perhaps his masterpiece, but it is improbable that future ages will account him a great genius.

Arnold Schoenberg is a post-impressionist, post-expressionist, great musical theorist, and iconoclast, who has thrown overboard key, tonality, sequence, modulation—everything but sound, line, and color. He is the apostle of ugliness. The three men have exercised much influence on modern music, and Madame Michell, greatly daring, assures us that some of them will outlive Beethoven.

As a brilliant countryman of Madame Michell has observed, "The prophesying business is like writing fugues; it is fatal to everyone save the man of absolute genius."

As for Chopin, most musicians will be apt to prefer the estimate of Rubinstein: "The piano bard, the piano rhapsodist, the piano mind, the piano soul is Chopin. . . . Tragic, romantic, lyric, heroic, dramatic, fantastic, soulful, sweet, dreamy, brilliant, grand, simple. All possible expressions are found in his compositions, and all are sung by him upon his instrument."

Madame Michell quite justly deplors the fact that we know so little of the moderns; and we should approach their work with a perfectly open mind. Beethoven and Chopin were both great innovators, and both suffered from ignorant contemporary criticism.

But heretofore, at least, no great advance in art has been made by complete revolution, or topsyturvydom. There seems to be a law of growth in music as in life; and music, like nature, nil facit per saltum.

It is unlikely that Chopin will be displaced from our repertoires or our affections by any of the original atonalists, or their host of imitators. And most musicians will agree that the music of Beethoven is still unsurpassed for nobility, grandeur, and sublimity—emotive and intellectual.

A VOCAL and an INSTRUMENTAL QUARTETTE for 2FC.

The British Musical Society's Quartette.

MR. MOORE M'MAHON, violinist, is the leader of this quartette, with Miss Allison Short as second violin, Ruth Conway viola, and Athos Martelli 'cellist. Moore M'Mahon is well known to listeners as a soloist, and is an artist of note. Miss Alison Short is a pupil of W. J. Coad, of the State Conservatorium, Sydney. Miss Ruth Conway is a pupil of Henri Staell, of Sydney, and has toured London and the Continent. Athos Martelli has had a varied and extensive

career as a 'cellist. He studied in Pesavo, Italy, and later with Hugo Becker, in Berlin. He also played in Toscanini's Orchestra, which is one of the finest in the world, at La Scala, in Milan. The instruments used by the quartette are Guarnerius and Bergonze violins, a beautiful French viola, and a very rare Gaspro de Salo 'cello.

The A.B.C. Male Quartette

(**ONE** of the many interesting groups of artists appearing on the Australian Broadcasting Company's programmes, is the A.B.C.

Male Quartette. The quartette first came into prominence some eighteen months ago, when they operated in and around Sydney and suburbs. They have been principally engaged in Eisteddfod work, their most recent success being in the Radio Eisteddfod promoted by the New South Wales Broadcasting Company. They were known as the Radio Male Quartette, but have since changed it to the A.B.C. Male Quartette.

They have a fine repertoire, ranging from the classics to the most popular jazz numbers. They will appear regularly from 2FC and 2BL.

COMING UP FOR YOUR JUDGMENT



Professor **BUDDEN MORRIS**, Pianist.



STANLEY R. CATLETT, Tenor.

*Features in
Next Week's
Programmes*



PHYLLIS MAGRATH.



ELMA FERDRIAU, Monologues.



VIRGINIA BASSETTI

Murdoch-Conservatorium Orchestra

ON Saturday Sydney will have an opportunity of hearing one of the finest classical concerts ever presented in this city, at prices well within the reach of all. This will be on the occasion of the Australian Broadcasting Company's first classical broadcast concert, which will be held at the Town Hall, and which will enable music-lovers to hear the State Conservatorium Orchestra of 75, under the conductorship of Dr. Arundel Orchard; William Murdoch, world-famous pianist; and Mr. Spencer Thomas, operatic tenor and Professor of Singing at the Conservatorium. Popular prices only (2/ 3/3, 4/4) are being charged for this concert, and the advance booking plan is now open at Paling's.

Among numbers to be presented by the Conservatorium Orchestra are the overture from William Tell; the "Peer Gynt" Suite (Grieg); "Minuet" (Boccherini); Symphonie Poem "Phaeton" (Saint-Saens); William Murdoch's presentation will be Beethoven's Concerto in C Minor, No. 3. Mr. Spencer Thomas, who came to Australia with the Quinlan Opera Company as principal tenor, and later returned to accept the post of Professor of Singing at the Conservatorium, will render a number of vocal excerpts from the classics.

The directors of the Australian Broadcasting Company, Limited, are endeavoring in this series of concerts to make it possible for the public in Sydney to hear outstanding programmes at considerably reduced prices, and if the support is forthcoming an endeavor will be made to secure the very best talent available.

The Turret Players

THE Turret Theatre was brought into existence by its managing director, Mr. Dor Finley, who designs all the scenery of the plays that are produced at the theatre, which is situated at Milson's Point. He has the assistance of some of the leading men and women of Sydney. The Turret Players will present a one-act radio play, "Danger," through 2FC, on August 15, when the artists will include Miss Phyllis Magrath, Mr. John Gould, and Mr. Richard Parry.

English Actress Says Something

MISS ANNIE HUGHES, the well-known actress, will speak on Queen Mary on August 9, in her series of "Great Personalities I Have Met," from 2BL.

Miss Mimi Gressier

MISS MIMI GRESSIER, young Australian lyric soprano, will appear shortly before the listeners of Sydney. She has a fine radio personality. Miss Gressier left for abroad a few years ago to continue her vocal studies in London under Miss Nellie Rowe, and later in America she took lessons from Sergei Klibansky. While in America she attracted the attention of Dame Nellie Melba who made arrangements for a scholarship for Miss Gressier at her own conservatorium in Melbourne, but circumstances compelled her to stay in America. Miss Gressier has met with notable success abroad, giving recitals in London, and in the leading cities of America, appearing in Boston, Chicago, Detroit, and St. Louis. She will appear in a series of recitals through stations 2FC and 2BL, her first being through station 2BL, on August 9.

Virginia Bassetti

MISS VIRGINIA BASSETTI will appear over 2BL on August 11. She has been associated with broadcasting since its inception, and she has received letters from out-of-the-way corners all over Australia and New Zealand. Miss Bassetti has appeared with great success with the Royal Philharmonic Society, the Welsh Choral Society and all the leading Scottish societies. Her most recent appearance was with Harold Williams at the Sydney Town Hall, in "Elijah." Miss Bassetti specialises in classical numbers, oratorio, light ballads, and Lieder.

Stanley Catlett

ONE of the most popular tenors in Sydney is Stanley Catlett, who will be heard through 2BL on August 11. Mr. Catlett has been singing over the air for a number of years; in fact, he was associated with broadcasting before it was actually established in recognised studios, and he had to sing through a telephone instead of a microphone.

The Public Forum

THE Monday midday talks under the heading are given from the studio in Sydney by Rev. V. C. Bell, B.A., a clergyman well and widely known throughout the State. The subjects are always full of human interest, and the aim of all the talks is to make listeners-in feel that life is worth while. Literature, travel, history, economics, psychology, art, and other branches of thought and experience will be called upon to contribute material from week to week.

The weekly lectures will roam over all periods for material. Mr. Bell holds that no one age has a monopoly of the good things, but that there is something of interest and value, if we can find it, in every part of human history. For this reason he has used what we regard as a new word; it is "Chronopolist," or one who claims to be a citizen of all time. This will be the keynote of all his talks.

National Broadcasting Orchestra

OWING to the success of the dinner and luncheon music through stations 2FC and 2BL, the directors of the Australian Broadcasting Company, Limited, have decided to utilise the National Broadcasting Orchestra for the supply of luncheon music between 12 and 1, through 2BL, and 1 and 2 through 2FC. The dinner music sessions are heard through both 2BL and 2FC from 6.15 to nearly 8 o'clock, and the National Broadcasting Orchestra will also provide music for both sessions.

Old-time Dance Night—2FC

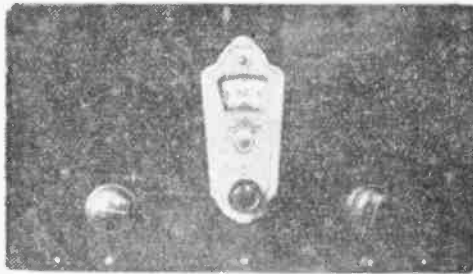
AN old-time dance night is listed for Tuesday, August 27. Listeners who are anxious for any particular old-fashioned waltz or lancers tune they want to have broadcast on that occasion are asked to send in their request items immediately to the Australian Broadcasting Company, Limited, 96-98 Market Street, Sydney.

Well-known Psychologist

FRED ARLINGTON-BURKE, who has been everywhere and seen everything, has chosen "Nature's Laws of Compensation" as the subject for his weekly radio address over 2BL on August 13, from 2.30 to 2.45. He will give geographical peculiarities of flora and fauna.

A SINGLE A.C.

Although designed more particularly for use with the standard high quality amplifier described last week, this unit may be operated as a simple receiver in itself.



The front panel of the unit described.

WITH THE DETECTOR unit about to be described, the amplifier discussed last week may be connected up to form a very effective local broadcast receiver. Though no extravagant claims are to be made, it can be said that the combination of this detector and the three valve amplifier will provide reception limited in musical quality chiefly by the characteristics of the broadcasting station being received.

The circuit is quite straightforward. The chief differences from the usual circuit lie in

this case regeneration is controlled by means of the filament rheostat.

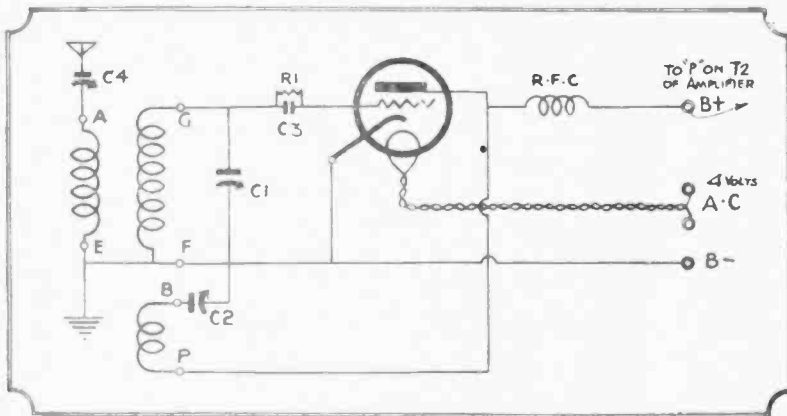
The method that concerns us most at the moment is that of fixed reaction with variable condenser. There are three ways in which the condenser may be used. In this circuit, the moving plates of the reaction condenser (a midget condenser is used) connect to the moving plates of the main tuning condenser, and also to the cathode of the valve. The stator plates are connected to one side of the reaction.

There is nothing intricate about the circuit. As will be seen, the aerial connects to the first turn of the primary coil through a midget condenser. This allows adjustment for selectivity. The two midget condensers actually perform the same adjustment as would be possible by having the primary and reaction coils variable with relation to the secondary. Selectivity is increased by moving the primary further away from the secondary (or turning the plates of the aerial condenser outward) and sensitivity and selectivity are increased by placing the reaction coil nearer the secondary (or enmeshing the plates of the reaction condenser).

The other end of L1 (aerial coil) connects to earth, and thence to the last turn of L2, to the rotor plates of the main tuning condenser, .0005 mfd., to the cathode terminal of the valve socket (of the UY type) and to the rotor plates of the reaction condenser.

The first turn of the secondary (L2) connects to the stator plate of the .0005 condenser, then to one side of the grid leak and condenser. From the other side of the grid leak and condenser, a lead is taken to the grid terminal of the valve socket.

A lead is then taken from the plate terminal of the socket to the last turn of the reaction coil. The other side of the reaction coil then connects to the stator plates of the reaction condenser. An additional lead is taken from the plate of the valve to one side of an R.F. choke, the other terminal of which is carried from the set to the plate of the input transformer (if the amplifier is to



The circuit arrangement of the single valve unit. The parts include: One UY type valve socket and Philips 1331 valve. C1, "Central 50" .0005 mfd. tuning condenser (Advance). C2, C3, two Advantec 20, 200 pfd. mfd. one Radiolux "Reinartz" type coil, one Radiolux radio frequency choke. C4, grid-leak, .0005 mfd. (Sangamo). R1, one megohm grid-leak. Pilot Art vernier dial.

two things. First, in order that the unit may be used in conjunction with the all-electric amplifier, an A.C. valve is used. This does not mean that the detector unit cannot be used with any other type of amplifier. It may be used, if desired, as a straight detector with no audio stages with quite good results.

The next point is that special attention has been paid to the reproduction of the higher notes. It is not generally known that the grid condenser has the effect of limiting the reproduction of the higher frequencies (we refer to audio, not radio frequencies) and it is generally believed that a .00025 grid condenser is suitable for any receiver. This supposition is correct—but because a thing is "suitable" it does not follow that the very best of results are obtainable with it.

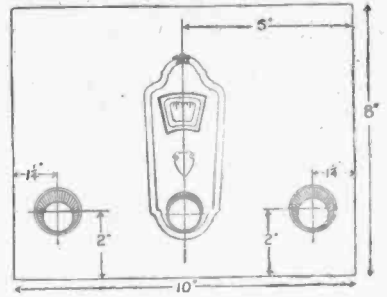
This is only one of the stereotyped ideas that exist. Another is prevalent regarding the method of regeneration. There are quite a number of methods available. Some builders prefer one method, and others plump for another. A lot depends on circumstances, and these include financial resources, space available, vernier required, type of circuit, and other things. There are, for instance, the following principal methods of obtaining regeneration: Use of a tickler coil the coupling of which is made variable by its relation to the secondary, i.e., variable reaction coil; fixed tickler with variable by-pass condenser; fixed reaction coil with variable resistance; fixed reaction coil, and fixed condenser (in



Back panel view of the unit.

DETECTOR UNIT

The circuit is quite straightforward and presents no difficulties for the amateur constructor. As material for a first attempt at radio construction it is ideal.



Showing one possible lay-out for the panel.

be used), or to one of the 'phone terminals if the receiver is to be used without an amplifier. With the amplifier, the B plus terminal of the input transformer is already connected to B plus, but if the receiver is to be used as a single valve receiver, the other terminal of the 'phones will connect to B plus (about 30 volts).

Approximately one yard of insulated osbar (electric light flex may be used) is twisted together as shown in the photograph, and two of the ends are connected to the filament terminals of the valve socket. The other two ends are taken to the filament supply transformer of the amplifier unit, or to a four-volt accumulator if desired.

In a receiver using A.C., particular care must be taken to reduce all possibility of A.C. hum. Grid and plate leads should be kept as short as possible. A good arrangement which allows short leads without cramping, and without spoiling layout, is shown in the photograph.

Holes should be drilled beside each component, and the leads taken to their destination below the baseboard. This not only makes the set look neater, but also keeps all wires away from the fields of components, an important factor in a detector A.C. unit.

In the amplifier described last week, provision is made for the B negative connection, so that no additions or alterations need be made to the unit here described.

If, however, the constructor desires to use the unit as a single valve receiver (this may be done quite efficiently by using a filament transformer to supply four volts A.C. for the filament, and a "B" eliminator or 45 volt "B" battery for plate supply), the B negative connection should be connected to the cathode terminal of the valve socket.

A Radiokes coil (Reinartz type) was used in the original receiver (which only took about two hours to make) but in case any difficulty is experienced in procuring this coil, the following data may prove useful:

On a three-inch diameter former wind 12 turns 26 gauge D.C.C. wire. Space $\frac{1}{4}$ inch

then wind 47 turns of the same wire. Space 1-8 inch, and wind on 35 turns. The first coil is the primary, the next is the secondary, and the last reaction.

The actual construction of the unit presents no problem. The panel should receive first attention. That used in the receiver we are describing was made up with a panel measuring 7 $\frac{1}{2}$ inches by 13 inches, but this can be made much smaller if desired. It is a matter that rests entirely with the constructor, who may desire to mount the unit in a cabinet together with the amplifier and

gramophone, or in a small cabinet as a single valve receiver.

The drilling of the panel is made extremely simple by the template that is supplied with the vernier art dial. The two midget condensers should be mounted on the panel in positions corresponding to those shown on the photograph. Keep these as low as possible, so that the leads may be taken below the baseboard, and also for the sake of appearance. Care should be taken when mounting these midget condensers to see that they are not too low, otherwise they

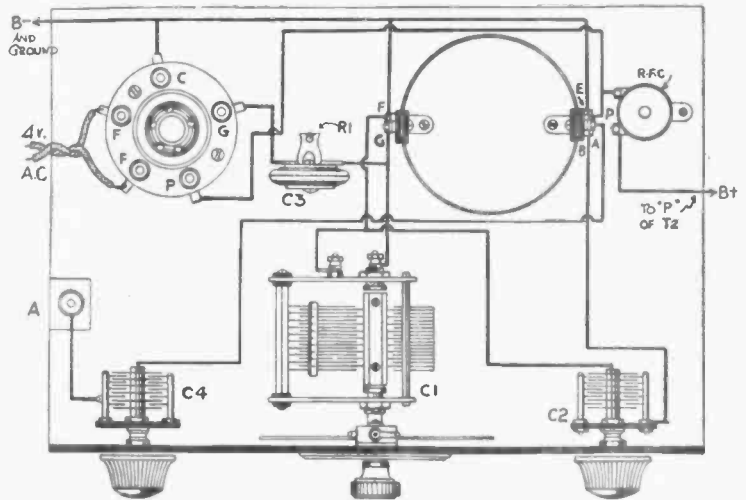
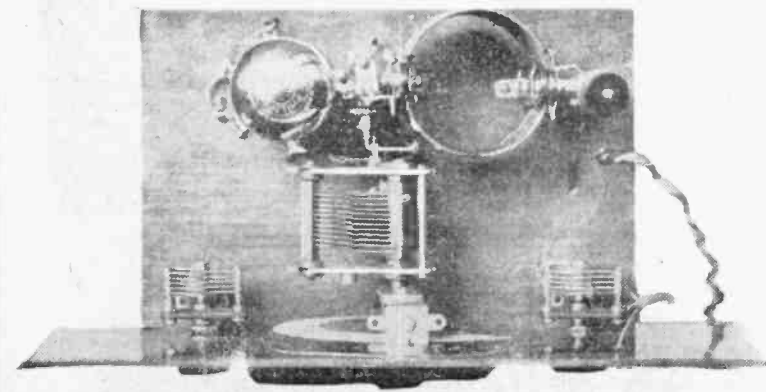


Diagram showing layout of parts and wiring.

will foul the baseboard. If the hole for the condenser spindle is drilled approximately $\frac{2}{3}$ inches from the bottom of the panel, this distance will allow the midget condensers to be mounted at an equal distance from the bottom of the panel, giving just enough room to clear the baseboard without complications.

If the baseboard is $\frac{1}{8}$ inch thick, the mounting holes in the panel should be drilled $\frac{1}{4}$ inch from the bottom (one in the centre, and one at each end, approximately three inches from the sides of the panel). A good guide is provided by the holes made for the condenser spindle of the midget condensers. These were made exactly three inches from the sides of the panel, and in a line almost with the vernier control knob.

The layout is fairly symmetrical. Looking down on the receiver, with the baseboard facing you, the valve socket is placed on the left side of the baseboard, with the grid terminal facing the grid terminal of the coil, and so placed that the grid lead to the vari-



Plan view of the unit.

Artist Marguerite Mahood has sketched some popular broadcasters who appeared at 3LO on the opening night, under the new management. Left to right: Edouard Lambert (first violin), Bertha Jorgenson (violin), Percy Code (orchestra leader), Joy M'Arden (soprano), a large part of the orchestra, William Bossence (baritone).



Melbourne Broadcasting Features

Raymond Lambert at 3LO

THE young Continental pianist, Raymond Lambert, will be giving a short recital from 3LO on August 13. Though Monsieur Lambert has been in Australia a comparatively short time, he has established himself in the front rank of musicians, and has held several successful recitals. He studied his art in Brussels under the world-famous pianist, Arthur De Greef, and made his first public appearance at the age of ten. Though still in his early twenties, he has gone far in his chosen profession.

Famous Women in History

A SERIES of talks, "Famous Women in History," is being given from 3AR by Miss Jessie Webb, who will take for her subject during the Women's Hour on August 16, the Greek poetess, Sappho. This series has been arranged with the idea of giving a brief outline of the lives of famous women, and of keeping listeners in touch with the progress of "the eternal feminine" throughout the ages.

Child Mimic

JUDGE GUNNER, whose child studies have made her a most popular concert artist, will be heard over the air from 3LO on August 13. Possessed of an agreeable, well-trained voice, a sense of comedy, and the gift of mimicry, Miss Gunner has all the qualifications for a radio entertainer.

For Dog Lovers

LISTENERS who are interested in the breeding of Alsatian dogs will learn much from the talk to be given from 3LO on August 15 by Mr. Norman Mitchell, the president of the Canine Control Council. The "Talks About Our Animals" series is proving deservedly popular, and, in view of the fact that the advisability of breeding the Alsatian in Australia has recently been discussed in the press, this talk should be of considerable interest.

Baritone Robusto at 3LO

FREDERIC EARP, whose robust baritone voice lends itself admirably to the folk songs of the West Country, will be on the air from 3LO on August 12, in a programme of early English numbers. For many years Mr. Earp was director of singing at the Teachers' College.

NEW PROGRAMMES You Cannot Afford To Miss

Life's Sterner Side

THOSE who would like to overcome the ills and perplexities of life should pay close attention to the series of talks to be given by Mr. J. A. Gunn, Professor of Psychology at the Melbourne University. The sterner side of life's problems will be treated in a genial vein by the professor.

Popular Freda Northcote

FREDA NORTHCOTE will be singing some dainty little numbers from 3LO during the Children's Hour on August 13. Miss Northcote is one of the most popular broadcasting artists, and has been particularly successful in competitive work, securing many first prizes. Her little pupils will be on the air again at an early date.

Grand Opera Company Contralto

MISS CLAIRE SCOTT, who will shortly make her debut at 3AR, is a contralto with much operatic experience with the Melba Opera Company, being selected to tour with the principal artists throughout Tasmania. Miss Scott studied in England under Madame Marchesi, and, since her return to Australia, has taken part in important musical productions.

The Confidential Two

A TALENTED pair, contralto and piano, aptly styled "The Confidential Two," will be making their debut at 3LO on August 12 in a programme of tuneful vocal and instrumental numbers. Some original compositions will be included in their selections with popular and classical excerpts.

Australian Writers

LOVERS of literature will be interested in the series of talks to be given by Mr. Percival Serle, the well-known authority on Australian writers. In these days of imported literature, we are apt to forget our own gifted writers, many of whom have achieved considerable distinction in the world of letters, and these talks will do much to keep their memory green.

Ern Trotman and His Banjo

LISTENERS should remember to tune in to 3LO on August 13, when Ern Trotman and his banjo will be on the air. This versatile entertainer is known in every corner of Australia, and his original numbers always strike the popular taste. Particularly entertaining is his burlesque of Grand Opera in which he caricatures every type of voice.

The Radio Magician

GUS QUINN, the radio magician, has stepped into immediate popularity with listeners, as, after his first appearance at studio 3LO, a host of congratulatory letters arrived, asking for more. Unlike the majority of magicians, Mr. Quinn does not rely on an extensive stage setting, but depends on his nimble fingers to get his effects. His programme of radio tricks with cards is equally mystifying, and "even at the other end of the ether" he is able to discover what number the listener has written on his slip of paper.

Champion of Champions

HAROLD WEBB, a fine Melbourne baritone, will be heard from 3AR on August 13, in some rousing numbers. Mr. Webb is well known in the musical circles of Melbourne, and has also made many successful tours of Victoria. He has been successful in competitive work, and, a few years ago, gained the coveted title of "Champion of Champions."

Well-known Dramatic Entertainer

KEITH DESMOND will be on the air from 3LO on August 13, in a specially selected programme. Mr. Desmond has won fame on both sides of the Atlantic, and has appeared in London on the same programme with such distinguished artists as Sir Herbert Tree and Sir George Alexander.

Boy and Girl Life

AN interesting talk will be given from 3LO on August 12 by Mr. N. D. Harper, M.A., the well-known lecturer on English history. For his talk Mr. Harper will give outlines of boy and girl life throughout the ages, touching on the educational and home life, and drawing some little word pictures of the world of youth in bygone days.



A Dramatic Discussion on Radio Drama, With Mr. Don Finley, of the Turret Theatre. in which the participants allow themselves complete freedom, although bound down by the harsh wires of Society.

PROGRAMME PERSONALITIES

Time: 8.0 p.m.

Cast: Mr. D. J. (Don) FINLEY and THEY and Us.

Us: X 3462?
THEY: Turret? Yes—X 3462.
Us: Oh; Mr. Finley there, please?
THEY: Yes. Just one moment, please. (Feet in distance. Feet coming nearer. Voices murmuring).

HE: Yes?
Us: Mr. Finley?
HE: Yes. Oh—er. . . yes?
Us: "Wireless Weekly," Mr. Finley.
HE: Oh, yes, of course. Now what can I tell you?

Us: We want an interview, Mr. Finley. We understand you're going to put over a play—er—Danger, or something—very soon, from 2FC. We—ar—

HE: The fourteenth of August, I think.
Us: Fourteen August. We see. Yes. Er—and we understand you are interested in Radio Plays; er—we understand you are going to put over some more?

HE: Yes. I understand we are going to put over some more in the future—a series. Something quite new. You see, we of the Turret stand for the New Drama—the Modern Outlook.

Us: The Modern Outlook?—er.
HE: Yes; we believe the Radio Play—er—demands—ah—a New—er—Technique. That is, a New Medium must be created. Ordinary plays are—well—no good at all over the air—you know that, of course. Er—we shall go in for—er—specially adapted plays, or plays written specially for—

Us: We understand. . . ?
HE: You see, it's better to dramatise Novels or Phantastic stories that appeal to the Imagination than to.

Us: Quite so, Mr. Finley.
HE: You see, on the Stage the Appeal is to the Eye. Er—Radio—that is, with Radio the Appeal is purely to the ear and the Inner Ear of the Imagination.

Us: The Inner Ear of the Imagination. Er—er. Yes. The Inner Ear
HE: Of the Imagination. . . If you see what I mean—

Us (quickly): Oh, yes, Mr. Finley.
HE: What I mean is, the Overtones—
Us: The Overtones?
HE: Yes; the Overtones can never be conveyed across the Footlights.

Us: These Overtones. What are these—er—

HE: The hidden qualities of Drama. They are never brought out on the stage because—er—there's too much to see, you see?

Us: Of course. The Sight destroys the Thought?

HE: Yes. Well, we wish to present a Radio Play of more imagination. Er—I believe that Radio will make possible a Richer Type of Drama.

Us: Now; let's see. Er—is there any such drama available, Mr. Finley?

HE: There's Richard Hughes—he wrote Danger. He makes a more or less crude, or—er—Elemental attempt to express the—er—thought of horror in—er—Darkness. . . .

Us: Horror in Darkness? Er—yes. . . .

HE: Of course; well, it remains to be proved whether we can—can contribute to the Drama of the Air—er—

Us: Er—

HE: Yes, Extemporised. Written or adapted. You see, the Visual Effect is left out. We shall just do these ordinary plays just now; but in the near future we hope to branch out into a newer form. Now—

Us: Shakespeare. Mr. Finley. He's a very imaginative chap. How'd his stuff go over, do you think?

HE: Well, of course, Shakespeare is the most imaginative of all writers. His—er—appeal is always to the imagination—quite of another world. For example, Gordon Craig designed settings for Shakespearean plays—absolutely removed from Realities—just as abstract conception. But—ar—of course, Shakespeare didn't write for the Radio.

Us: No—er—no. Of course not!
HE: If he had, you see, he would have created a new lyrical dramatic form.

Us: Exactly so. Yes, that's right. You know, lyrical stuff ought to go better over the air than anywhere else. We mean, Keats. Some people think it's possible to put Keats over the air. He should go very well—ar—don't you—

HE: That's so. In fact, he should be better. For instance, you can take this as an example. An English family of Poets—the Sitwells—

Us: The Sitwells.

HE: S-I-T-W-E-L-L-S—two brothers and one sister—made an experiment. They gave a programme of Verse Speaking through a Megaphone hidden behind a Curtain. The sound came through a Mask on the Audience's side of the curtain. The verse was delivered shortly and crisply, according to its phrasing; just as music is played. The—er—Idea was to—ar—remove the Speaker from the Speech, if you see what—

Us: Oh, yes, Mr. Finley.

HE: Well, people who were there thought 't was a great improvement on the old elocutionary forms. But you—er—you—you see, you'd need a special audience, if you see—

Us: Oh, absolutely. You mean, an audience which can appreciate good poetry.

HE: Yes. The idea has been exploited in America and in England; but you—ar—you see, it's no good unless there is a constant audience, listening specially for it. I don't think we'll do anything quite like that.

Us: Exactly. Now, Mr.—er—Mr.—ar—Mr. Finley—we mean, Mr. Finley, how about a short Biography?

HE: Oh, yes; Biography. A good study Yes. But what—

Us: No—er—what we mean is; we generally— You see, this is "Wireless Weekly," you see, and we—ar—write up people's Life Stories—you see? Well—

HE: Oh, yes. I've seen "Wireless Weekly." A very good paper. Yes; there's often some very good stuff in it. I've seen it.

Us (sardonically, as befits a journalist): Yeahs!

HE: Well—

Us: Well, what we want is a short biography of D. J. Finley.

HE: Oh, I see. Let me see—the—er—Turret Theatre is the first definite non-professional organisation to have its own Theatre in Sydney—

Us: Yes.

HE: We are here to give the Public what they don't want—no. What they want, but don't know they want—er—the world's best Classical Drama, old and new. For instance, there are two rehearsals going on at this moment; one of "The Passion Flower," by Benavente, a Spaniard, and the "Romantic Young Lady," by another Spaniard, Sierra. These are—

Us: Did you say Damabentey?

HE: Benavente—B-E-N-A-V-E-N-T-E.
Yes. And we've just put on Goldoni's "Mine Hostess." The Turret Theatre was begun last August, and you can say we've produced four new plays, and—ar—Alfred Hill's Opera—ah—"Teora," since April this year.

Us: Yes; but what about you? You see, we want something about—

HE: Well, I direct the business, you see.

Us: Oh! Yes, but—

HE: Of course Gordon Craig is the Prophet of the modern theatre.

Us: Of course. And you are a follower of Gordon Craig? What's he—an Australian?

HE: Oh, no.

Us: What; an American?

HE: Oh, no. An Englishman.

Us: Of course, an Englishman. And when did you first get interested in Gordon Craig?

HE: About six years ago.

Us: And you've followed him ever since?

HE: Yes—

Us: But look; we understand you are—ar—something of an expert in Theatrical scenery, Mr. Finley—

HE: Why, of course. I mean, you see—that's my main interest. Now, do you think you've got enough to write about?

Us: Have you any other hobbies, Mr. Finley?

HE (reproachfully): The theatre is my only hobby.

Us: Yes; that ought to be enough, Mr. Finley. Thanks very much—

HE: Oh, quite all right. Yes. Well—

Us: Well, yes, Mr. Finley. Thanks very much, Mr. Finley. Sorry to have bored you so long, Mr. Finley. Good-bye.

Wireless Weekly

Incorporating "Radio In Australia and New Zealand."

FRIDAY, AUGUST 9, 1929.

MUSICAL APPRECIATION

RADIO is bringing about an increased study of instrumental and vocal music throughout the country. The best of our artists, performing frequently over the air, are inspiring many listeners to develop their own musical talents.

Evidence of this is assembled from correspondence received from listeners-in. All kinds of requests for musical advice are made—where can particulars of musical scholarship be obtained, where to find a good oboe instructor, can one learn musical notation by mail, how to decide whether one is a soprano or a contralto, whether or not an English horn can be played by a girl.

The better-known performers appearing at the broadcasting stations whose profession it is to give musical instruction find that many of their pupils were directed to them as a result of listening-in. Invariably also a microphone performance of a famous musician, such as Brailowsky, will enthrall hundreds of people with the desire to play. Others, already fairly adept at playing an instrument, listen to the interpretations given by artists over the air, and practise the compositions accordingly.

Sudden waves of musical interest are often observed after the visits of famous musicians, but seldom outside those circles which attend the Town Hall concerts. The influence of broadcasting, far wider and more permanent than this, reaches people who may possibly be unaware of the existence of visiting musicians.

It is in this direction that broadcasting exercises its greatest value as an educational medium. Without a doubt the next generation will have a much more intimate knowledge of music, not only because they are hearing more, but because many are studying it themselves. This will not necessarily result in a greater number of professional artists to glut the musical market, but it does mean that there will be a deeper appreciation of the art, since personal study cannot help but make for greater understanding.

Here lies the true educational work of broadcasting. Organised properly, it can become both entertainment for some and instruction for others. Beside this influence, its use as an educational medium in other directions falls into insignificance.

A. B. C. EDUCATIONAL POLICY

IN discussing the policy of The Australian Broadcasting Company with regard to its educational activities, Mr. Stuart F. Doyle, on behalf of the directors of the new company, said recently that whether it be for good or for evil, wireless is, and must increasingly become, a great factor in influencing the minds of the people. So long as they listen in they will be, to a more or less extent, led by the power of speech and music and song.

Music becomes popular by its continual rendition. Its devotees increase in number because of its repetition, and so it is with every class of broadcast entertainment, recreation, and education. It is the policy of The Australian Broadcasting Company, therefore, to exercise the greatest care in selecting the programmes. It must remember at all times that the National Broadcasting Services will be a powerful influence, not only in spreading propaganda throughout the land and in stimulating a revival of musical appreciation, but in opening up for the public avenues of education and recreation hitherto undreamed of.

The vast majority of listeners requires only music and entertainment; but there is an ever-increasing minority which depends upon wireless broadcasting for church services and educational talks and lectures. This minority will be adequately catered for, and services will be extended with a view to increasing the educational appeal of radio.

Lovers of dance and popular music need not fear, however, that their needs will be curtailed in the new era of broadcasting. As a matter of fact, the increased transmit-

ting times of the stations will enable the broadcasting of more music of every class, and the dovetailing of the services will provide listeners with alternate programmes.

"It is the policy of The Australian Broadcasting Company," concluded Mr. Doyle, "to bring Australia into line with England, Canada, and the United States of America, in which countries extensive use is made of radio for educational purposes, and by co-operating with the Federal and State Governments and universities to re-organise the educational sections of The National Broadcasting Services, having regard at all times to the requirements of every section of the community."

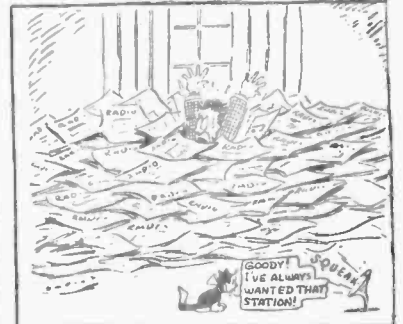
Oscar Lind

MR. OSCAR LIND, who speaks every Wednesday and Friday from 10.30 till 10.45 from 2FC on general sporting, and sporting personalities, is one of the most versatile and capable sporting men in Sydney. For six years he was sporting editor of the "Daily Telegraph" (Sydney), and has contributed articles on all varieties of sport to almost every sporting paper in Sydney. Mr. Lind is recognised as an expert in all forms of boating, having been associated for some years with yachts, open boats, and steam boats. He was a member of the crew of the "Amy" when she won the famous inter-State championship. He has played the four games of football, starting off as a schoolboy Australian Rules player, and finishing as a leader in soccer football, and also being an exponent of Rugby Union and Rugby League. He has acted as manager to Speedway racing, and the publicity expert to cycle racing on the Velodrome. There is scarcely a branch of sport that Mr. Lind has not at one time or other been associated with.

BUYING THE NEW SET



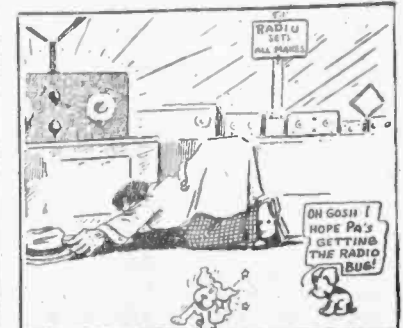
All He Hears When On the Market For a New Set.



He Sent For A Few Radio Catalogues!



Being Unable to Decide On What Set to Buy— He Picks One This Way.



He Meets THE SET.

THE SAFETY VALVE



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

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

Same Artists at Both Stations

Dear Sir,—Probably it is a little early to criticise programmes submitted by the new broadcasting company, although so far, in my opinion, the improvement, if any, is not noticeable. There is, however, one thing that has been introduced against which all listeners should strongly protest, and that is, substituting artists at both stations on the same evening from 8 p.m. onward. On the 24th inst. nine artists did a turn at 2FC and 2BL; on the 25th inst. twelve; on the 26th inst. ten; and, according to your published programmes, the same thing applies next week. Sunday there is a relay from 3LO— one programme for two stations.

The public wants variety, and if the Australian Broadcasting Company cannot afford to engage sufficient artists for two stations, let them hand over the other to another company. This policy of cheapness is no good to the public. Bad as some of the programmes given by the old company were, they did not "put over" this stunt. One is inclined to think the P.M.G. did not intend that programmes should be given in this manner, and it would appear that the Australian Broadcasting Company have put one over him.

If a continuance of this policy is to be allowed, why have two A class stations? Thank goodness, we still have good B class stations to fall back upon, although, unfortunately, they do not derive any revenue from licence fees. In passing, I sincerely hope we shall not be inflicted too much with the State organ, the tone of which leaves EVERYTHING to be desired.

Yours etc.,
Hurstville CHAS. F. GERARD.

Site of 2BL

Dear Sir,—May I be permitted to congratulate the Australian Broadcasting Company on their improvement in the programmes, and may I offer a suggestion which will greatly please all listeners in the neighborhood of 2BL (if carried out); that is, to remove the transmitting station of 2BL farther afield? I would suggest the heights of Casula, on the old A.I.F. camp site. People in Randwick, Clovelly, and Maroubra would then be encouraged to spend a few more pounds on radio. Someone will say, "get a selective receiver." Yes, that's all right, if you have plenty of money; but what about crystal set owners—as nothing under a four or five-valver will cut them out?

Yours etc.,
Maroubra. SIXTH LICENCE.

Blank Programmes

Dear Sir,—Allow me to protest against the new A.B.C. published programmes.

What care we for the names of these wonderful artists! It is what they sing and play and say we are after. The new company must be bereft to think we are going to listen to ONE station the whole evening on chance. Unless I get DETAILED programmes, I shall sell my set and discontinue my licence, and thousands of others would do the same. I am a little bit afraid we are going to over-theatreise! WAKE THEM UP!

Yours etc.,
Boondall, Qld. J. F. CLARK.

Carry on Old-time Nights

Dear Sir,—In your issue of 12/7/29, I read with interest a letter signed "Old-Timer, Tarana. Unfortunately, I was away, and not able to listen to the last dance, and therefore did not hear station 3LO announce on the night of 24/6/29 that it would probably be their last old-time night. I am a lover of jazz music, but always look forward to the old-time dance music so ably supplied by Hoffman's Dance Band.

I would like to beg of our new broadcasting company to carry on an old-time night from 3LO once a month. There would be a lot of disappointment from the general listeners-in if this so much enjoyed and looked for night were cut out.

Hoping to be able to read other readers opinions on this subject, also wishing that "Old-Timer's" wish comes true.

Yours etc.,
A. H. GROSSER.

Curlewis.

Dear Sir,—In common with "Old Timer," writing in the last issue, it was with a sigh of regret that I also heard the announcer from 3LO say that possibly that would be their last old-time night.

If unfortunately this should be, then I venture to say that it will be more than a knock-back, it will be "knock-out" to thousands of listeners-in in the Commonwealth, as the monthly old-time programme from 3LO, together with the popular M.C. Hoffman's Dance Band, and girls and boys of the village was in itself worth the licence fee.

What about it, "old-time friends"? Insist upon the privilege of our regular monthly treats as of yore.—Yours, etc.,

Maroubra. J.F.

We Pay for Service

Dear Sir,—I agree with "Country Listener," we pay for service. Why has the early morning and midday and late news session been cut out from 2FC. When those living in the country and near Pennant Hills have to depend on 2FC for their news items, could not some of those brain-racking violin solos be cut out for the news session?

Yours etc.,
A LISTENER-IN

Wahroonga.

Market Reports

Dear Sir,—I wish to voice my keen disappointment at the deletion of Dalgety's market reports (wool, wheat, and stock) from the new programmes. This was a distinct boon to the man on the land, and enabled him to keep his finger on the pulse of values of commodities from which he gets his living, early knowledge of which could easily involve a gain or loss of many pounds. The other market reports do not meet the needs of the pastoralist and wheat farmer. The new management caters largely for the city and suburban folk, almost to the exclusion of the class I refer to, a class whom politicians at times designate as the backbone of the country.

Yours etc.,
Alectown. WM. EDWARDS.

News Services

Dear Sir,—I heartily support "Country Listener," from Toorooka (W.W., 26/7/29), in his request for the "Herald" summary from 2FC at 7.5 a.m., and also Mr. Conlon's No. 10 point, i.e., "A complete and adequate news service, issued at exact periods daily, including Sundays and holidays."

As I stated in my previous letter, 2BL is the best station about here for daylight reception. From this station we now get no news till 1 p.m., and to-day that session was from 1.3 to 1.10 p.m.—just seven minutes. The programme in WIRELESS WEEKLY says 7.20 p.m. late news. To-night at 7.16 market reports commenced and continued till 7.30, when music came on. So to-day from 2BL, though I tuned in at published times, I received seven minutes' news.

Surely city listeners would not begrudge us the news they so easily get, and I hope they and the new company will read carefully your article, "Reduction in Country Services," and after studying same give us back the old 2BL time-table from 8.15 a.m. to 8.48 a.m., and 6.30 p.m.

I would also like to join the "Old-Timers" in requesting that the old-time dance nights from 3LO be continued. I believe they were among the most popular of all night entertainments, and Hoffman's Dance Band one of the best that broadcast.

Yours etc.,
Bodalla. COUNTRY LISTENER.

Bombay and Japan on One Valve

Dear Sir,—During the past couple of years the two and three valve hams have been showing us how to pull in the stations. Now let the one valvers have a say. I have an extraordinary one-valve receiver, and the following are the stations heard:—2FC, 2BL, 3LO, and 3AR in the middle of the day; and these are heard in the night time without an aerial on headphones or with an aerial on the speaker. The following stations are also heard at good headphone strength:—7ZL, 3UZ, 5CL, 2GB, 4QG, 7BY (Bombay), JOAK (Japan).

Normally 18 volts are used on the plate of a UX199 valve, but on test only one volt was sufficient for the headphones. Parkes is approximately 200 miles from Sydney, and 300 miles by air-line from Melbourne. Come on, you one valvers, see if you can do better.—Parkes. RADIO ACE.

No "Desert Song"

Dear Sir,—Last night (20/7/29) 2BL were to broadcast the production of "The Desert Song." Quite a lot of publicity was given to this project, and numbers of people like myself were looking forward to a night's enjoyment. At the conclusion of the first act Mr. E. J. Tait said a few words to the listeners-in, and also remarked that "The Desert Song" would be given in its entirety for the last time. However, at the conclusion of his speech items were given from the studio, until the time of closing down. Many people were disappointed, more especially so when they had to listen to the class of "entertainment" from the studio. What was 2BL's idea of disappointing the public on the second-last night under the old regime? It certainly was not like 2BL at all.

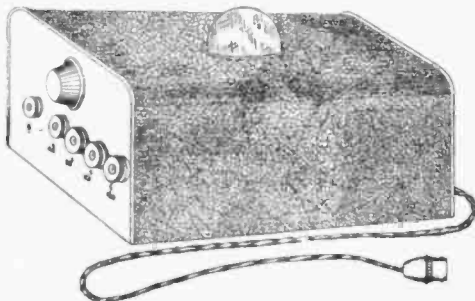
Yours etc.,
Albion Park. DISAPPOINTED.

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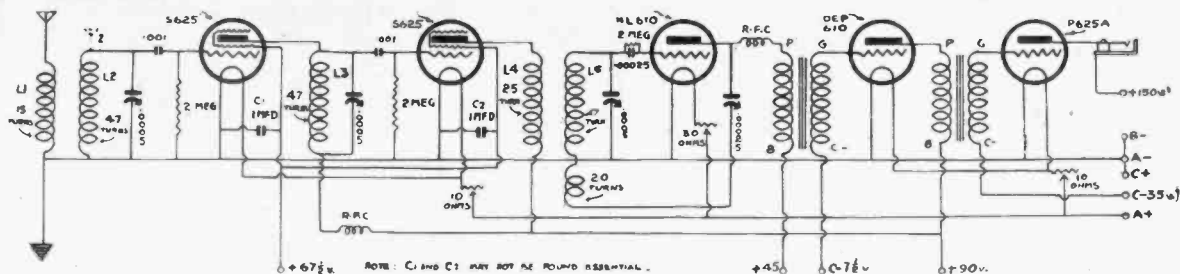
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'Phone, New. 1622.

PARRAMATTA
Corner Church
and
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ADDING A SECOND STAGE OF SCREEN-GRID R.F. AMPLIFICATION TO THE MARCO

From correspondence received, it would appear that many owners of "Marco" receivers are anxious to install a second stage of screen grid radio frequency amplification in order to obtain greater selectivity and improved sensitivity. We present details of one "Marco" type receiver remodeled successfully in this manner:---

By E. R. PARK.

THE set described in the following article, when correctly adjusted, gives a high degree of selectivity, clarity, and considerable volume from stations in other States.

It is to be emphasised this is no freak receiver. Other similar receivers have been built which perform as well as the set concerning which detail is given. For normal results the set must be properly shielded and I do not recommend makeshifts. Unfortunately many experimenters will persist in changing things around and dispensing with shielding. Then they will wonder why they do not get results hoped for.

I do not propose to go into any technical detail in this article, but would like readers to take particular notice that complete screening is necessary if the maximum efficiency is to be obtained. Without it, high amplification with stability will be impossible.

On looking at circuit diagram you will notice that A— is connected to B—; this facilitates the use of the Stedipower Unit and a B and C Eliminator giving a hum-free All Electric set using ordinary D.C. valves.

The valves used in this circuit are, radio frequency—two Osram S625; detector—Osram HL610; first audio—Osram DEP610; last audio—Osram Power Valve P625A. This combination works splendidly, and gives high amplification in all stages. Of course, these may be substituted by valves of other makes, providing suitable types are used in each case.

The coils used are those of the "Marco Four" kit with an extra coil of 47 turns wound on a three-inch bakelite former with 62 SWG double silk cov-

ered wire. If any experimenters desire to build the whole kit of coils, full detail is here given.

All coils are wound on 3-inch diletto tubing with 26 SWG double silk covered wire. The first coil, L1, comprises an untuned primary of 15 turns, the grid coil L2 is of 47 turns wound in the same direction spaced 1/4-inch away from the primary. The length of tubing for this coil is 2 1/2 inches. Coil L3 is 47 turns wound on 1 1/2 inches of bakelite. Coil L4 is 25 turns wound on 1 1/2 inch bakelite. Coil L5 is a coil of 67 turns wound in the same direction with a tap at the first 20 turns. The length of bakelite required for this will be 2 1/2 inches long. These coils must be mounted at least 1 1/2 inches from shield for best results.

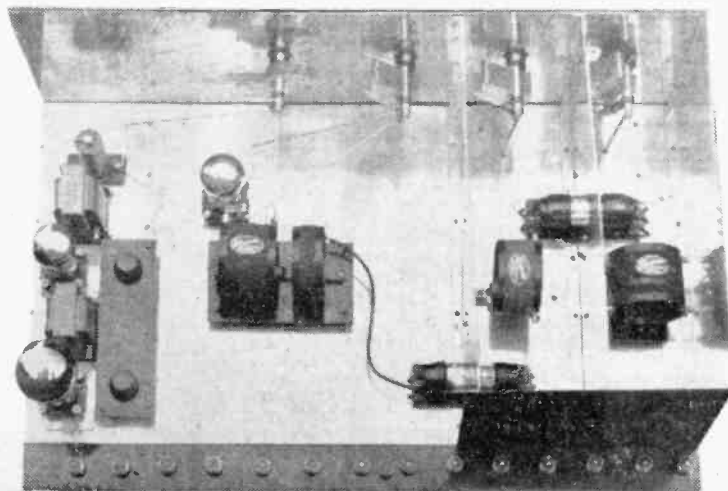
Any reliable condenser may be used for tuning, but Formo have been used in this particular set. This condenser does not take up much space in the set, and, furthermore, it may be mounted on the panel without the

rotor plates making contact with it. This I find to be a point which means a great deal in this circuit. I have found in shielding that it is best not to run the rotor plate wires or negative leads to the shield direct but to a point on the shield as near as possible to earth.

The aluminium for shields may be purchased at John Danks and Son, Pitt Street, and the cutting, bending, etc., may be done by A. Bennett, Sheet Metal Worker, 12 Cunningham Street, off 429 Pitt Street. This will give you quite a "professional" looking job which could not be duplicated without special facilities.

To mount condensers

- This is the list of parts required:—
- 1 Dilecto panel, 2 1/4 in. x 10 1/2 in.
 - 3 pcs. aluminium, 1 1/2 in. x 8 3/4 in.
 - 1 piece aluminium, 2 1/2 in. x 10 1/2 in.
 - 1 piece aluminium, 2 3/4 in. x 1 1/2 in.
 - 1/4 sub-panel brackets.
 - 3 Formo De Luxe condensers .0005.
 - 1 Formo De Luxe condenser .00025.
 - 3 Pilot Art Dials.
 - 2 10-ohm rheostats.
 - 1 30-ohm rheostat.
 - 2 S625 valves.
 - 1 HL610 valve.
 - 1 DEP610 valve.
 - 1 P625A valve.
 - 5 valve brackets.
 - 2 transformers (any good make).
 - 2 .001 condensers fixed.
 - 1 .00025 condensers fixed
 - 2 2-meg. leaks.
 - 2 chokes. Leuco.
 - 1 single circuit jack.



NEW PROGRAMME FEATURES

and rheostats it is necessary to cut a fairly large hole in shield and mount a square of bakelite behind it. Alternatively, a bakelite panel may be used in front of the shield. The size of set described is fairly large, the panel being 24in. x 10in.; the sub-panel, 23in. x 15in.; and the shields 14½in. x 8in.

Just a few words in conclusion re batteries, valves, and tuning. The B batteries voltages for best results are as follows:—First two plates 100 volts, screen grid of first two valves 67½ volts, detector, either 22½ or 45 volts. First audio 90, last audio 160 volts. In the audio stages make sure you are using the right grid bias.

A Philips B and C. Eliminator will work quite satisfactorily on the B side, giving all the desired voltages. Nearly every type of valve has been tried in this receiver and many types will work quite satisfactorily. Trouble possibly will be avoided if valves with characteristics as near as possible to valves specified are used.

In tuning this receiver you will find the dial readings are nearly all the same when all circuits are in resonance on the station desired. The tuning is rather fine, but high selectivity is obtained. On the circuit diagram an aerial marked No. 2 is drawn on L2. This may be used when local stations are off the air, for long-distance reception of broadcasters and amateurs from other States, many of which are picked up on this receiver on Sunday nights.

The Old Order Changeth

AT 3LO, nowadays, upon entering the busy Studio offices, one hears the programme managers being addressed as "Doctor" or "Professor," and so on, instead of plain "Mister." Professor Bernard Heinze is a busy man these days directing the musical destinies of broadcasting, and so is Dr. Loftus Hills in his position as Lectures Director, whilst W. G. James is revelling in conducting auditions from the thousands of budding broadcasting artists, and Percy Code is licking into shape the National Broadcasting Orchestra, from which great things are expected.

Children's Hour Entertainers

NICHOLLS and Mack, two newcomers to the broadcasting world, have been engaged for the Children's Hour at the new 3LO Studio, where they will introduce some delightful musical novelties to amuse their young listeners. Both are very versatile artists and with guitar and one-string fiddle can imitate practically every known instrument. And this is by no means all, for one of the duo is a master in the art of mimicry, especially when it comes to domestic animals and he is so true to life that listeners will be forgiven if they think the office cat has been suddenly called upon to give a turn.

Will Prior's Broadcasting Ensemble

MR. WILL PRIOR, conductor of the State Theatre Orchestra, will arrange a number of Sunday evening concerts to be relayed to 3AR, Melbourne. Mr. Prior has formed an ensemble of artists from the personnel of the State Theatre Orchestra. All of them are soloists of the highest order, Messrs. Lionel Lawson (violinist), Bryce Carter ('cellist), Harry Whyte (pianist), Sam Barbielci (saxophonist), and the original Tom Katz Band Leader are names that are sufficient to assure listeners all over Australia of the quality of the programmes to be offered. Orchestral items will be featured as well as solos by the various members of the ensemble. There will also be a string quartet, chamber music, organ solos by the State Theatre's organist, Mr. Price Dunlavy, and vocal numbers by well-known Sydney artists. Mr. Prior stresses the fact that popular numbers of the more melodious type will be included whenever possible in the programme without lowering the standard which Mr. Prior hopes to set.

Frazer Coss

FRAZER COSS, the well-known baritone, who will broadcast from station 2BL on August 9, is not unknown to listeners, as he has done a considerable amount of radio work in the last couple of years. He is a young University student, and holds the degree of B.A. He is now completing a law course, and hopes to be through next year when he intends acting on the advice of Browning Mummery, who told him to go abroad and complete his vocal studies. Mr. Coss found himself in a very unenviable position one Sunday night when broadcasting from 2FC. An episcopal gentleman had just finished giving a twenty-minute address, and Mr. Coss was appearing immediately after him. His choice of song was "It Is Enough," from Elijah.

Mr. G. E. Smith, one of Amplion's country sales representatives, well known to Astor dealers in the north and north-west.



The Spanish Serenaders

THE Spanish Serenaders, who will appear on 2BL's programme on August 5, are three very clever instrumentalists, well known to 2FC listeners as "Sid and Molly Owen." They were with the "Bandoliers" in London, a troupe of mandolinists and guitarists, and travelled all over England and the Continent with them playing before the Kaiser at Leipzig (Germany) in 1907. Sid Owen, the leader of the Serenaders, ran the string quartet for "Broken Wings," at the Palace Theatre, for J. C. Williamson, not long ago.

Interesting Woman Speaker

ROSE ANTILL DE WARREN, a Sydney journalist, is giving a series of talks over 2BL every Tuesday from 1.15 to 1.30. The title of her talk for August 13 is "The Delights of New Zealand," where the speaker has spent many happy holidays.

Well-known Radio Lecturer

ONE of the best known radio lecturers is Mr. C. Price Conigrave, who speaks from 2BL every Monday in the "Magic Carpet" travelogues. He has something interesting to say to all his hearers. On August 12 he will speak on "Canoes and Pots in Papua," detailing some of his experiences there when afloat a few months ago with the Lakatoo Fleet.

Popular Major's Talks

MAJOR SANDFORD-MORGAN is one of the contributors to the "Magic Carpet" series of travel talks from 2BL. He is one of the most widely travelled men in Australia. On August 9 he will transport his hearers to Nineveh, and will speak on "Mosul and the Tomb of Jonah."

J. Knight Barnett

MR. JACK BARNETT, the deputy-organist at the Capitol Theatre, likes oranges for breakfast. His hobby is ping-pong.

Rev. A. E. Walker, Newtown Methodist Mission

REV. A. E. WALKER, of the Newtown Methodist Mission, whose church service was broadcast through 2BL on Sunday, August 4, at 11 a.m., is probably one of the best-known ministers in the Methodist Church. For many years he served as Convocational Minister for the Methodist Conference. He had no particular church, but was sent to conduct missions through the State. He was subsequently appointed to the South Sydney Methodist Mission and to the City of Grafton. During the present term of six years at Newtown, the Methodist Mission has been established there, and it has now become one of the most important missions of the State. Mr. Walker was the Convenor of the Methodist Church Evangelisation Committee, and is also a representative of the Methodist Conferences of the Council of Churches.

Rev. W. J. Grant

REV. W. J. GRANT, of the Randwick Presbyterian Church, will often be broadcast from Station 2BL under the new broadcasting company. An honors graduate of Sydney University, he has been associated with the leading Presbyterian Churches in the State. He has been assistant to the Rev. John Ferguson at St. Stephen's Church, Philip Street, and been Classical Master and Chaplain at Scots College. He took charge of the Randwick church in 1922. Mr. Grant is a member of the Council of Churches, Councillor of the Presbyterian Ladies' College, Croydon, and of the Father and Son Welfare Movement.

The National Broadcasting Orchestra

THE personnel of the new National Broadcasting Orchestra for 3LO has been announced by Mr. Stuart F. Doyle on behalf of the directors of the Australian Broadcasting Company, as follows:—Director-general of music, Prof. Bernard Heinze; director, William G. James; conductor, Percy Code; leader violin, Edouard Lambert; first violin, Bertha Jorgensen; pianist, Cecil Fraser; second violins, Gullford Bishop and Alfred Ackland; viola, Dorothy Roxburgh; cello, Tasma Tiernan; bass, G. C. Fraillon; flute, J. Barille; oboe, Mignon Weston; clarinet, A. Anderson; trumpets, J. Geary, Walter Smith; trombone, J. Shackles; horn, L. J. Davis.

An Irish Night

FEW musical numbers have a wider appeal than Irish melodies, and the programme arranged by 3LO on August 13 should prove most popular. "An Irish Overture" will be played by the National Broadcasting Orchestra, and "The A.B.C. Glee-singers," with solos, quartettes, and concerted numbers, will contribute "A Night of Irish Melodies, with song and story."

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RADIO PROFICIENCY

We often hear of Primary Cells and Secondary Cells. Their peculiarities are discussed in this, the fourth article, and we enlarge on our "Proving Radio" notes in connection with the action of electrons in cells. We discuss electrolyte, cells in series, in parallel, and other matters of immediate importance.

THE existence of an electric current in any circuit means that energy in some form is being liberated at the generating source, and the continuance of this current necessitates the continuous expenditure of energy.

In the case of a dynamo driven by steam engine, the source of supply is the coal, and the place where the energy is liberated is the furnace. Coal liberates its energy in heat, and this turns the water into steam, the latter propelling a generator which causes to move electrons, a flow of which constitutes a flow of electricity.

The coal is consumed in the process, and the quantity of energy obtainable is thus limited by the amount of fuel consumed.

In the case of an ordinary voltaic cell, the conversion of the energy of supply into electrical energy is a much simpler and less wasteful process, though the material which acts as the source of supply (in other words, the fuel), is far more expensive.

In most cells the fuel consists of zinc and acid, which are consumed, but which, instead of giving out their energy in the form of heat, give it out directly in the form of current.

A cell is in reality nothing more than a little furnace in which zinc, instead of coal, is used as fuel.

There are two types of cells. All cells come under one of these headings. Primary cells consist of three essential constituents for the production of an E.M.F., and these are a positive plate, a negative plate, and an exciting liquor (or electrolyte).

According to the nature of the plates and the electrolyte, a certain P.D. is set up between the plates in a manner discussed previously. When the circuit of the cell is closed, the chemical energy stored up in the primary cell is converted into electrical energy.

In the primary cell, the action which takes place is as follows: The negative plate (generally zinc) dissolves gradually under the action of the electrolyte. This liberates hydrogen.

The positive plate, usually copper, but sometimes carbon or platinum, remains unaffected, and a film of hydrogen gas bubbles from the negative plate accumulates over the positive plate. This process is called polarisation. Depolarisation is the method whereby the hydrogen is stopped from settling on the positive plate, since it stops the action of the electrolyte by insulating the plate from it. As discussed in "Proving Radio" the chemical used to depolarise is called a depolariser, and this is used to absorb the hydrogen.

The negative plate (called negative because it has a superfluity of electrons), allows some of these electrons to flow when the circuit is closed. A flow of electricity then takes place from the negative to the positive pole.

The voltage obtainable from the cell depends entirely on the number of elements used in the cell, i.e., the number of negative and positive plates, the substance used for the plates, and the electrolyte. If only one set of plates is used, i.e., one positive and one negative, the approximate voltage will be 1.5.

The size of the electrodes and the size of the cell have no effect on the voltage, but the larger these are, the greater will be the amperage or capacity of the cell.

A diluted solution of sulphuric acid in water or a saturated solution of sal-ammoniac is commonly used as electrolyte.

Each cell has a certain resistance, termed "internal resistance." This latter is dependent upon the area of the plates immersed, their distance apart, and the specific resistance of the electrolyte. The larger the plates and the closer they are, the less is the internal resistance.

For all ordinary calculations, the resistance of a cell may be taken as 2 ohms. An external resistance is one used outside the cell. The advantage of a large cell is not the value of its E.M.F., but in its smaller resistance, owing to the area of surface contact; also it contains more energy, is capable of producing greater current, and lasts longer without recharging.

When cells are connected in series, the total E.M.F. is equal to the sum of the separate E.M.F.'s, i.e., three cells each 1.5 volts connected in series, would have a total E.M.F. of 4.5 volts; and the total resistance of each cell is the sum of their separate resistances. (See Ohm's Law, "Proving Radio.")

When a number of cells are placed in parallel, i.e., all positives to one terminal, and all negatives to another, their total E.M.F. is that of one cell, and their total resistances that of one cell divided by the number of cells (assuming each cell to have the same resistance and E.M.F.).

When cells are placed in series, the amperage is equal to that of one cell, but in parallel the amperage is equal to that of one cell multiplied by the number of cells. Ohm's Law will explain these dissimilarities perfectly.

The other type of cell is known as the secondary cell or accumulator. This is an arrangement from which an electric current may be drawn for a certain time, like a primary cell. (Note here that a single cell is termed "a cell," and NOT a battery. A number of cells in series or parallel constitute a battery.)

Unlike the primary cell, the secondary cell may be recharged by means of an electric current. In the primary cell, it is necessary to renew the elements and electrolyte.

An accumulator does not actually store electricity. Many make the mistake of thinking it does. That this is not so should be obvious to the student who has thoroughly grasped the Atomic Theory discussed in "Proving Radio." We learnt that an electrical flow does not take place unless there is a movement of electrons from the negative to the positive pole. If the accumulator circuit is open, there will be no flow of electricity from the negative to positive pole. It is, however, quite correct to say that an accumulator stores energy. Remember that electricity can neither be generated nor destroyed.

When an accumulator is being charged, the electrical energy imparted to it causes a chemical change in the cell. Then, when the cell discharges, that is, when an external circuit is completed through which the current can be forced by the E.M.F. of the cell, a further chemical change takes place and electrical energy is produced until the chemical condition of the original uncharged cell is again reached.

After an accumulator has been charged, the approximate voltage is 2.2, but this

quickly falls to about 2 volts, and while in use the voltage is very constant. This means that a curve showing the life and voltage of an accumulator, before recharging is necessary, would be very straight. This would show that approximately 2 volts would be available nearly all the time. Near the end of its life, the voltage suddenly drops. A radio set may be functioning perfectly one moment, and half an hour later will give absolutely no results because the "A" battery is flat. The dry cell is different, in that its curve has a gradual slope. The voltage gradually drops all the time the cell is in use.

The capacity of accumulators is usually reckoned by the "Ampere-Hour." This term, which was recently discussed, signifies that an accumulator having a capacity of 80 ampere hours would be capable of supplying one ampere for 80 hours, or half an ampere for 160 hours, or quarter ampere for 320 hours.

Now, it is a peculiar fact that chemical action inside the accumulator is going on all the time the cell is not in use, as well as the time it is in use. This is due mainly to the fact that the electrolyte is a conductor to a certain extent. Owing to this fact, a fully charged accumulator will lose its charge if left idle for any appreciable length of time.

Chemical action also takes place in another manner. When we say an accumulator has a capacity of 80 ampere hours, this term is only an approximate calculation. If the accumulator is used intermittently the total use of the accumulator for one period of charging will exceed 80 hours at one ampere consumption, and may give 90 hours' service. We term this "90 hour intermittent amp.-hour" capacity.

On the other hand, if the battery was used for 80 hours straight off, it would be flat before the 80th hour was reached, in fact probably only 75 hours' service would be available. We call this "75 amp.-hour actual" capacity. Thus accumulators are usually rated at an actual ampere-hour capacity and an intermittent ampere-hour capacity.

The plates of the accumulator are manufactured in the following manner: Spongy lead or lead peroxide in the form of a prepared paste is pressed into the interstices of a special grid (a kind of honeycombed frame). The positive and negative plates are arranged alternately, each group being connected at the top by lugs into a lead bar. The negative group contains one more plate than the positive group (except in two-plate cells). The plates are kept close together in order to ensure small internal resistance, and are kept apart by separators of wood, glass, celluloid, etc.

Distilled water should always be used with the sulphuric acid. If pure water is not available, rain-water or melted artificial ice can be used. Sulphuric acid in a fully charged cell should have a specific gravity of 1.22 (sometimes written 1.220), which means that the sulphuric acid should be 1.22 heavier than an equal bulk of water.

A frequent question given A.O.P.C. aspirants is "How can you tell when an accumulator requires charging?" This, and other allied subjects, will be discussed next week.



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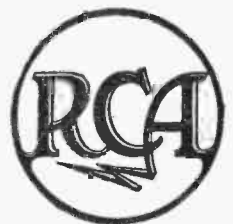


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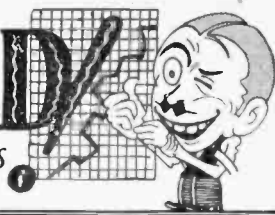


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Loud Speaker Developments

On listening to the reproduction provided by a moving-coil speaker and a good amplifier one is tempted to think of it as being highly realistic and capable of little improvement. One has only to listen for an hour or so to the reproduction of, say, a group of orchestral records and it is then possible to sit back and visualise satisfactorily the orchestra itself in the room. Of course, in making this possible our ears are just fooling us, since even the best reproduction is far from being truly realistic.

On one occasion the writer had the opportunity of listening to some records made by the Philadelphia Symphony Orchestra on a very splendid amplifier and speaker immediately prior to attending a recital by the same orchestra "in person." The tremendous contrast between the reproduction and the real thing was enough to dampen his enthusiasm over the modern amplifier and speaker for a period of many weeks. The point is, that though we may be permitted to delight in good reproduction as we know it, and sing songs of praise about it, we must realise that technically we are still very far from the ideal. Speaking of the speaker itself, it takes nothing more than a glance at the frequency characteristics of a modern moving-coil instrument (as printed recently on this page) to convince one of the seriousness of its weaknesses.

All of which is a prelude to the statement that the experimenter might well add to his active interest in the moving-coil speaker a study of recent development work with speakers of other types.

There is, for instance, the electrostatic speaker—a type with which considerable progress has been made in Germany and the United States. The German "Vogt" speaker, named after Herr Vogt (one of three experimenters interested in the development) is now well advanced, and it would appear that the instrument is destined to be commercially successful. The original speaker of this type consisted of a single thick metal plate about 15 inches in diameter, and honeycombed with holes. Supported slightly away from one surface of this plate, and insulated from it was a diaphragm of thin metal foil of the same diameter as the plate. In operation the plate and the diaphragm were kept at a potential difference of about 600 volts by a supply of con-

stance voltage, while the signal voltages were applied in parallel (a large stopping condenser being used to separate the polarising and signal voltages). With no signal voltage arriving, the diaphragm was normally bowed slightly towards the plate by the attraction introduced by the polarising potential. The signal input to the speaker, superimposed on this potential, then caused movement of the diaphragm in accordance with its frequency and amplitude.

In the new speaker developed by Vogt two heavy and slightly separated plates enclose the diaphragm, both of these plates being held at a high positive polarising potential with respect to the diaphragm. In this way the normal position of the diaphragm is in the exact centre of the space between the two plates. The output transformer from the amplifier feeds directly to the two plates and the signal voltages therefore create a potential difference between them. This difference causes the diaphragm to move in accordance with the signal input. The load provided by the speaker is, of course, that of a condenser, and a considerable voltage step-up is necessary from the plate circuit of the output valve.

From technical descriptions of the electrostatic speaker appearing in a number of

the magazines from overseas, it would appear that relatively high efficiencies and quite satisfactory frequency characteristics have already been obtained. One of the chief difficulties, it would seem, is in the provision of a diaphragm not definitely resonant to some frequency within the limits of the musical scale.

Yet another important departure from normal speaker practice is found in the "inductor dynamic" loud speaker at present being developed in America. The driving unit of this speaker is essentially an induction motor in which the action is reciprocating instead of rotary. The armature consists of two separate iron bars connected by tie rods and each working between a pair of permanent magnet pole faces. Unlike the ordinary magnetic speaker the distance between the armature and the pole faces is constant, the area by which they overlap being varied during the operation. It is claimed that the inductor speaker is not only more efficient than the moving-coil type on account of the use of a permanent magnet field, but that it also has an improved frequency characteristic, particularly on the low frequencies. It would seem highly probable that it is yet another instrument which will find a place in the reception equipment of the future.

NAME	CONE			VOICE COIL			TRANSFORMERS			MAGNETIC FIELD		
	Diameter	Thickness	Angle	Impedance	No. of Turns	Wire Size	Ratio	Primary	Secondary	Volts	Watts	Flux Density
A ₁	8"	0.008"	90°	5.95 ohms at 100~	105		25 1			6 d.c.	2.4	12000 lines/sq. cm.
A ₂	8"	0.008"	90°	5.95 ohms at 100~	105		25 1			110 d.c.	3.5	12000 lines/sq. cm.
A ₃	8"	0.008"	90°	5.95 ohms at 100~	105		25 1			110 a.c.	4.2	12000 lines/sq. cm.
B ₁	6½"	0.008"	90°	6.4 ohms at 100~ 6.7 ohms at 500~ 26 ohms at 5000~	100	33	23 1	4000 No. 35	120 No. 19	6-12 d.c.	3.9-15.6	
B ₂	6½"	0.008"	90°	6.4 ohms at 100~ 6.7 ohms at 500~ 26 ohms at 5000~	100	33	23 1	4000 No. 35	120 No. 19	100 to 200 d.c.	4.8	
C	9"		135°	less than 0.001 ohm	1		4400 1	4500	1	110 a.c.	10	14000 lines/sq. cm.
D ₁	8"			13.5 ohms at 100~	140	34	21 1	3600	180	6 d.c.	5.5	
D ₂	8"			13.5 ohms at 100~	140	34	20 1	3600	180	90 d.c.	4.2	
G	6½"		110°	0.5 ohms at 100~	29		25 1			6 d.c.	6	10,000 lines/sq. cm.

SOME DATA ON MOVING-COIL SPEAKERS: We find evidence of the existence of many experimenters whose interest is the home-building of moving-coil speakers or the alteration of the standard types for work with valves having somewhat extraordinary characteristics—such as the pentode—or with unusual valve and output transformer combinations.

The table of constants of a variety of moving-coil speakers, at present on the market, presented on this page, quite possibly is of particular interest to these individuals, and of general interest to others. It was abstracted from a paper by Mr. Joseph Morgan, of the International Resistance Company, in which the modern dynamic speakers were given consideration.

A SINGLE A.C. DETECTOR UNIT

Continued From Page 11

able condenser will be very short. With the Radiokes' coil, the plate connections are conveniently placed on the other side of the coil, where the choke and reaction condenser are mounted. The only long lead will be from the aerial terminal of the coil to the rotor plates of the aerial midget condenser, but this is unimportant.

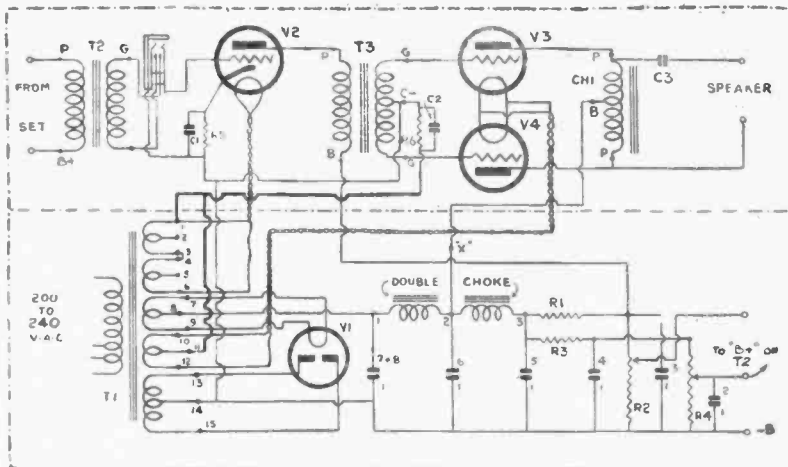
A hole is drilled at the right end of the panel in order that the filament cable and other battery leads may come through. If desired a small clamp could be placed over the leads where they come up to the top of the baseboard. By using colored leads, it becomes unnecessary to remove the unit from a cabinet to find out where leads belong should they become disconnected.

The art dial has a small lamp which is exceedingly useful for adjusting the receiver to a pre-determined setting when the light is bad. It is not necessary to use this lamp, but it may be connected up to the filament supply if desired.

When the panel controls have been mounted, the baseboard should be given two coats of shellac varnish (made by dissolving shellac flakes in methylated spirit) or a coat of Condy's fluid (permanganate of potash) crystal dissolved in water, though the latter method gives only a stain, and for best results should be followed by a coat of some quick-drying varnish, such as clear Duco.

The panel should next be mounted to the baseboard, which will dry in a few minutes. Mount the components in the positions described, and wire up carefully, taking particular care to adhere to the important points discussed herein.

One essential, of course, is a switch in the power supply to the amplifier and detector units. If the entire apparatus is mounted in a gramophone cabinet this switch can



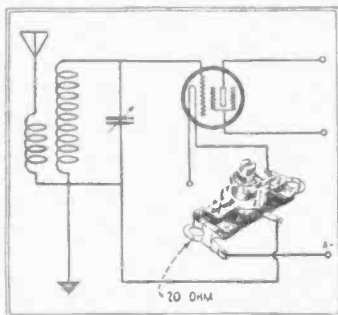
CORRECTING AN ERROR IN LAST WEEK'S DIAGRAM.
The complete circuit of the amplifier to which the output of the single valve is fed. The heavy line from R1 to terminal 1 of the power transformer is the lead that got snarled up in the diagram printed last week. The change should be noted carefully, since the arrangement shown previously is quite obviously unworkable.

either be on the panel of the detector unit or somewhere on the cabinet itself. The latter arrangement is preferable. If power is to be obtained from a power point or light socket independent of any other equipment the switch on the power point or light can, of course, be put to use.

In actual operation the combination of detector and amplifier was found to permit a splendid performance. The selectivity was found to be quite high enough for all normal local reception, while the sensitivity was such that an aerial 10 feet high and fifty feet long was sufficient to provide signals capable of overloading the moving-coil speaker used. And those are some signals! On the other

hand, the regeneration control was found to be quite effective as a volume control. That is, the local stations could be reduced to "normal" strength merely by decreasing regeneration to a minimum. A special volume is essential in a receiver which has to deal with both very loud and very weak signals. A "local" receiver, however, does not require the same variation of sensitivity, and a special volume control is therefore unnecessary in most cases.

In the operation of the outfit it will be found advantageous to connect the negative plate supply lead (the detector cathode) to a good ground connection. In this way, the A.C. hum will be reduced greatly.



Improved Grid Biasing FOR SCREEN GRID VALVE

WITH the advent of the screen-grid valve, several new problems have been brought to the set manufacturer or set builder. Chief among these, and perhaps the most neglected, is that of biasing the control grid at 1½ volts negative potential, a factor that assumes even greater proportions with the employment of the screen-grid valve in short-wave sets and adaptors.

Many manufacturers and constructors have disregarded this feature entirely, having found that the valve will function without a grid bias. However, the characteristic charts of the valve show that the plate current is actually considerably higher when a bias is applied.

There are several ways of securing the necessary potential, most of which are too

costly or impractical in short-wave reception where a storage battery filament current is essential for good results. The potentiometer system, while satisfactory, generally causes too much drain on the battery, while the insertion of a flashlight cell in the ground lead, shunted by a condenser, results in unstable operation. The ideal solution is to secure the bias from the storage battery without creating any additional drain. This may be done with the aid of a very small variable resistance of the centre tap type. This device is a compact wire-wound resistor with variable centre tap covering half the total length. In the 20-ohm rating, it may be inserted in the negative filament lead of the screen-grid valve in such manner that it acts as a filament limiting resistance and a variable grid bias at the same time, by connecting one end to the negative of the storage battery, the other end to the filament lead of the valve, and the centre contact arm to the ground side of the antenna tuning unit, as shown in the accompanying diagram. A smooth variation of grid bias is obtained, the filament is operated at proper temperature, and maximum results are obtained from the valve.

Clever Imitator at 3LO

THE children are well catered for at 3LO, and many musical novelties will be introduced. A pleasing combination is the ever-popular "Little Miss Kookaburra" and Roy Ryan, who is one of the best whistlers in Australia. Apart from the excellent whistling medleys of popular songs, Roy is a true-to-life mimic of animals and birds, and has a real kookaburra to assist in his impersonations.

Compton Coultts

"THE "Fun Devil" was one of the many titles bestowed upon Compton Coultts by the natives of Fiji. He played the part of beachcomber in the "Adorable Outcast," and, during his stay, he was perpetually attended by huge hordes of natives who took a keen delight in watching every movement, shrieking with laughter. He often wonders what attracted the natives. Mr. Coultts is an Englishman, and has been in Australia some time. He has played leading roles in comedies, staged in Sydney and Melbourne, appearing as the subscription complex parson in "New Brooms," and with Gregan M'Mahon in "Dear Brutus," "Getting Married," and "Anna Christie." He will be heard from 2BL on August 9.

The Happiness Girls

POPULAR numbers, harmonising, and instrumental novelties, is the business of "The Happiness Girls." Miss Anne Henderson, Miss May Sharpe, Miss Poppy Fields, and Miss Ailsa Lewis comprise the quartette. They were the only item on the programme which held their audience for the full hour at the Radio Exhibition of 1928 "The only people who moved," Miss Sharpe said, "were those who edged in closer. We were very proud at the time."

Gliders

How to make various kinds of heavier-than-air craft, which will fly without propulsion. An interesting article for the model aviation enthusiast.

By NORMAN LYONS

A HEAVIER-THAN-AIR craft, which has no contained power plant, but derives its lift from the reaction of wind on the wings as it coasts through the air, is known as a glider. But it must be understood that a glider flying in still air must lose altitude, as it depends on upward air currents, and must be manoeuvred to obtain height continually in these currents.

Model Gliders are of various kinds, the simplest being folded paper. No doubt, many will, at first, ridicule the idea that gliders must be constructed with the same care as Model Aeroplanes. Yet this is so. Most of the elaborately-folded gliders do not give the satisfactory flight that can be obtained from a simple glider (Fig. 1), folded on the correct lines.

The paper should be 11in. x 7in., or same proportion. First, fold paper in half as at "A," then fold in the two front corners to the centre line. Fold inwards again, as shown at "C." At "D" is shown how the paper is folded on the centre line, and the dotted line indicates how the last fold is made. "E" is the end view of the completed glider; a pin may be put in at "A" to hold it together.

The Aero paper glider, as illustrated in Fig. 2, gives a very graceful flight, and can be made to do stunts by bending its tail and wing rear edges. Again, in this case, sizes must be adhered to if a satisfactory flight is expected.

Take a piece of paper 8in. square, and fold down the centre, as shown at "A." Now start the fold as shown, half an inch away from front edge, folding six times. Mark out wings and tail as shown, "B," and cut out with scissors. A spot of gum on the outside edge of the wing folds will keep them in position.

Fig. 3 illustrates one type of hand-launched glider that is used in glider contests. The fuselage is carved from a piece of clear pine or spruce, 28in. x 3in. x 2in. The wing is pine or spruce, 30in. x 4in. x 1/4in., shaped as shown in Fig. 4. The tail is made from a piece 12in. x 3in. x 1/4in., and not having a lifting section, is shaped as shown in Fig. 3. The rudder, having the same section, is made from a piece 4in. x 4in. x 1/4in., and is to be glued into a slot which must be cut in the tail end of the fuselage. The tail is to be glued and fastened with two small brads to the fuselage, as shown in Fig. 5. The wings are held in position by a rubber band, as shown, and the front edge of the wing is to be elevated by a piece of wood about 1in. square and 2 inches long.

As shown in detail, about 1oz. of lead in necessary to weight the nose down. The correct weight can only be determined by ex-

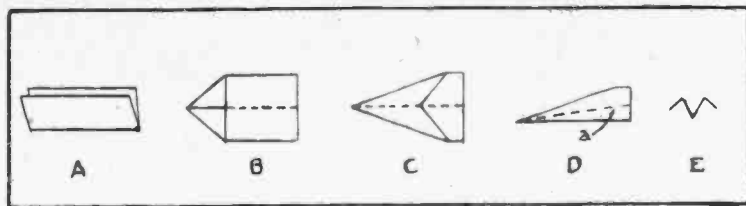


FIG. 1.

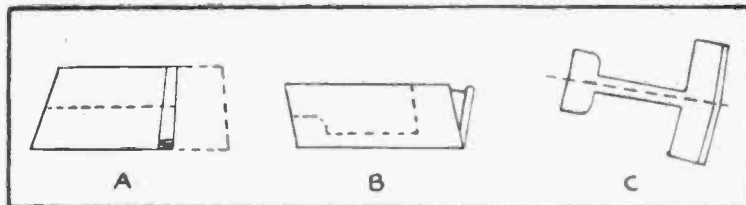


FIG. 2.

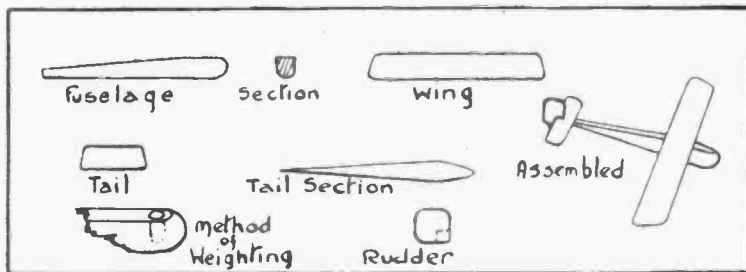


FIG. 3.

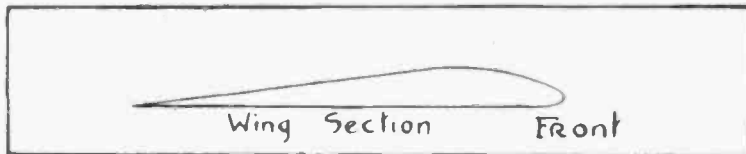


FIG. 4.

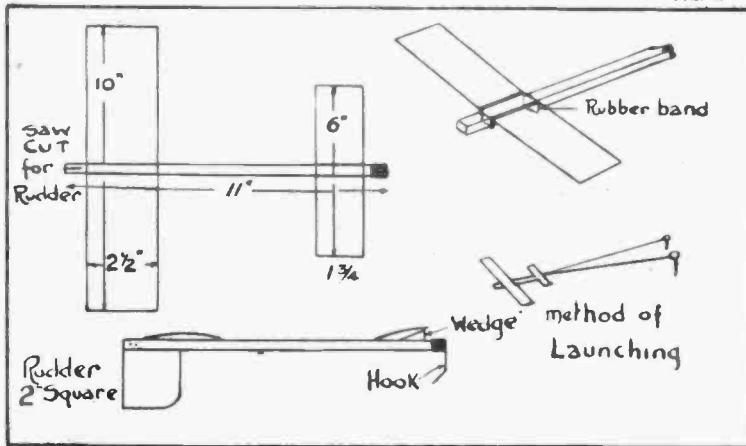


FIG. 5.

periment, and it is rather a good plan to use lead shot, placing a cork in the hole, when you have arrived at a definite amount.

To launch this glider, choose the side of a hill or a position that faces the wind, and at the same time gives an open space for the course of the glide. Hold it about level with your shoulder, and throw it forward, aiming just a little below the horizontal. If it dives

too abruptly, lessen the weight by taking out a few shot, move the wing forward, or increase the wing elevation. If it rises and stalls, thus falling back on its tail, increase the weight, or move the wing back, or lessen the wing angle by cutting down the elevating stick. It may be found necessary to make any or all of these alterations before the glider performs satisfactorily, but when you

have arrived at the proper combination, glue and nail the wing in place with fine brads.

Another type of competition glider may be made from the diagrams of the Indoor Endurance Tractor that will be published next week in WIRELESS WEEKLY. The only difference is that the power plant (that is, the propeller, rubber, bearing, etc.) is eliminated, and a slight weight added to the front. Needless to say, such gliders are made as light as possible, and since no power is used the motor stick can be considerably reduced.

Astonishingly long glides can be made with

either model, as sometimes it may encounter a rising air current and be carried aloft, whence it may make a long return glide, or if upset by a gust, it may nose over and dive until its speed forces a greater lift on the wing and raises the glider into normal position.

Glders, as shown in Figs. 3 and 5, may be converted from "hand launched" to "catapult" by the addition of a wire hook, as shown in Fig. 5.

To make a catapult, all you require is an old bicycle inner tube and two stakes. Cut the tube into a long strip about 1 inch wide and 3 feet long. Tie each end of the rubber to a stake, and drive them into the ground

about 2 feet apart. The glider then may be drawn back about 5 feet before releasing. These gliders travel very fast, and give almost the same pleasure as a power driven model.

Thus we come to the end of elementary aircraft, and if the readers have constructed the various types described so far, he or she has made all the essential parts of a model aeroplane. It only remains to improve them by alterations, which increase their flying power, and a tangible beginning is made in model aviation.

Next week you will see the Indoor Endurance Tractor, a model that holds the world's indoor record of 173 seconds.

A MODEL AEROPLANE CLUB

A MODEL Aeroplane Club is a success if it has four features: Organisation, membership, operation, and incentive.

Clubs that are famous to-day and in a healthy condition include all four features. To the Playground and Recreation Association of America, Inc., and the Kite and Model Aeroplane Association of Great Britain grateful acknowledgment is made for valuable data.

ORGANISATION: The backbone of the club is its officers and the rules that are agreed upon. The officers for a model aero club might be a President, Secretary, Treasurer, Recorder, and a Committee of say, five. The President should arrange for and preside at meetings, but in the event of his absence the chair to be taken by the Squadron Commander. The Secretary is responsible for all correspondence, minutes and roll. The Treasurer is responsible for all funds, making note and reporting of all disbursements. The Recorder has charge of posting the Club's Bulletin board up to date, tabulating all records of flights, etc. The Committee to meet as required to arrange all competitions and be responsible for their success and smooth running.

Officers may serve only one season in any one capacity and then must either move up into another office or return to the ranks of the Squadron. The exception to this rule is that the Past Presidents become Directors, and constitute an advisory board for the club. Honorary officials are good additions to a club, lending it prestige and support.

MEMBERSHIP: First, the organisers should decide upon age limits, if there are to be any. The Playground and Recreation Association of America recognises no minimum age but fixes the maximum at 20. The best clubs, however, have many members who are adults and because of long experience they are wonderful helpers for those just joining. However, on account of competitions, it is best to divide the members into three groups: Junior, which comprises all from the minimum age limit to 15 inclusive; Senior, which includes those from 16 to 20 years inclusive; and Adult or Graduate, which includes those over 21 years. These can be further subdivided into candidates, apprentice members, regular members, associate members, corresponding members, etc. The entrance requirements should be such that both members and candidates will have a chance to study each other before admission. An appropriate initiation ceremony

Now that model 'plane building and flying has become popular as a result of the Aero Club Sessions broadcast from 2BL in conjunction with the WIRELESS WEEKLY articles, it has been decided to form a Model Aeroplane Club of Australia. The objects and suggested rules of the club are published below.

might be developed which would include agreement to abide by the club's constitution and rules, eagerness to learn model-making, intention to build a model within a specified time, etc.

OPERATION: Meetings should be held every week or every two weeks, and at such times events should follow a prearranged order of business such as: Roll call, reading and correction of minutes, committee reports, unfinished business, announcements, new business, plans, elections, features, and adjournment. The meetings should be short and snappy, interest should not lag, and the business part of the meeting should be concluded promptly so that model-making, flying, and discussions can be taken up. In regard to features, the Capitol Model Aero Club has a popular diversion called "ground school." On that occasion the members sit in rows and answer questions on model flying and aeronautics in general, put to them by the Squadron Commander. Those who miss a question must move their seat down the order of sitting, giving way to the one who answered the question correctly. At the conclusion of several rounds of questions the leaders in the sitting order are awarded some little prize, usually a piece of model-making equipment. Other features might be lectures by visiting notables or talks from one of the members on a newly discovered improvement in model construction.

In holding its contests, the club should train various members to certain tasks, such as timers, recorders, flagmen, etc. Others should be responsible for bringing the contest equipment, such as repair kits, odometers, flags, stop-watches, ground spikes, with rope, etc.

The club should be alive to municipal projects and participate in them. In that way new members will learn of the club and desire to join it, and the community in general will appreciate and approve the advancing organisation. Remember, "nothing succeeds like success."

INCENTIVE: Upon the feature of incentive hangs the success of the others, for without desire to do, nothing will be done. One of the best ways to maintain members' interest is by obtaining and maintaining an attractive club room. Boys always like the feeling of possession and if they are made to feel a part of an organisation that has an inviting meeting place, they will be inspired to attend meetings and assist in preserving their club room.

Competitions, as they are wonderful sources of incentive, should be held frequently. Awards and trophies should be given for leading performances. Local jewelers, newspapers, organisations, etc., should be asked to put up prizes for which the members could strive. Cloth wings in different colors, to be worn in the coat lapel, will be given by Headquarters for flights of 500, 1000, 2000 feet, or durations of 30, 60, 100, 300 seconds, etc.

All clubs are to have a progressive system of advancement, and when a member has passed the stipulated study and achievements he assumes a new rank in the club.

KIWI:

1. Construct a box kite, or tetrahedral kite capable of steady sustained flight for 10 minutes.

2. Construct a glider capable of straight-away flight of 100 feet within an arc of 30 degrees.

3. Construct a model aeroplane carrying its own power, capable of flying 150 feet in distance or 15 seconds in duration.

CADET (In addition to filling requirements above):

1. Construct a model aeroplane capable of a flight of 300 feet in distance or 30 seconds' duration.

2. Construct a balloon inflated with either hot air or gas, capable of remaining aloft five minutes.

3. Build a model aeroplane capable of flying 35 feet a second in still air. It must fly at least 100 feet.

PILOT (In addition to filling requirements above):

1. Make a model aeroplane which will fly at least 500 feet or 45 seconds.

2. Make a model aeroplane which will fly at the rate of not less than 40 feet a second for at least 100 feet.

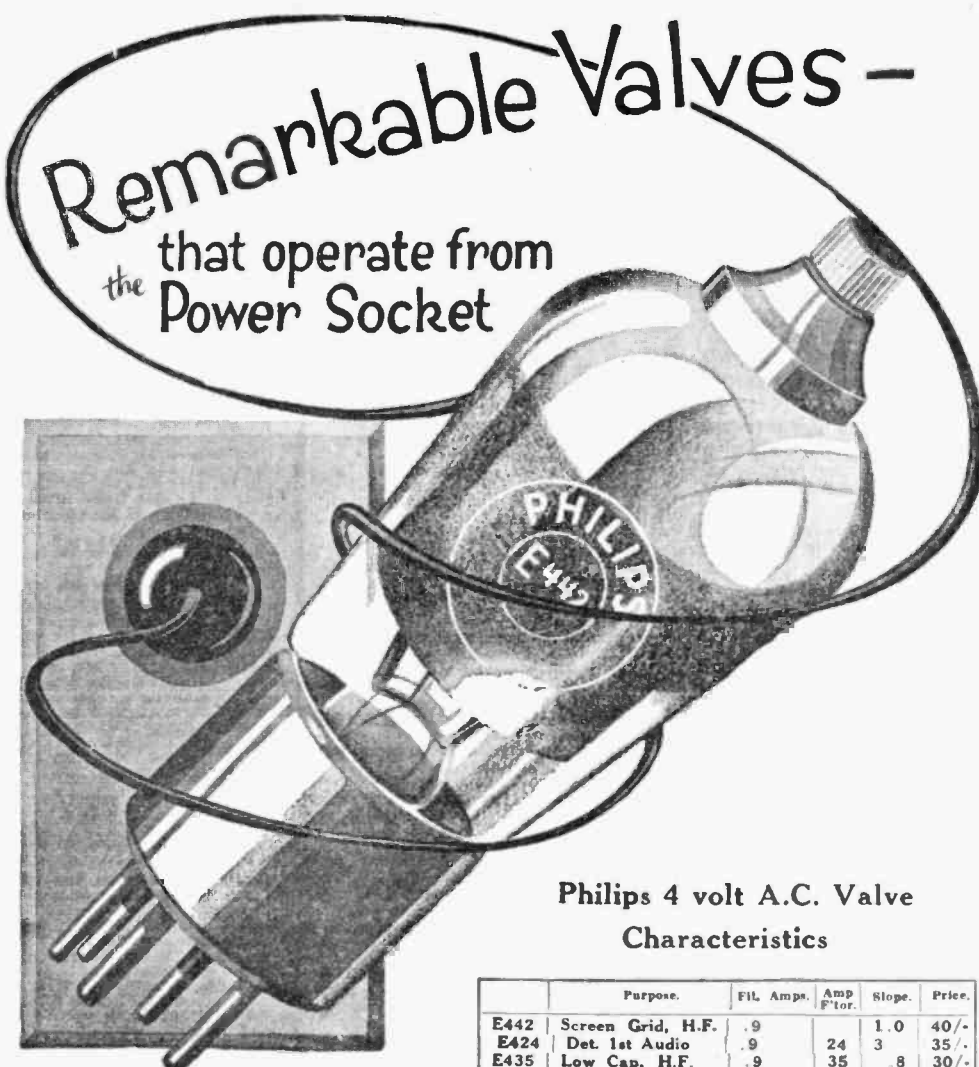
3. Build a scale model capable of flying 100 feet in distance or 10 seconds' duration.

GLIDER SQUADRON:

When a member has attained the rank of pilot he is eligible to join the glider squadron, a central body building and flying their own gliders, under the instructorship of trained pilots.

In Germany to-day hundreds of boys are flying in their own gliders. To gauge the popularity of this sport 3000 took official instruction in 1928.

(Next week will deal with how model contests are conducted.)



Remarkable Valves -

the that operate from
Power Socket

Philips 4 volt A.C. Valve Characteristics

	Purpose.	Fil. Amps.	Amp F _{tor} .	Slope.	Price.
E442	Screen Grid, H.F.	.9		1.0	40/-
E424	Det. 1st Audio	.9	24	3	35/-
E435	Low Cap, H.F.	.9	35	8	30/-
E430	H.F. 1st Audio	.9	30	2.0	30/-
E415	Det. 1st Audio (A.C. "Four-fifteen")	.9	15	2	27/6
C443	Super Power Penthode	.25 d.h.	60	1.5	40/-
B443	Normal Penthode	.15 d.h.	60	1.2	32/6
E409	Super Power	.9	9	3	35/-
B405	Power	.15 d.h.	5	2	15/-

*D.C. Tubes which are suitable for A.C. Operation.

d.h.—Directly Heated.

PHILIPS

A.C. VALVES

Local Programmes, Friday, August 9

2FC

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

EARLY MORNING SESSION—7 to 8.15.
 7.0: "Big Ben" and Meteorological information.
 7.3: This morning's news, from the "Guardian."
 7.45: Lazy rising music.
 7.45: Mails and shipping.
 7.50: What's on to-day.
 7.50: Children's birthday calls.
 8.0: Music from the Studio.
 8.15: Close.
MORNING SESSION—10.30 to 12.30 p.m.
 10.30: Announcements.
 10.32: To-morrow's sporting events, by Oscar Lind.
 10.45: From the State Theatre—Recital at the Grand Organ, by Edgar Stone.
 11.0: Household Helps—Talk on cooking, by Miss Ruth Furst.
 11.10: A.P.A. cables and "Sun"—"Herald" news service.
 11.15: The Studio Orchestra.
 12.0: "Big Ben", Stock Exchange and metal quotations.
 12.2: What to read for the week-end.
 12.20: Midday market and weather reports, supplied by the N.S.W. State Marketing Board.
 12.30: Close.
THE LUNCH HOUR—1 p.m. to 2.30 p.m.
 1.0: Lunch to music with the A.B.C. Orchestra.
 2.0: Stock Exchange, second call.
 2.2: A glance at the afternoon paper.
 2.7: Popular education.
 2.27: Announcements.

THE RADIO MATINEE—2.30 to 4.30.
 2.30: The A.B.C. Orchestra.
 2.45: Alma Berge, soprano.
 2.52: Enid Hynes, pianist.
 3.2: The A.B.C. Orchestra.
 3.17: Maurice Balance, basso.
 3.24: The Janetski Trio, instrumentalists.
 3.31: The A.B.C. Orchestra.
 3.45: Alma Berge, soprano.
 3.52: Enid Hynes, pianist.
 4.2: Maurice Balance, basso.
 4.9: The Janetski Trio, instrumentalists.
 4.17: The A.B.C. Orchestra.
 4.28: Stock Exchange, third call.
 4.30: Close.

EARLY EVENING—5.45 to 7.55.
 5.45: Kiddies' "Goodnight" stories, told by Goodie Reeve, assisted by Dorothy Nail.
 6.45: The Studio Dinner Orchestra.
 7.30: A.B.C. Sporting Service.
 7.37: Stock Exchange, final call.
 7.40: Late news service.
 7.45: From the State Theatre—Mr. Price Dunlavy, at the Grand Organ.

EVENING PRESENTATION—8 to 11.30.
 8.0: William Everard Quartette.
 8.12: The Happiness Girls, instrumentalists.
 8.22: Compton Coultis, comedian.
 8.32: Lionel Lunt, English baritone.
 8.39: Barbara James, xylophone solos.
 8.46: William Collins and May Nancarrow, in sketches.
 8.56: The Favorita Duo, instrumentalists.
 9.0: Charles Lawrence, entertainer.
 9.10: The Frisco Novelty Duo.
 9.20: William Everard Quartette.
 9.30: The Happiness Girls, instrumentalists.
 10.40: A talkie short.
 10.0: From the Oriental ballroom—Sydney Simpson's Syncopaters in dance music.
 10.15: From the Studio—Official weather forecast.
 10.30: From the Oriental ballroom—Sydney Simpson's Syncopaters in dance music.
 11.30: Close. National Anthem.

2BL

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

OPENING SESSION—8.15 to 11 a.m.
 8.15: Music for every mood—records.
 8.45: Meteorological data.
 8.50: Songs and choruses.
 9.30: British Official wireless news.
 9.35: New music.
 10.5: News from the "Guardian."

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10.10: The Ladies' Club hour—The Australian Women's A.B.C. Association, conducted by Miss Gwen Varley.
 10.30: The Studio Orchestra—Mr. Rodda.
 11.0: Close.

MIDDAY SESSION—12 noon to 2.30 p.m.
 12.0: Announcements.
 12.2: The A.B.C. Orchestra.
 1.0: Afternoon news from the "Evening News."

1.5: Studio music.
 1.15: Women's "Interest Talk."
 1.30: The Traders' "Selling the Set" music.
 2.0: At the console of the Wurlitzer organ at the Capitol Theatre, J. Knight Barnett.
 2.12: Studio music.

AFTERNOON ENTERTAINMENT—2.30 to 5.45 p.m.
 2.30: Business Efficiency talks.
 2.45: "The Magic Carpet"—a story of travel and adventure.

3.0: The A.B.C. Dance Band.
 3.12: Roy Scrivener, baritone.
 3.19: Googs Hanlon, novelty pianist.
 3.27: The A.B.C. Dance Band.
 3.39: Reg. Harrison, comedian.
 3.46: Rozina Maddell, soprano.
 3.52: The A.B.C. Dance Band.
 4.4: Googs Hanlon, novelty pianist.
 4.12: Roy Scrivener, baritone.
 4.19: The A.B.C. Dance Band.
 4.29: Rozina Maddell, soprano.
 4.36: Reg. Harrison, comedian.
 4.45: "The Trade Hour"
 5.45: Close.

THE DINNER HOUR.
 6.15: The Studio Dinner Orchestra.
 6.45: "The A.B.C. Younger Set Club"—Boy Scouts, Mr. Norman Lyons.
 7.5: Studio music.
 7.20: Late market reports.
 7.30: The Studio Dinner Orchestra.
 7.55: What's on the air to-night?

THE NIGHT PROGRAMME—8 to 10.30.
 8.0: The National Broadcasting Orchestra.
 8.15: Mimi Gressiar, soprano.
 8.22: To-night's interview with a famous personality.
 8.30: Frazer Coss, baritone.
 8.37: The National Broadcasting Orchestra
 8.52: Ilma Messkabarnes, elocutionist.
 9.2: Weather report.
 9.3: The National Broadcasting Orchestra.
 9.18: Mimi Gressiar, soprano.
 9.25: Barbara James, xylophone.
 9.35: Ilma Messkabarnes, elocutionist.
 9.45: Lionel Hunt, baritone.

9.52: The National Broadcasting Orchestra.
 10.5: Compton Coultis, comedian.
 10.15: Favorita Duo, instrumentalists.
 10.25: Late weather report and late news service.
 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. Beeging.
 11.30: Music.
 11.45: Close down.
 2.0: Music.
 2.5: Women's Radio Service, by Mrs. Dorothy Jordan.
 2.50: Music.
 3.0: Feature story.
 3.30: Close down.
 5.30: Children's session, by Uncle George.
 7.0: Music.
 7.45: Feature story.
 8.0: Miss Marjorie Allomes, contralto.
 8.7: Symphony Orchestra.
 8.15: Madame Betts-Vincent in an illustrated talk on Music.
 8.30: Mr. Clement Hosking, baritone.
 8.40: Humorous interlude, by Mr. Jack Win and Mr. Heath Burdock.
 8.45: Instrumental Trio.
 8.50: Miss Gwen Selva, soprano.
 9.0: Weather report.
 9.3: Address.
 9.15: Miss Marjorie Allomes, contralto.
 9.25: Symphony Orchestra.
 9.35: Humorous interlude, by Mr. Jack Win and Mr. Heath Burdock.
 9.40: Mr. Clement Hosking, baritone.
 9.50: Violin solos.
 9.55: Miss Gwen Selva.
 10.5: Instrumental music.
 10.30: Close down.

2UW

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

MIDDAY SESSION.
 12.30: Music and request numbers.
 1.0: Clock and chimes.
 1.45: Talk on "Home-craft," by Pandora.
 1.40: Music.
 2.30: Close down.
 4.30: Music and request numbers.

EVENING SESSION.
 5.30: Children's Hour, conducted by Uncle Jack.
 6.30: Close down.
 7.0: Music and request items.
 8.0: Popular orchestral recital.
 9.0: Comments on foreign affairs, by Mr. J. M. Prentice.
 9.10: Request numbers.
 10.30: Close down.

2KY

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

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

CHILDREN'S SESSION.
 6 p.m.: Birthday calls, request numbers, and kiddies' entertainment, Aunt Jemima and Uncle Bert.

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

2UE

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

EARLY MORNING SESSION.
 7.15 a.m.: Breakfast-time Hour Orchestral music.
 8.30: Weather report.
 Close down.

MIDDAY SESSION.
 11.30: Old-time Musical Hour.
 12.30: Close down.

AFTERNOON SESSION.
 1.0: Music.
 1.45: Organ solos.
 2.0: Orchestral and vocal selections.
 2.30: Close down.

EVENING SESSION.
 7.15: Orchestral dinner music.
 8.0: Over-ture, "Morning, Noon, and Night."
 8.10: Orchestral and vocal concert.
 10.15: Close down.



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Interstate Programmes, Friday, August 9

3LO

Australian Broadcasting Co., 120A Russell St., Melbourne (Wavelength 871 metres.)

EARLY MORNING SESSION

7.0: Time signal from Melbourne Observatory; weather forecast. 7.5: Early rising music. 7.40: Mails and shipping. 7.43: What's on To-day. 7.45: Market reports. 7.55: Breakfast news. 8.0: Melbourne Observatory time signal. 8.1: Birthday greetings. 8.15: Close down.

MORNING SESSION

10.30: Eric Welch—Current events in the racing world. 10.40: Reproduced music. 10.50: Mel Morris—"The Football Field."

MORNING MUSICALS

11.0: A.B.C. Studio Orchestra with Madame Sykes, contralto. 12.15: News session; rates on 'Change; weather forecast. 12.30: Close down.

MIDDAY SESSION

1.0 to 2.0: Provided by the National Broadcasting Orchestra. Under direction Wm. G. James. Conductor: Percy Code.

THE LECTURETTE SESSION

2.0: Mr. C. R. Long, M.A.—"Stories from Australian History." 2.15: Reproduced music. 2.25: Madame Nina Brevnova. Home life in other countries: (1) Russia. 2.40: Reproduced music. 2.45: Dr. Loftus Hills, D.Sc., Editor of the week.

THE RADIO MATINEE

3.0: National Broadcasting Orchestra. Overture, "Son and Stranger" (Mendelssohn); "Boaring" (Schumann). 3.10: Violet Sempé, Contralto, "The Vain Sult" (Brahms); "Early Morning" (Graham Peck); "Prelude" (Cyril Scott). 3.20: The Studio Quartette. First Movement Quartette (Haydn). 3.30: Robt. Gillard, Bass "Old Barty" (Grant); "In Sheltered Vale" (d'Alequin); "Rolling Down to Rio" (Jordan). 3.40: John Simons, piano "Minute" and "Tambourine" (Rameau); "Bourree" for left hand alone (Saint-Saens); "Jumbo's Lullaby" (Debussy); "Serenade of the Doll" (Debussy); "Golliwog's Cake-walk" (Debussy). 3.55: Millicent Osmond, mezzo-soprano; "Romance" (Debussy); "Les Cloches de Bussay"; "Meditation" (Massenet). 4.0: Orchestra. "Scenes Neapolitaines" (Massenet). 4.15: "The Fun Makers" will sing some cheerful ditties. 4.30: Close down.

THE CHILDREN'S CORNER

5.45: "Billy Bunny" knows a lot about "The Wee Folk" and "The Mitchell Trio" will dispense melody of a new variety. 6.25: A talk of interest to the older boys and girls.

EVENING SESSION

8.40: Mr J. T. Smith, Curator Melbourne Parks and Gardens. Gardening—Community Gardens. 6.55: Mr E. H. Wyon, B.Sc. Motorists' Problems—Traffic signals. 7.10: Mr. P. R. E. Maudon, B.A., M.E.C. Australian Problems in Economics. (1) The Coal Industry of Australia. 7.25: To-morrow's races, by Eric Welch. 7.35: To-morrow's football, by Mel Morris.

NEWS SESSION

7.40: News of the day.

NIGHT SESSION

7.45: Frank Lanterman at the Wurliizer Organ. 8.0 Collingwood Citizens' Band (Conductor: P. C. Johnston).

"A Life on the Ocean Wave"
"Rocked in the Cradle of the Deep."
Euphonium solo. "Asleep in the Deep."

8.10: "The A.B.C. Gleesingers"
"Sea Chateaux."
8.25: Band:
"A Sailor's Life."

8.35: "The A.B.C. Gleesingers"
"Sea Songs" by Standard.

8.55: National Broadcasting Orchestra, under direction Wm. G. James. Conductor: Percy Code.
Selection: "Tales of Hoffman" (Offenbach)

9.5: Jean Hamilton, contralto:
"A Legend" (Tschalkowsky).
"Hearts that with Yearning Ache" (Tschalkowsky).
"Fifnella" (Tschalkowsky).

9.15: Orchestra:
Suite of Four Selected Pieces (Primi)

9.20: Keith Desmond:
Dramatic monologue.

9.35: Dr Hoffman:
"Etude de Concert" (Chopin).
"Ballade in Flat" (Chopin).
"Valse in A Flat" (Chopin).
"Gavotte" (Gluck-Brahms).
"Andaluzza" (M. de Falla).
Marche: "L'Amour di Trois Orengees" (Prokofeff).

9.55: Senia Chostiakoff, tenor:
"The Northern Star" (Glinka).
"Star Vicino" (Salvator Rosa).
Selected.

10.5: Orchestra:
Selections from musical comedy.
10.20: News from to-morrow's papers
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: Morning music. Weather forecast. Items of interest. 9.30: British official wireless news. 9.40: Reproduced music. 10.30: Arnold Coleman at the Wurliizer. 11.0: Close down.

MIDDAY SESSION

12.0: "Mainly for Women." Miss J. S. W. Webb, M.A., Famous Women—1. Hatsheput, Queen of Egypt. 12.15: Midday news session from the studio. 12.30 to 1.0: National Broadcasting Orchestra (under direction of Wm. G. James, conductor Percy Code). 1.0: Time chimes from G.P.O. 1.1: Stock Exchange. Weather reports. Comments on the day's news. 1.30: Reproduced music.

AFTERNOON SESSION

2.0: Stephens' Dance Orchestra. Foxtrot, "Picking Cotton." "Honey" 2.10: V. Drinkwater (tenor) "You Were Made for Me." "Broadway Melody." "My Neighbor's Daughter." 2.20: John Stephens (xylophone). "The Wedding of the Painted Doll." 2.25: Violet Jackson (soprano). "The Inquirer" (Schubert). "Cradle Song" (Schubert). "Wandering" (Schubert). "The Almond Tree" (Schumann). 2.35: Stephens' Dance Orchestra. Slow fox-trot, "High Up in the Clouds." "Cinderella Blue." 2.55: Madge Vivian (contralto). "There Are Fairies at the Bottom of Our Garden" (Lehmann). "A Summer Night" (Goring Thomas). "Love, My Love" (Friml). 3.5: Doreen Berry (humorous monologue). 3.15: John D. Fraser (baritone). "Myrtles of Damascus" (Pflinden). "The Spirit Flower" (Tip-top). "Nightfall at Sea" (Phillips). 3.25: Stephens' Dance Orchestra. Slow fox-trot, "My Mother's Eyes." 3.30: Mainly for Women. A Chat by a prominent woman. 3.45: Mr. W. C. Rugg. "Backyard Poultry." 4.0: Mr. E. S. Richards, M.Sc. "What Science is Doing for Women." 4.15: Reproduced music. 5.45: Close down.

EVENING SESSION

6.15 to 7.30: Dinner music, supplied by the studio orchestra. 7.30: What's On the Air To-night? 7.32: Latest musical releases. 7.45: Market reports.

NIGHT SESSION

8.0: National Broadcasting Orchestra, under the direction of Wm. G. James; conductor, Percy Code.
8.10: Colin Nash (baritone)—
"Sons of the Sea" (Coleridge Taylor).
"Pleading" (Kramer).
"My Captain" (Cyril Scott).
8.20: Rex Bradley (violin recital)—
"Hungarian Dance No. 8" (Brahms).
"On Wings of Song" (Mendelssohn, arr. Achron).
"Bolero" (Bourleigh).
8.30: Cecilia Choir of Women—
"The Nightingale" (Weelkes).
"The Bride" (Brahms).
"The Bridgroom" (Brahms).
"Dream, Baby, Dream" (Fletcher).
"The River King" (Schumann).
8.40: Louie Dunn (dramatic recital)—
"Inasmuch" (Warren).
"You Know What I Mean" (Hayes).
"Nothing or Everything" (Ellis).
8.50: Rex Bradley will continue his recital.
9.0: Cecilia Choir of Women—
"Ave Maria" (Holst).
"Cradle Song" (Walford Davies).
"Coronach" (Schubert).
9.10: Estelle Sheehan Quartette—
"Ten Minutes with the Classics."
9.20: Allan Mitchell (tenor)—
"An English Rose" (German).
"In Summer-time in Breden" (Peel).
"Lord Randall" (Scott).
9.30: A one-act play, "My Milliner's Bill." Scene: A prettily-furnished dining-room. Mr. Merridew, Maurice Dudley; Mrs. Merridew, Mrs. Maurice Dudley.
9.50: Olive Painter (mezzo-soprano)—
"As I Went A-roaming" (Foster).
"A Little Winding Road" (Landon Ronald).
"Spring, the Fiddler" (Baumer).
10.0: Bob M'Questen's Melody Boys.
10.30: God Save the King.

3DB

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

MORNING SESSION

11.0: Time signal. A half-hour concert of light music. 11.30: The world's fashions and fables, by "La Vogue" 11.35: An orchestral concert. 12.0: Whispers of melody. 12.28: News. 12.30: Close down.

AFTERNOON SESSION

2.0: A light symphony programme. 2.30: Brass bands and ballads. 2.55: Atwater Kent radio hour 3.55: News. 4.0: Close down.

EARLY EVENING SESSION

5.30: Billy Bunny, children's hour. 6.0: Tea-time music. 6.30: Organ recital and songs. 7.0: A popular orchestral half-hour. 7.30: Madame S. E. Soward—French without tears. 7.45: Market reports.

NIGHT SESSION

8.0: From the Musical Comedies. 8.30: An orchestra, a bass, and a cello. 9.0: Operatic excerpts. 9.30: Variety. 10.0: Dance and songs. 10.30: Slumber music. 10.40: News. 10.45: Close down. God Save the King.

4QG

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

EARLY MORNING SESSION

7.43: Time signals. 7.45: News service. 8.0: Electric 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." Noon: Close down.

MID-DAY SESSION

1.0: Market reports and weather information. 1.20: Lunch-hour music. 2.0: Close down.

AFTERNOON SESSION

3.0: Electrically reproduced records. 3.30: Mail train running times. 3.31: 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: A travel talk, Mr. J. W. Hayes, Qld organiser, Australian National Travel Association. 6.25: Commercial announcements. 6.30: Bed-time stories conducted by "The Sandman." 7.0: News in brief; Stock Exchange news; metal quotations; market reports; weather information; Penwick's stock report; announcements; standard time signals. 7.45: To-morrow's sporting fixtures reviewed.

NIGHT SESSION

8.0: The Studio Orchestra.
8.7: May Jordan (soprano)—
"I was Dreaming."
"Good Morning, Brother Sunshine" (Lehmann).
8.15: The Orpheans—
Chorus, "Boys of the Dardanelles" (Francis).
8.20: The Studio Orchestra—
Selection, "Sanderson's Songs."
8.28: Francis Lane (contralto)—
"My Ships" (Barratt).
8.32: George Williamson (tenor)—
"Adieu, Marie" (Adams).
8.37: The Orpheans—
"Little Brown Jug."
8.42: J. P. Cornwell (bass)—
"A Chip of the Old Block" (Squire).
8.48: The Studio Orchestra—
"Always."
"Dream, Daddy" (Keefer).
8.56: C. Rice (tenor)—
"Bells of St. Mary's" (Adams), accompanied by "The Orpheans."
9.0: Metropolitan weather forecast.
9.1: Week-end road information for motorists, officially supplied by the R.A.C.Q.
9.15: The Studio Orchestra—
Selection, "Squires Songs."
9.22: Francis Lane (contralto), Geo. Williamson (tenor)—
Vocal duet, "When we are Married" (Kerkei).
9.26: J. P. Cornwell (bass)—
"Can't You Hear Me Calling, Caroline."
9.30: The Orpheans—
"Come Back to Erin" (Claribel).
9.35: Ernest Harper (baritone)—
"When the Sergeant Major's on Parade" (Longstaffe).
9.40: May Jordan (soprano)—
"Here's to Love" (Rubens).
9.44: The Studio Orchestra—
Selection, "Stephen Adams' Songs."



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ALL RADIO DEALERS

9.50: George Williamson (tenor)—
"Sally Horner."
9.54: J. P. Cornwell (bass)—
"Star of Bethlehem" (Sanderson).
9.58: The Ophians—
"Perfect Day" (Carrie Jacobs-Bond).
10.0: News supplied by the metropolitan dailies;
weather information; close down.

5CL

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

MORNING SESSION.

11.15: Chimes. 11.16: Recordings. 11.45: Kitchen craft and menu talk. 12.1: Recordings. 12.15: General news service. 12.40: Recordings. 12.55: Stock Exchange: meteorological information. 1.1: Community singing from the Adelaide Town Hall. 1.50: Meteorological. 2.0: Close down.

AFTERNOON SESSION.

3.0: Chimes. 3.1: Programme review and announcements. 3.10: Musical entertainment. 3.30: Dr. Eleanor A. Allen, B.A., on "Psychology. 3.45: Musical entertainment. 4.10: Educational talk on "Position of Industry in U.S.A." 4.25: Stock Exchange. 4.30: Close down.

EVENING SESSION.

6.0: Chimes. 6.1: Birthday greetings. 6.30: Dinner session. Wallace Kotter at the Wuritzer Organ. Richard Smith, xylophonist. 7.1: Birthday League greetings: 5CL's sporting service. 7.20: "Mo" Manning on "Football." 7.35: Mr. J. R. Willoughby (secretary of the Soccer Association) on "Soccer Activities." 7.45: Mr. A. Grenfell Price, M.A., F.R.G.S., on "Pioneers of Australia."

NIGHT SESSION.

8.0: Chimes.
8.1: Programme review.
8.10: Unley Orchestra, conducted by Norman Sellick—
"Orpheus in the Underworld" (Offenbach).
8.20: "Old music hath charms," a short lecturette on "Schumann," with illustrative recordings by Horace Perkins, Mus. Bac., A.M.U.A.
8.35: Ada Wordle, soprano.
8.42: Malcolm Gilham, trumpeter.
8.48: Fred Williamson, tenor—
"When Shadows Gather" (Marshall).
"Tired Hands" (Sanderson).
8.55: Unley Orchestra—
"Yeomen of the Guard" (Sullivan).
9.2: Meteorological information, including semi-shore tides.
9.3: Overseas grain report.
9.4: Announcements.
9.5: Marjory Walsh, soprano.
9.12: Arnold Blaylock, clarinetist.
9.18: Dave Howard, comedian.
9.23: Unley Orchestra—
"Serenade" (Schubert).
9.35: Ada Wordle, soprano.
9.42: Dave Howard, saxophonist.
9.48: Fred Williamson, tenor—
"Rosebud" (Drummond).
"When My Ships Come Sailing Home" (Dorel).
9.55: Unley Orchestra—
"Lilac Time" (Schubert).
10.1: Marjory Walsh, soprano.
10.8: Dave Howard, comedian.
10.13: Unley Orchestra—
"Hydropaten Waltz" (Gunnell).
10.20: General news: 5CL's sporting service.
10.45: Modern dance recordings.
11.0: Close down.

6WF

Commonwealth Government Broadcasting Station,
Perth (Wavelength, 180 metres.)

10.0: Gramophone records. 11.0: Close down. 12.30: Markets, news, etc. 1.0: Time Weather. 1.3: Music. 2.0: Close down. 3.30: Tune in. 3.35: Music. 4.30: Close down. 6.45: Tune in. 6.48: Bedtime stories by Uncle Duffy. 7.5: Light music. 7.30: Commercial and general information. 7.45: Racing talk. 8.0: Time signal. 8.1: Weather. 8.3: Vocal artists. 8.50: Late news. Station announcements Ships within range. Late weather. 8.58: "Gardening" Talk by Mr. James Conarty. 9.14: Programme continued. 10.30: Close down. 104.5 Metre Transmission: Simultaneous broadcast on 104.5 metres of programme given on 1250 metres commencing at 6.45 p.m.

7ZL

Tasmanian Broadcasters Pty., 93 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. 12.1: Shipping information; ships within wireless range; mail notices; housewives' guide; commercial news. 12.8: Record recital. 12.29: Announcements. 12.33: Record recital. 12.55: News service. 1.10: Record recital. 1.30: Close down. 3.1: Record recital. 3.4: Weather. 3.5: Record recital. 4.15: Personalities. 4.30: Close down. 6.13: Children's hour with "Uncle David" and "The Storey Lady." 7.0: Birthday greetings. 7.10: News session. 7.15: Sid Jones on "Football." 7.30: A Studio Concert by 7ZL Artists interspersed with instrumental items. Solos by Miss Daisy Walters (soprano), "The Piper of Love," (b) "The Swallows" (Cowen). 7.44: L. G. Madcock, baritone (a) "Yeomen of England" (German), (b) "Friend of Mine" (Sanderson). 7.58: Rene Dyer, contralto (a) "The Lilac Tree" (Gartlan), (b) "Caro Mio Ben" (Glordani). 8.12: Daisy Walters (c) "The Valley of Memory" (Coverley), (d) "Shall we Remember" (Rayners), 8.26: L. G. Madcock (c) "Sally Roses" (Bostelmann), (d) "She is Far from the Land" (Lambert). 8.40: Rene Dyer (c) "The Cuckoo Clock," (d) "That's All" (Brahe). 8.48: J. M. Counsel, "The History and Development of Music." 9.45: News session. 10.0: G.P.O. Clock chimes the hour. Close down.

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2FC

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

EARLY MORNING SESSION—7 to 8.15.
7.0: "Big Ben" and Meteorological information for the Man on the Land.
7.3: This morning's news, from the "Guardian."
7.8: Early rising music.
7.45: Mails and shipping.
7.48: What's on to-day.
7.50: Children's birthday calls.
8.0: Music from the Studio.
8.15: Close.

MORNING SESSION—10.30 to 12.30.
10.30: Announcements.
10.32: The A.B.C. Racing Observer.
10.45: Studio organ recital, by G. Barnett.
11.0: Household Helps—Week-end suggestions.
11.10: Cables—A.P.A. and "Sun"—"Herald" news service.
11.15: The 2FC Studio Orchestra.
12.0: "Big Ben" and Stock Exchange information.
12.20: Midday weather forecast.
12.22: Music.
12.50: From Moorefield—Description of the race in the running. During intervals, from the Studio, items by the A.B.C. Orchestra and Norman Francis, tenor. Race results from Rosebery.
4.45: Close.

EARLY EVENING—5.45 to 7.55.
5.45: Kiddies' "Goodnight" stories, told by the "Hello Man," assisted by Aunt Willa.
6.45: The Studio Dinner Orchestra.
7.25: A.B.C. Sporting Service.
7.37: Stock Exchange information.
7.40: Late news service.
7.45: From the State Theatre—Mr. Price Dunlavy at the Grand Organ.

EVENING PRESENTATION—8 to 11.30.
8.0: From the Sydney Town Hall—A classical concert arranged by the Australian Broadcasting Company, Limited, featuring the Conservatorium Orchestra and leading Sydney artists.
9.0: From the Studio—Official weather forecast and musical items.
9.15: From the Sydney Town Hall—Second half of the classical concert arranged by the Australian Broadcasting Company, Limited.
10.15: Late weather forecast and announcements.
10.30: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
11.30: Close. National Anthem

2BL

Australian Broadcasting Company, Ltd., Market St., Sydney (Wavelength, 358 metres).

OPENING SESSION—8.15 to 11 a.m.
8.15: Music for every mood.
8.45: Meteorological data.
8.50: A musical pot pourri.
9.30: British Official wireless news.
9.35: New music.
10.5: News from the "Guardian."
10.10: Gardening talks.
10.30: The Studio Orchestra—Mr. Rodda.
11.0: Close.

MIDDAY SESSION—12 noon to 2.30 p.m.
12.0: Announcements.
12.2: The A.B.C. Orchestra.
1.0: Afternoon news from the "Evening News."
1.5: Studio music.
1.15: Music.
1.30: Records.
2.0: At the console of the Wurlitzer organ at the Capitol Theatre, J. Knight Barnett.
2.12: Studio music.
2.30: From the Sydney Sports Ground: Description of the football match. During intervals, from the studio, music.
5.0: The A.B.C. sporting resume.
5.15: Close.

THE DINNER HOUR.

6.15: The Studio Dinner Orchestra.
6.45: The A.B.C. Younger Set Club—Tales of adventure, told by the captain.
7.5: Studio music.
7.20: Late market reports.
7.30: The Studio Dinner Orchestra.
7.55: What's on the air to-night?

THE NIGHT PROGRAMME—8 to 12 mid-night.

8.0: A radio revue, arranged by Charles Lawrence and Ed. Warrington.
9.0: The A.B.C. Dance Band.
9.12: The A.B.C. Male Quartet.
9.22: Josef Kaartinen, saxophonist.
9.30: The A.B.C. Dance Band.
9.42: Rae Foster, popular vocalist.
9.49: The A.B.C. Dance Band.
10.1: Derraine and Dixie, plantation melodies.
10.10: The A.B.C. Dance Band.
10.25: Late weather report and news.
10.30: The A.B.C. Dance Band.
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 George. 7.0: Request Hour. 8.0: Dance programme, by Suttons' Dance Orchestra. 10.30: Close down.

2UW

Radio Broadcasting, Ltd., Paling's Building, Ash St., Sydney (Wavelength, 287 metres).

5.30: Children's Hour, conducted by Uncle Jack. 6.30: Close down. 7.0: Request items. 10.30: Close down.

2KY

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

CHILDREN'S SESSION.

6 p.m.: 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, Mr. Geo. A. Davis. 7.50: Request night. 10.0: Closing announcements.

2UE

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

EARLY MORNING SESSION.

7.15: Orchestral breakfast music. 8.30: Weather forecast. Close down.

EVENING SESSION.

7.15: Orchestral dinner music. 8.0: Overture, "Zampa." 8.10: Orchestral and vocal concert. 10.15: Announcements. Close down.

W. FURNESS,

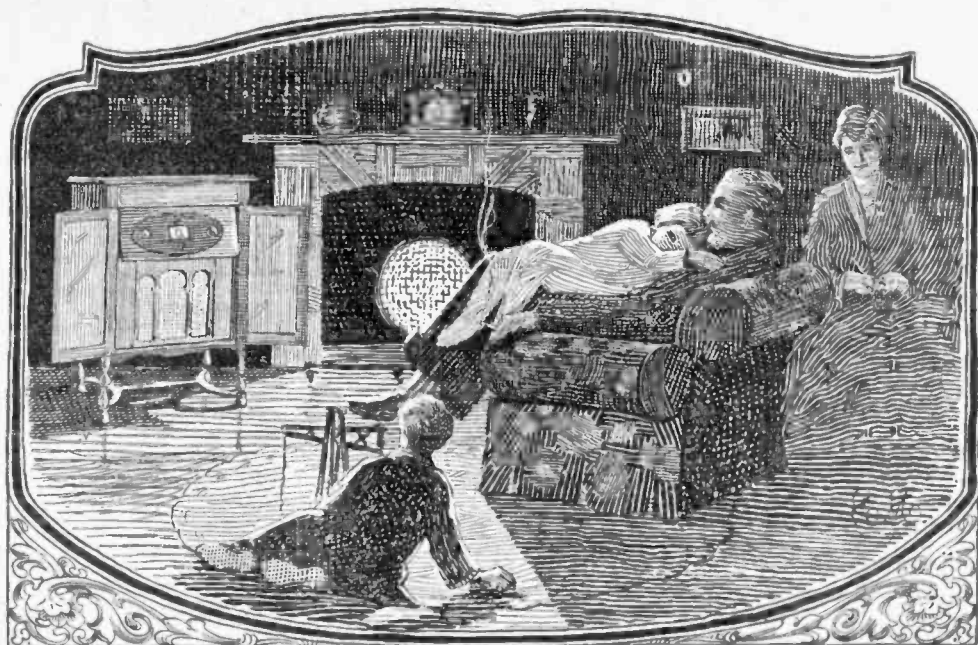
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Interstate Programmes, Saturday, August 10

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 events in the racing world, by Eric Welch. 10.40: Reproduced music. 10.50: "The Football Field," by Mel Morris.

MORNING MUSICALS

11.0: A.B.C. Studio Orchestra. Assisted by Tom Sturzaker, tenor; Rita Hilton, entertainer. 12.15: News; rates on 'Change; weather reports. 12.30: Close down.

AFTERNOON SESSION

1.0 to 2.0: Luncheon music. Provided by National Broadcasting Orchestra, under direction of Wm. G. James. Conductor: Percy Code.

THE LECTURE-TREE SESSION

2.0: Rev. W. Bottomley, "Sigurd the Volsung." 2.15: Reproduced music. 2.25: Mr. J. Howlett Ross, "Banjo Paterson," with illustrations. 2.40: Reproduced music. 2.45: Lieut.-Colonel Eldred Pottinger, D.S.O., F.R.G.S., "Personal Adventures While Exploring."

THE RADIO MATINEE

3.0: National Broadcasting Orchestra, under direction Wm. G. James. Conductor: Percy Code. "Petite Suite de Concert" (Coleridge Taylor). 3.10: John D. Fraser, Baritone—"Silent Noon" (Williams). "Like a Damask Rose" (Elgar), "The Carpet" (Sanderson). 3.20: "Mariana" Trio—Melodies from many lands. 3.40: Nina Heseleva, Soprano—Russian folk songs. 3.50: Orchestra—Selections from "Svyl" (Jacobi). 4.0: A Playlet, produced by Terence Crisp, "The Unseen." By Alice Gerstenberg. Characters: Jeffrey Baldwin, Terence Crisp, Lois (his wife), Ruby May, Hulda (a Swedish servant), Betty Rae. Scene: The dining-room at the Baldwin's. Note: A short pause will indicate the passing of a week. 4.20: Owen Hart, Soprano—"Only a Rose" (Prinl). "Flower Song" from "Lila Time" (Clusman), selected). 4.30: Marion Lightfoot will entertain with her English Concertina. 4.40: William Perryman, tenor—"A Brown Bird Singing" (Haydn Wood). "Here in the Quiet Hills" (Gerald Crane). "Caroli" (Osman Friere). 4.50: Orchestra—Selections from musical comedy. 5.0: Close down.

THE CHILDREN'S CORNER

5.45: "Little Miss Kookaburra" will tell the bigger ones a thrilling story to-night about the "Witches' Pool." "Winks" Smith, the boy xylophonist, will entertain. 6.25: A talk for older boys and girls. 6.40: Sporting results.

EVENING SESSION

6.55: Mr. Alec G. Campbell—"Stories of our Mining Fields—Broken Hill." 7.10: Lieut.-Colonel Eldred Pottinger, D.S.O., F.R.G.S.—"Come with Us Round the World"—I, Manchuria. 7.25: Dr. J. A. Leach, D.Sc.—"Australian Birds." Tree Creepers.

NEWS SESSION

7.40: News of the day.

NIGHT SESSION

7.45: Frank Lanterman at the Wurlitzer. 8.0: A special programme has been arranged. 10.30: News. 10.40: Ern Spry's Jazz Band. 11.30: Close down.

3AR

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

MORNING SESSION

8.15: Morning music. Weather forecast. Items of interest. 9.30: British official wireless news. 9.40: Reproduced music. 10.30: Arnold Colman at the Wurlitzer organ. 11.0: Close down.

MIDDAY SESSION

12.0: Feminine topics. 12.15: News of the day. 12.30 to 1.0: National Broadcasting Orchestra, under direction Wm. G. James; conductor, Percy Code. 1.1: Stock Exchange information. Weather reports. Comments on the day's news. 1.30: Reproduced music.

AFTERNOON SESSION

2.0: National Broadcasting Orchestra. Chas. Tre-wavis (baritone). Sporting descriptions by Eric Welch and Mel Morris. 5.30: Final scores. 5.35: Close down.

EVENING SESSION

6.15 to 7.30: Dinner music, supplied by the studio orchestra. 7.30: What's On the Air To-night? 7.32: Latest musical releases. 7.45: Market reports.

NIGHT SESSION

8.0: St. Augustine's Band (conductor, Percy Jones)—Overture, "Don Giovanni" (Mozart). 8.10: "The Radio Dandies" present a bright and cheery programme of harmony and hilarity. 9.10: St. Augustine's Band—Intermezzo, "March of the Mannikins" (Fletcher). "Chanson Triste" (Tschalkowsky).

9.20: A vaudeville interlude. Connors and Paul. Syd. Beck, Lynn Smith's jazz band. 9.40: Haydn Beck (violin)—"Nocturne in E Flat" (Chopin). "Gavotte" (Gossec). "Minuet in G" (Beethoven). 9.50: Liliane Gay (soprano)—"Selections from Musical Comedy." 10.0: St. Augustine's Band—Selection, "Jungle Drums" (Keteiby). "In a Persian Market" (Keteiby). 10.10: Joseph Foster (tenor)—"She is Far from the Land" (Lambert). "A Spirit Flower" (Campbell-Tipton). "A Banjo Song" (Dichmont). 10.20: "The Rex" Dance Band. 12.0: God Save the King.

3DB

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

MORNING SESSION

10.0: Military Bands and singers. 10.30: Light music and songs. 11.0: An octet programme. 11.30: Brass bands and leader. 12.0: Close down.

EARLY EVENING SESSION

5.30: Bobby Bluegum's children's hour. 6.0: Tea-time music. 6.25: What's on at the theatres and movies. 6.30: Radio Club. 6.30: Sporting results. 6.45: An organ recital. 7.0: A popular half-hour. 7.30: A symphony concert. 8.0: Operatic excerpts. 8.30: Violin, flute, and harp, and a contralto. 9.0: Military band concert. 9.30: Light orchestral. 10.0: Dance music. 10.30: Slumber music. 10.40: News. 10.45: Close down. God Save the King.

4QG

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

EARLY MORNING SESSION

7.43 to 8.30: See Friday.

MID-DAY SESSION

12.0: The official opening ceremony of the Mt. Oravait Show, which will be performed by the Hon. R. M. King, M.L.A., Minister for Public Works and Public Instruction, will be relayed. 1.0: Close down.

AFTERNOON SESSION

3.0 to 4.30: See Friday.

EARLY EVENING SESSION

6.10 to 7.30: See Friday.

NIGHT SESSION

8.0: Quintette—Pianoforte and Strings—Overture to "Magic Flute" (Mozart). Doris McInnes (soprano)—"Chanson Indoue" (Rimsky-Korsakoff). Daisy McDowell (soprano), Mrs. Stoddard (contralto)—Vocal duet—"When the Wind Blows in from the Sea" (Smart). Quintette—Pianoforte and Strings—"Cossack Reel" (Tschakoff). "Extase d'Amour" (Rozet). Neil S. Mackay (bass)—"Captain Mac" (Sanderson). Ladies' Quartet—Misses M. and N. King, D. McDowell, Mrs. Stoddard—"Waltz Song" (from "Faust"—Gounod). Quintette—Pianoforte and Strings—"Solveig's Song" (Grieg). "Serenade" (Drigo). Mae King (contralto)—"By the Waters of Minnetonka" (Lieurance). Scott MacCallum (violinist)—"Zingaresca" (Elertor).

9.0 p.m.: Metropolitan weather forecast. Ladies' Quartet—Misses M. King, N. King, D. McDowell, and Mrs. Stoddard—"Spinning Chorus" (from "The Flying Dutchman"—Wagner). Neil S. Mackay (bass)—"The Lowland Sea" (Branscombe). Fifteen minutes dance music by Pianoforte and String Quintette—Doris McInnes (soprano)—"I Love the Moon" (Rubens). Howard Sleath (violinist)—Selected. Ladies' Three Part Song—"O Hills, O Vales of Pleasure" (Mendelssohn). Fifteen minutes dance music by Pianoforte and String Quintette. 10 p.m.: News, supplied by metropolitan dailies; weather information, close down.

5CL

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

MIDDAY SESSION

12.0: Chimes. 12.1: Special late selections for Caulfield races. 12.3: Probable starters and selections for races at Kadina. 12.15: General news. 12.55: Kadina and Caulfield race results. 1.1: Description of Carnival Procession. 1.15: Close down.

AFTERNOON SESSION

2.0: Chimes. 2.1: Resume of race results. 2.3: Musical recordings. 3.0: Caulfield race result. 2.50: Description of League football. 3.0: Resume of race results at Kadina and Caulfield. 3.5: Caulfield race result. 4.1: Resume of race results at Kadina and Caulfield. 4.3: Description of League football. 4.15: Caulfield race result. 4.16: Description of League football. 4.40: Description of League football. 5.0: G.P.O. chimes and resume of race results at Kadina and Caulfield and final football scores, close down. During the afternoon description of the Carnival Sports from the Adelaide Oval by Mr. F. J. Mills.

tion of League football. 4.40: Description of League football. 5.0: G.P.O. chimes and resume of race results at Kadina and Caulfield and final football scores, close down. During the afternoon description of the Carnival Sports from the Adelaide Oval by Mr. F. J. Mills.

EVENING SESSION

6.0: Chimes. 6.1: Birthday greetings. 6.30: Dinner session. 7.0: Chimes, birthday greetings. 7.10: Rev. G. E. Hale, B.A., on "Do You Believe in Fate?" 7.25: Mr. C. G. Riley on "Items of Interest." 7.40: 5CL's sporting service.

NIGHT SESSION

8.0: Chimes. 8.10: Magill Vice-Regal Band, conducted by Orto Lovell—"Song of Australia." Quickstep, "Repas Band." Fox-trot, "All By Yourself in the Moonlight." 8.21: Mrs. R. E. Ardill, mezzo-soprano—"The Moorish Maid" (Parker). "A Heart That's Free" (Robyn). 8.28: Dave Howard, comedian. 8.34: Dino Pelardi, tenor. 8.41: Magill Vice-Regal Band, with band accompaniment—"Land of Hope and Glory" (Elgar). Waltz, "When You Played the Organ" (Gilbert). (with chimes and vocal chorus). 8.54: Ada Wordie, soprano.

9.1: Meteorological information, including semaphoretides. 9.2: Overseas grain report; announcements. 9.5: P. H. Nicholls and Bessie Francis in a Tennyson interlude, "Balin and Balan." 9.25: Magill Vice-Regal Band—Morceau, "In a Monastery Garden" (Keteiby). Quickstep, "The Iron Division." 9.37: Mrs. R. E. Ardill, mezzo-soprano—"Carissima" (from "Red Feather"). "Carmena" (Lane Wilson). 9.44: Dave Howard, comedian. 9.50: Dino Pelardi, tenor. 9.57: Magill Vice-Regal Band—"The Fair Maid of Perth." 10.4: Ada Wordie, soprano. 10.11: Magill Vice-Regal Band—Quickstep, "The Vanished Army." Waltz, "Ever True." 10.20: 5CL's sporting service, including Kadina and Caulfield race results, etc. Results of S.A. Amateur Golf Championship, League football scores, country sporting, Soccer (three grades), lacrosse results, ladies' and gentlemen's hockey, cycling, athletics, and other sporting results. 11.0: Close down.

6WF

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

10.0: Gramophone records. 11.0: Close down. 12.0: Racing anticipations. 12.7: Pianoforte solos. 12.44: Markets, news, etc. 1.1: Weather bulletin. 1.3: Close down. 3.30: Sporting session. Race results and quarter-time scores of the football matches. Musical items. 5.30 approx.: Close down. 6.45: Tune in. 6.48: Bedtime stories by Auntie Amy. 7.17: Sports results. 7.30: Commercial and general information. 7.45: Music. 8.0: Time signal. Weather. 8.3: Popular programmes from the studio. 8.30: Dance music. 8.50: Late news. Ships within range. Late weather. 9.6: Programme continued. 10.30: Close down. 104.5 Metre Transmission: Simultaneous broadcast on 104.5 metres of programme given on 1250 metres, commencing at 6.45 p.m.

7ZL

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

11.30 a.m.: Musical selections. 11.34: Midlands weather forecast. 11.35: Musical selections. 11.55: Tasmanian stations' 9 a.m. weather report. 12.0: G.P.O. clock chimes the hour. 12.1: Shipping information; ships within wireless range; mail notices; housewives' guide; commercial news. 12.8: Musical selections. 12.30: Sporting Commissioner's last minute selections for Melbourne races, also Sydney races by our Special Representative. 12.33: Musical selections. 12.55: News service; British official wireless news; railway auction produce sales held at railway. 1.0: Musical selections. 1.30: Close down. During the afternoon running descriptions will be given of the V.A.T.C. races held at Flemington racecourse, Flemington, Victoria. 3.1: Transmission from the North Hobart Oval, football match, North Juniors v. South Juniors, described by Sid Jones. 4.50: All sporting results to hand. 5.0: Close down. 6.0: All sporting results to hand. 6.15: Children's hour with "Uncle David." 7.15: News session. 7.30: Belle St. Laurence will continue her travel talk. 7.45: J. M. Counsel will speak on "European Affairs." 8.0: G.P.O. clock chimes the hour. 8.1: A request programme of popular records specially arranged by Paton's Music Warehouse. 9.30: News session. 9.45: Request programme (continued). 10.30: Close down.

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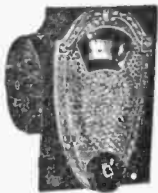
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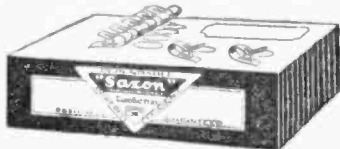
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Local Programmes, Sun., August 11

2FC

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

THE CHURCH HOUR—10 a.m. to 12.30 p.m.

- 10.0: Announcements.
- 10.5: Studio music.
- 10.30: This morning's news.
- 10.35: Rugby wireless news.
- 10.45: Music.
- 11.0: From Petersham Baptist Church—Morning Service, conducted by Rev. G. A. Craike—

Organ Prelude—"Motturmo," from Mendelssohn's "Summer Night's Dream." Doxology.

Prayer—with Lord's Prayer chanted. Responsive Reading from Psalm 19. Hymn, "How Pleased and Blessed Was I" (597).

Lesson, from 2nd Timothy, 2nd Chapter. Hymn, "We've a Story to Tell to the Nations" (793).

Offering. Voluntary, "Offertore in C" (Lesebuerevely).

Anthem, by the Choir.

Prayer.

Hymn, "Break Thou the Bread of Life" (209).

Solo, Mr. Cyril Huggett, "Hold Thou My Hand, Dear Lord."

Sermon, Psalm 19, verses 7 and 8, Rev. G. A. Craike.

Hymn, "Lead, Kindly Light" (340)

Benediction.

Recessional.

12.15: Music.

12.30: Close.

AFTERNOON CONCERT—3 to 4.30.
3.0: From the Lyceum Hall, Pitt Street—Pleasant Sunday Afternoon Concert, arranged by the Central Methodist Mission.

4.30: Close.

EVENING PROGRAMME—6 to 10.30.
6.0: A programme of Jewish music.
6.40: An address by Rear-Admiral Evans.

7.0: An hour with the great composers, arranged by Madame Evelyn Grieg.

8.0: Ted Henkel's Cantollans and Fred Scholl at the Wurlitzer Organ.

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: Morning service, conducted by the Rev. the Dean of Sydney.

12.15: From the Studio: Musical items.

12.30: News items.

12.38: Studio presentation of a specially arranged programme of music.

2.15: The "Cheer-up" Society, conducted by Mr. Frank Grose.

2.30: Half an hour's music with the great masters.

3.0: Close.

LATE AFTERNOON—4.30 to 6.

4.30: The Marrickville Silver Band.

4.45: George F. Manuel, tenor.

4.52: Irene Burkitt, violinist.

5.0: The Marrickville Silver Band.

5.15: Marjory Allomes, contralto.

5.22: Irene Burkitt, violinist.

5.30: George F. Manuel, tenor.

5.37: The Marrickville Silver Band.

5.52: Marjory Allomes, contralto.

EVENING SESSION—6 to 10.

6.0: A session for children in hospital.

6.40: From Pitt Street Congregational Church, organ recital by Lillian Frost.

7.0: The evening service from Pitt Street Congregational Church, conducted by Rev. T. E. Ruth.

8.30: Monarco Quartette.

8.45: Stanley Catlett, tenor.

8.52: Carl Budden Morris, pianist.

9.4: Virzinia Bassetti, soprano.

9.11: Monarco Quartette.

9.26: Stanley Catlett, tenor.

9.33: Carl Budden Morris, pianist.

9.45: Monarco Quartette.

10.0: Close. National Anthem.

2GB

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

- 9.0: Address, by Miss Mary Rivett, "Wisdom and Experience."
- 9.30: Address, by Mr. Victor E. Cromer, "Wisdom and Health."
- 10.0: Music from Studio.
- 10.15: Organ 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: Musical session.
- 5.30: Children's session, by Uncle George.
- 7.0: Lecture from Adyar House.
- 8.0: Music from Studio.
- 8.15: Sacred concert, by courtesy of Messrs. Suttons, Ltd.; player piano solo.
- 8.23: Miss Ethel Muller, contralto.
- 8.30: Mr. Gregory Valentine, violinist.
- 8.38: Mr. Cecil Houghton, tenor.
- 8.45: Miss Elsie Peerless, soprano.
- 8.53: Player piano solo.
- 9.0: Weather report.
- 9.1: Miss Ethel Muller, contralto.
- 9.8: Mr. Gregory Valentine, violinist.
- 9.16: Mr. Cecil Houghton, tenor.
- 9.23: Miss Elsie Peerless, soprano.
- 9.30: Address by Mr. Victor E. Cromer, "Do Spiritual Qualities Count?"
- 9.45: Close down.

2UW

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

- 10.30: Music and request items.
- 1.0: Close down.
- 5.30: Children's Hour, conducted by Uncle Jack.
- 6.30: Close down.
- 7.0: Request items.
- 10.30: Close down.

2UE

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

- 11.0: Mass from St. Mary's Church, Ridge Street, North Sydney.
- 12.15: Orchestral music from Radio House.
- 1.0: Close down.
- 6.0: Music from Catholic Studio.
- 6.15: Session conducted by Rev. Father T. Walsh, S.J.
- 6.40: Question-box talks, arranged by Dr. L. Rumble, M.S.C.
- 7.30: Evening devotions, from St. Mary's Church, North Sydney.
- 8.10: Vocal and instrumental items.
- 10.15: Announcements. Close down.

SUNDAY

WIRELESS TALKS

In speaking of "spiritual" power, has the religious consciousness of the ages been concerned with a reality capable of being scientifically investigated, or with a mere nebulous nothing which it were folly to attempt to analyse?

If spiritual power be indeed a definite form of energy, then surely must the laws of its operation be capable of exact statement, and the conditions able to be determined under which man may become conscious channel for such power.

Should such a line of thought interest you, listen in to WIRELESS TALKS from STATION 2GB on SUNDAY MORNINGS, from 9 to 10 o'clock, and on SUNDAY EVENINGS from 9.30 to 9.45 o'clock.

PUBLIC LECTURES

SUNDAY EVENINGS,

The Vestibule, The Sydney Town Hall, commencing at 7 o'clock.

TUESDAY EVENINGS,

The King's Hall, 69 Hunter St., Sydney, commencing at 7.45 o'clock.

Interstate Programmes, Sun., Aug. 11

3LO

Australian Broadcasting Co., 126A Russell St., Melbourne (Wavelength, 321 metres.)

MORNING SESSION

10.0: Birthday greetings. 10.15: Reproduced music. 10.45: News of the week-end. 11.0: Morning service from St. Paul's Cathedral; sermon by Canon Snodgrass. 12.30: Close down.

AFTERNOON SESSION

3.0: Pleasant Sunday afternoon from Wesley Church; speaker, J. J. Virgo, C.B.E., chairman of the British Commonwealth Union of the Y.M.C.A. soloist, Madame Saffo Arny. 4.30: Close down.

CHILDREN'S HOUR

6.0 to 7.0: An hour's happiness with John the Piper's Son and Brother Bill.

EVENING SESSION

7.0: Melbourne String Quartette—String Quartette, Op. 18, No. 1 F Major (Beethoven); "Allegro Con Brio." "Scherzo." Finale. 7.15: Mary Hotham, contralto—"The Linden Tree" (Schubert), "How Lovely Are Thy Dwelling" 7.22: Cecil Parkes, violin; Myra Montague, piano—Sonata for Violin and Piano, Op. 24, F Major; "Allegro Con Brio." "Andante Cantabile." "Scherzo." 7.37: Mary Hotham, contralto—"The Memnon Song" (Schubert). 7.44: Melbourne String Quartette—"Variations" (Beethoven), "March Militaire E Flat (Schubert).

NIGHT SESSION

8.0: Overture, "Zampa" (Herold), Stan Porter and his Symphony Orchestra. Piano solo, "Soiree Vienne" (Liszt), Mr. Carl Bartling.

Vocal number, Selected. Jazz Medley, a symphonic arrangement of "Roses," Bob McQuestion and his Band. String Trio, Valse Triste (Sibelius).

March, Minutres Viennoise (Kreislner). Syncopation (Kreislner). Orchestral Number, (a) "Idillo" (Lack), (b) "Under the Leaves" (Thome), Stan Porter and his Symphony Orchestra.

Tenor Solo, Selected. Organ Recital, F. Lanterman, gems from Chopin. Violin Solo, to be selected, Arvid Norit.

Orchestral Selection, "The Fortunes Teller" (Herbert). Baritone Solo, to be selected.

Popular Melody, (a) I Wonder, (b) Together, (c) Dream House, Bob McQuestion and his Band (vocal chorus by Charles Stephens).

Orchestral Number, "The Waltz Dream" (Strauss). Vocalists: Miss Merna Stewart and Charles Stephens.

Organ, Love's Songs of Yesterday. Trumpet and Trombone Duet, "The Crucifix" (Faure), Messrs. Robertson and Wheatland.

A Sally Selection—A selection of the most popular Sally Tunes, featuring "Sally of My Dreams," soloist, Chas. Stephens.

Tenor Solo, Signor Carlo Martini. Cor Anglais Solo, "Fruilings Erwachen" (Bach), Edgar Richmond.

Orchestral, "Coronation March" from "Le Prophete" (Myerbeer), Stan Porter and his Symphony Orchestra.

10.30: God Save the King.

3AR

Australian Broadcasting Co., 126A Russell St., Melbourne (Wavelength 484 metres.)

11.0: G.P.O. chimes. 11.1: Morning Service from Scots Church. Preacher: Rev. R. W. Macaulay, B.A.—"Behold the Man." 12.30: Reproduced music.

2.0: Frank Lanterman, at the W. urtilizer. 3.0: Close down.

AFTERNOON SESSION

4.30: Regal Band—"The Scindian"; overture, "The Golden Sceptre." 4.40: Victory Male Quartette, Negro Spirituals: "De Creation" (Burlleigh); "Scandalise My Name" (Burlleigh); "Heaven" (Burlleigh); "Going Home" (Dvorak). 4.50: Organ recital from St. Peter's Church, by Mr. Claude E. Montath—"Fantasia in G Minor" (Bach), "Pastorale from Organ Symphony No. 1" (Vierne), March upon a Theme of Handel (Cullmond). 5.5: Herbert Sandersen (baritone), "Nay, Tho' My Heart Should Break" (Tschalkowsky). 5.10: Regal Band—Selection, "A Sacred Souvenir." 5.20: Victory Male Quartette—"Believe Me if All Those Endearing Young Charms" (Breuer), "The Rose" (Nevin), Medley of English Madrigals (Morley), 5.30: Frank Johnston, cellist—"Litanie" (Schubert), "Musette" "Scherzo" (Van Goens). 5.40: Una Barber, soprano—"The Wild Rose" (Schubert), "Cradlesong" (Schubert).

5.50: Regal Band—Grand Fantasia, "Cleopatra"; cornet solo. 6.0: Clair Scott, contralto—"Romance" from "Faust" (Gounod), "Just a Wistful Dream" (Crichton). 6.10: Cremona Trio—Trio Op. 52 D Minor (Arensky), "Allegro Moderato," "Finale," 1.25: Una Barber, soprano—"Solveig's Song" (Grieg), "A Swan" (Grieg). 6.35: Myra Montague, piano—"Songs Without Words" (Mendelssohn), "The Bee" (Palmgren). 6.45: Clair Scott, contralto—"Little Red House on the Hill" (La Touche). 6.50: Cremona Trio—"Prayer" (Schubert), "Tambourin" (Rameau-Parkes), "Bourree" (Handel).

EVENING SESSION

6.58: What's on the Air. 7.0: Evening Service from Independent Church. Preacher: Rev. A. Penny Evans.

8.30: Relay from 2FC, Sydney—Ted Henkel and his Capitollans, which includes the Capitol Light Orchestra; Fred Schoil at the Wurlitzer.

3DB

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

AFTERNOON SESSION

3.0: Chamber music and songs. 4.30: Close down.

EVENING SESSION

6.30: Children's hour. 7.0: An opera, "The Master-singers" (Wagner). 8.0: Request programme. 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. John's Cathedral, 12.30 p.m.: Conclusion.

AFTERNOON SESSION

2.15: From the Church of Denmark—Opening Prayer. Hymn (Kirke og Hjem), No. 403. The Collect for the Day.

The Epistle. Hymn No. 408. The Gospel. Hymn No. 467. Solo No. 624 (Mr. C. Christiansen). Sermon.

Hymn No. 316. The Collect for the Word. The Benediction. Hymn No. 668. Closing Prayer.

3.15: Conclusion. The concert provided by the Brisbane Federal Band will be relayed from the Brisbane Botanic Gardens.

EARLY EVENING SESSION

6.0: Greetings to little listeners, and replies to letters. 7.0: Children's service.

NIGHT SESSION

The complete evening service from St. John's Cathedral will be relayed.

At the conclusion of the church service, the concert by the Brisbane Municipal Band will be relayed from Wickham Park.

5CL

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

MORNING SESSION

10.45: Carillon of Bells from Adelaide Town Hall. 11.1: Service from Flinders Street Baptist Church. 12.10: British official wireless news. 12.15: Close down.

AFTERNOON SESSION

3.0: Chimes. 3.1: A Pleasant Sunday Afternoon Service. 4.0: Close down.

EVENING SESSION

6.0: Chimes. 6.1: Birthday greetings. 7.1: Service from Magill Methodist Church.

NIGHT SESSION

8.15: Announcements. Whitfield Institute Distress Message. 8.20: From Magill Methodist Church. A concert. Magill Methodist Choir. Anthem, "When I Survey." Aileen Newlyn, soprano—"Rejoice Greatly" from "The Messiah." Magill Vice-Regal Band—Selected. Eileen Cowardine, Elocutionist—"The Last Hymn." Magill Methodist Choir—Selected. Aileen Newlyn, Soprano—Selected. Magill Vice-Regal Band—Selected. Eileen Cowardine, Elocutionist—"Carry On." Magill Methodist Choir—Anthem, "God Came from Teman." From SCL Studio. 10.0: General news. 10.15: Close down.

6WF

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

10.30: Special half hour for the enthusiastic listener. 11.0: Morning service from St. Andrew's Church, Perth. 12.15: Close down. 3.0: Tune in. 1.35: Musical programme. 4.30: Close down. 6.45: Bedtime stories. 7.30: Evening service from St. George's Cathedral. 8.45: Concert relayed from Queen's Hall, Perth. 10.5: Close down. 104.5 Metres. Simultaneous broadcast on 104.5 metres of programme given on 1250 metres, commencing at 6.45 p.m.

7ZL

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

11.0 a.m.: Morning service from Memorial Congregational Church, Hobart. 12.15: Close down. 3.30: From the Studio, a concert programme arranged by the Derwent Concert Band, conducted by T. W. Hopkins. 4.30: Close down. 6.15: Children's Chorus Singing. Conductor, Trevor M. Morris. 6.45: Bertha Southey Brammhall. 7.0: Evening service from St. David's Cathedral. 8.25: From the Studio. A programme of sacred music, arranged by Madame Helen George and Arthur Lowe's male singers. 8.45: News session. 9.50: Close down.

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(and Melbourne)

Local Programmes, Monday, August 12

2FC

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

EARLY MORNING SESSION—7 to 8.15.
7.0: "Big Ben" and Meteorological information.
7.3: This morning's news, from the "Guardian."
7.8: Early rising music.
7.45: Mails and shipping.
7.48: What's on to-day.
7.50: Children's birthday calls.
8.0: Music from the Studio.
8.15: Close.

MORNING SESSION—10.30 to 12.30 p.m.
10.30: Announcements.
10.32: A.B.C. Racing Observer.
10.45: From the State Theatre—Recital at the Grand Organ, by Edgar Stone.
11.0: Household Talks—Talk on cooking, by Miss Ruth Furst.
11.10: Cables, A.P.A. and "Sun"—"Herald" news service.
11.15: The Studio Orchestra.
12.0: "Big Ben": Stock Exchange, and metal quotations.
12.2: Fiction talk.
12.30: Midday market and weather reports, supplied by the N.S.W. State Marketing Board.
12.30: Close.

THE LUNCH HOUR—1 p.m. to 2.30 p.m.
1.0: Lunch to music with the A.B.C. Orchestra.
2.0: Stock Exchange, second call.
2.2: A glance at the afternoon papers.
2.27: Announcements.

THE RADIO MATINEE—2.30 to 4.30.
2.30: The A.B.C. Orchestra.
2.45: Anne Mills, mezzo.
2.52: Scott Alexander, in a sketch.
3.2: The A.B.C. Orchestra.
3.12: Dorothy Farmer, pianist.
3.22: Anne Mills, mezzo.
3.30: The A.B.C. Orchestra.
3.45: Keith Kennedy, violinist.
3.52: Scott Alexander, in a sketch.
4.2: The A.B.C. Orchestra.
4.10: Dorothy Farmer, pianist.
4.18: Keith Kennedy, violinist.
4.28: Stock Exchange, third call.
4.30: Close.

EARLY EVENING—5.45 to 7.55.
5.45: Kiddies' "Goodnight" stories, told by the "Hello Man," assisted by Aunt Willa and Marjory.
6.45: The Studio Dinner Orchestra.
7.30: A.B.C. Sporting Service.
7.37: Stock Exchange, final call.
7.40: Late news service.
7.45: From the State Theatre—Mr. Price Dunlavy at the Grand Organ.

EVENING PRESENTATION—8 to 11.30.
8.0: The National Broadcasting Orchestra.
8.15: Raymond Beatty, basso.
8.23: Gladstone Bell, cello.
8.31: The National Broadcasting Orchestra.
8.46: Molly Mackay, soprano.
8.54: Seignor Torzillo, harpist.
9.2: The Country Man's weather session—(a) New South Wales forecasts. (b) Inter-State weather synopsis.
9.3: The Arcadians Male Quartette.
9.13: The National Broadcasting Orchestra.
9.28: Elma Perdriau, monologues.
9.42: The National Broadcasting Orchestra.
9.57: The Arcadians Male Quartette.
10.5: Connie Harris, violinist.
10.15: Announcements; official weather forecast.
10.20: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
11.30: Close. The National Anthem

2BL

Australian Broadcasting Company, Ltd., Market St., Sydney (Wavelength, 333 metres).

OPENING SESSION—8.15 to 11 a.m.
8.15: Music for every mood.
8.45: Meteorological data.
8.50: Light music and songs.
9.30: British Official wireless news.
9.35: New music.
10.5: News from the "Guardian."
10.10: The Ladies' Club hour—the Australian Women's A.B.C. Association, conducted by Miss Gwen Varley.

10.30: The Studio Orchestra—Mr. Rodda.
11.0: Close.
MIDDAY SESSION—12 noon to 2.30 p.m.
12.0: Announcements.
12.2: The A.B.C. Orchestra.
1.0: Afternoon news from the "Evening News."
1.5: Studio music.
1.15: Women's "Interest Talk."
1.30: The Traders' "Selling the Set" music.
2.0: At the console of the Wurlitzer organ at the Capitol Theatre, J. Knight Barnett.
2.12: Studio music.

AFTERNOON ENTERTAINMENT—2.30 to 5.45.
2.30: Business efficiency talks.
2.45: "The Magic Carpet," a story of travel and adventure.
3.0: Popular dance numbers.
3.12: Laurel Mather, popular vocalist.
3.19: Walter Searle, entertainer.
3.29: Popular numbers.
3.41: From the Oriental Ballroom, Sydney Simpson's Syncopaters in dance music.
3.48: From the studio, Laurel Mather, popular vocalist.
3.55: Dance music.
4.7: Walter Seale, entertainer.
4.17: Popular items.
4.27: From the Oriental Ballroom, Sydney Simpson's Syncopaters, in dance music.
4.34: From the studio, popular numbers.
4.45: "The Trade Hour," demonstration music.
5.45: Close.

THE DINNER HOUR

6.15: The Studio Dinner Orchestra.
6.45: The A.B.C. Younger Set Club—Boys' Aero Club, conducted by Mr. Norman Lyons.
7.5: Studio music.
7.20: Late market reports.
7.30: The Studio Dinner Orchestra.
7.55: What's on the air to-night?

THE NIGHT PROGRAMME—8 p.m. to 10.30 p.m.

8.0: Sonny Miller, the Crooning Song Writer.
8.10: Henry and Horace, a musical novelty act.
8.20: Grace Quine, popular vocalist.
8.28: Will and Barbara James, musical entertainers.
8.38: Tom Foggitt, novelty pianist.
8.46: Raymond Beatty, basso.
8.54: Gladstone Bell, cello.
9.4: Will and Barbara James, musical entertainers.
9.14: Molly Mackay, soprano.
9.22: Henry and Horace, a musical novelty act.
9.30: Late weather forecast, for the man on the land.
9.32: Elma Perdriau, monologues.
9.42: Seignor Torzillo, harpist.
10.0: Grace Quine, popular vocalist.
10.8: Tom Foggitt, novelty pianist.
10.18: Connie Harris, violinist.
10.25: Official weather forecast, metropolitan and country; late "Evening News" service.
10.30: Close. National Anthem.

2GB

Theosophical Broadcasting Station, 29 Bigh 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; house-keeping hints and shopping guide; Hollywood news. 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: Talk by Mr. H. Morton. 3.30: Close down. 5.30: Children's session, by Uncle George. 7.0: Music. 8.0: Miss Florence Gordon, contralto. 8.7: Symphony orchestra. 8.15: Mr. Leslie Herford, baritone. 8.22: Instrumental Trio. 8.30: Humorous interlude, by Mr. Jack Win and Mr. Heath Burdock. 8.35: Miss Dorothy Stacey, soprano. 8.45: Address. 9.0: Weather report. 9.3: Symphony Orchestra. 9.13: Miss Florence Gordon, contralto. 9.23: Humorous interlude, by Mr. Jack Win and Mr. Heath Burdock. 9.28: Mr. Heath Burdock, Shakespearean recital. 9.33: Mr. Leslie Herford, baritone. 9.38: Instrumental Trio. 9.53: Miss Dorothy Stacey, soprano. 10.0: Instrumental music. 10.30: Close down.

2UW

Radio Broadcasting, Ltd., Palling's Building, Ash St., Sydney (Wavelength, 265 metres).

MIDDAY SESSION.
12.30: Music and request numbers. 1.0: Clock and chimes. 1.15: Talk on "Home-craft," by Pandora. 1.40: Music. 2.30: Close down. 4.30: Music and request numbers.

EVENING SESSION.
5.30: Children's Hour, conducted by Uncle Jack. 6.30: Close down. 7.0: Music and request items. 7.45: Radio talk, hints and advice, by Mr. E. Homfray. 8.0: Songs about Mother. 9.0: Comments on foreign affairs, by Mr. J. M. Prentice. 9.10: Request items. 10.30: Close down.

2KY

Trades and Labor Council, Goulburn St., Sydney (Wavelength, 290 metres).

MORNING SESSION.
10 a.m.: Tune in to the ticking of the clock. 10.3: Popular fox-trots. 10.15: Hawaiian steel guitar selections. 10.30: Request numbers. 10.50: Vocal items. 11.0: A few laughs. 11.5: Pianoforte selections. 11.15: Calls and announcements. 11.20: Musical interlude. 11.30: Request numbers. 11.40: Where to go to-night. 12 noon: Closing announcements.

CHILDREN'S SESSION.
6 p.m.: Birthday calls, request numbers, and kiddies' entertainment, Aunt Jimema and Uncle Bert.

EVENING SESSION.
7 p.m.: 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: Series of Biblical talks, presented by I.B.S.A. 8.45: Soprano solos, Miss Wright. 9.0: Novelty interlude. 9.10: Request numbers. 9.30: Selection of latest Parlophone, Columbia, Regal, Brunswick, and Golden Tongue records. 10.0: Closing announcements.

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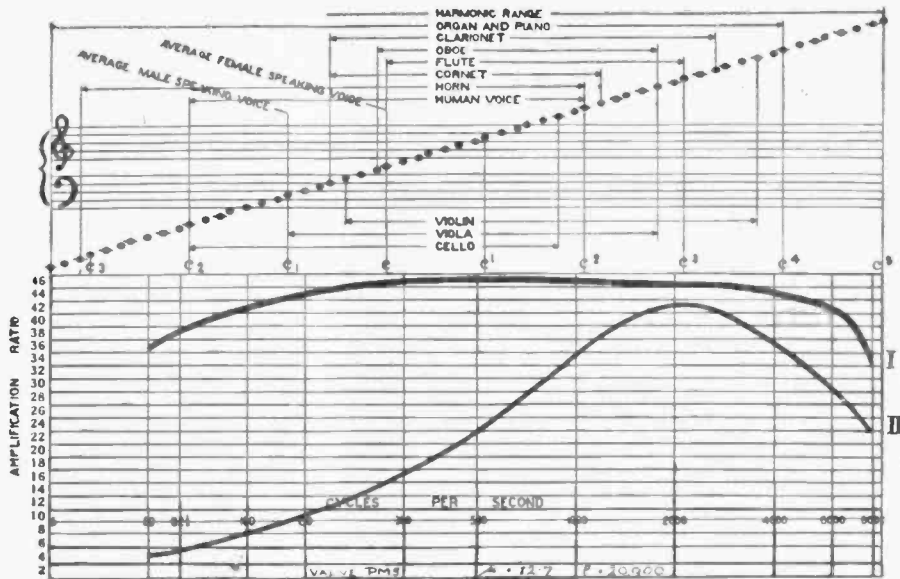
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Interstate Programmes, Monday, August 12

3LO

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

EARLY MORNING SESSION
7.0 to 8.15: See Friday.

MORNING SESSION
Sporting

10.30: Current Events in the Racing World, by Eric Welch. 10.40: Reproduced music. 10.50: "The Football Field," by Mel Morris.

MORNING MUSICALS

11.0: A.B.C. Orchestra, with Jean Harrison Lee, contralto. 12.30: Close down.

MIDDAY SESSION

1.0 to 2.0: Luncheon music provided by the National Broadcasting Orchestra, under direction of Wm. G. James; conductor, Percy Code.

THE EDUCATIONAL SESSION

2.0: "Boys and Girls of Other Days," Mr. N. D. Harper, M.A., Dip. Ed. 2.15: Reproduced music. 2.25: "Forecasting the Weather," Mr. E. Barkley, Assistant Director of Research, Meteorological Bureau. 2.40: Reproduced music. 2.45: Our Australian Writers. 2—Adam Lindsay Gordon, Mr. Percival Serle.

THE RADIO MATINEE

3.0: Orchestra—"If I Were King" (Adam), "Colinette" (Bosc). 3.10: Sylvie M'Pherson, soprano, "Three Green Bonnets" (d'Harcelot), "Lackaday" (Crampton), "The Fairy Land" (Montague Phillips). 3.20: J. and P. the Confidential Two—Song waltz, "Was it a Dream?"; slow fox-trot, "It's a Precious Little Thing Called Love"; piano novelty, "Nola"; song, "Mighty Like a Rose"; novelty song, "A Good Man Nowadays is Hard to Find." 3.35: Frederic Earp, baritone, Old English folk songs—"Summer is a-Coming" (13th century), "Bring Us in Good Ale" (15th century), "My Little Pretty One" (16th century), "The Blacksmith" (17th century). 3.45: Eunice Garland, piano recital—"Spinning Song" (Mendelssohn), "The Music Box," Op. 32 ("Laidow"), "The Lark" (Clinka-Biakrew). 4.0: Frederic Earp, baritone, more English folk songs—"Strawberry Fair" (traditional), "Farm Laborer's Song" (traditional), "Sally Gray" (traditional). 4.10: Orchestra—"Three Dances," Cyril Scott. 4.15: Edward Beachcroft, tenor—"Out in the Stilly Night" (Moffat), "I Hear a Throat at Eve" (Cadmán), "Passing By" (Purcell). 4.25: Orchestra—"Salut d'Amour" (Elgar), "Adieu" (Friml). 4.30: Close down.

THE CHILDREN'S CORNER

5.45: Travel on the Magic Carpet with Billy Bunny. Rita Hilton will amuse the children with songs at the piano. 6.0: A Talk of Interest to the Older Boys and Girls. 6.30: Market reports.

EVENING SESSION

7.0: "Public School Activities," Mr. Percival Taylor. 7.15: "Recent Discoveries and Inventions"—I. Wireless Transmission of Pictures, Mr. H. Johnston. 7.30: "Recent Books of Note," Mr. A. A. Phillips, B.A. 7.45: "The World's Kaleidoscope," Professor H. K. Bailey. B.A., LL.B.

NIGHT SESSION

8.0: National Broadcasting Orchestra (under direction of Wm. G. James, conductor, Percy Code)—"Sylvaonic Rhapsody" (Grieg). 8.10: Half an Hour of Classical Music, arranged by Mary Campbell. 8.40: Miss A. Llewellyn, harpist—Selections from her repertoire. 8.50: The Melbourne Repertory Theatre Company present "Five Birds in a Cage," by Gertrude Jennings.

PERSONS OF THE PLAY
(In order of speaking):

Susan, the Duchess of Wiltshire. Athol Palford
Lorhard, Lord Porth. Frank Lonie
Horace, a liftman. George Falkner
Bert, a workman. Frank D. Gieslow
Nelly, a milliner's assistant. Kathleen Salter
Scene: A London Tube Lift.
The play produced by Frank D. Clewlow.

9.20: Orchestra—
"Three Lyric Pieces" (Grieg).
9.28: William Basstone, baritone—
Selections from his repertoire.
9.35: Orchestra—
Suite, "Harvest Time" (Haydn Wood).
9.45: Claude Carter, entertainer—
"The Advertising Man"
"If the Road is Hip 'U's Signor"
9.55: Fifteen minutes with Yvonne and Yvette and piano.
10.10: Orchestra—
Selections from "Katinka"
10.20: News from "The Minor Papers."
10.30: The "Rex" Dance Band
11.30: Close down.

3AR

Australian Broadcasting Co., 120A Russell St., Melbourne (Wavelength 184 metres.)

8.15 to 11.0: See Friday.

MIDDAY SESSION

12.0: "Mainly for Women." 12.15: Midday news session from the studio. 12.30 to 1.0: National Broadcasting Orchestra (under direction Wm. G. James; conductor, Percy Code). 1.0: Time chimes from G.P.O. 1.1: Stock Exchange; weather reports; comments on the day's news. 1.30: Reproduced music.

AFTERNOON SESSION.

2.0: Overture, Stan Porter's Symphony Orchestra. 2.10: Grace Jackson, contralto. 2.30: Bertha Jorgensen, violin—two movements from Sonata (Handel).

del). 2.40: "Business by Telephone," an original farical sketch by Leslie Williams. The scene takes place in the office of Messrs. Rusty and Dusty House and Estate Agents. Mr. Rusty, Leslie Williams; Miss Julia Rискит, Eleanor Underwood. 3.0: Jack Gormley, ten minutes of whistling comedy. 3.10: Jack Shoppee, xylophone selections. 3.15: Connors and Paul, "League of Notions Revue Company." 4.15: Reproduced music. 6.45: Close down. 6.15 to 7.30: Dinner music, supplied by the A.B.C. Studio Orchestra.

EVENING SESSION
7.30 "What's on the Air To-night." 7.32: Latest musical releases. 7.45: Market reports.

NIGHT SESSION

8.0: Prahran City Band—
March, "Silver Badge" (Rimmer).
Intermezzo, "Amigo" (Lattice).
8.10: Thirty minutes with "The Town Topics."
8.40: Prahran City Band—
Selection, "H.M.S. Pinafore."
8.50: Gus Quin, Radio Magician—
Have your pencil paper, and pack of cards
in readiness.
9.0: Mariana Trio, modern melodies.
9.15: Prahran City Band—
Suite, "A Rustic Holiday" (Rimmer).
9.25: Kathleen Simms, soprano—
Old English songs.
9.35: A.B.C. Station Quartette—
"Sally in Our Alley," arr. by Pochon.
"Drink to Me Only," arr. by Pochon.
9.45: Frank Thomas, bass—
"When the Sergeant-Major's on Parade" (Long-
staff).
"Sylvia" (Oley Speaks).
9.52: Edouard Lambert, violin.
10.0: Sketch from Dickens—Maurice Dudley.
10.12: Frank Thomas, bass—
"When the King Goes Forth to War" (Koenen-
man).
"At Dawning" (Cadmán).
10.20: Prahran City Band—
"La Traviata" (Verdi).
10.30: Close down.

3DB

The "Herald" Broadcasting Station, Flinders Street, Melbourne (355 metres.)

MORNING SESSION.

11.0: Time signal. Light orchestra and songs. 11.30: The world's fashions and fables, by "La Vogue." 11.35: Operatic favorites. 12.0: Ken Cotton's Revelers, and community singing at King's Theatre. Conductor, Mr. G. J. Mackay. 1.45: Close down.

AFTERNOON SESSION

2.0: Instrumental and vocal solos. 2.30: Symphony orchestra and songs. 2.55: Atwater Kent radio hour. 3.55: News. 4.0: Close down.

EARLY EVENING SESSION

5.30: Billy Bunny's children's hour. 6.0: Wurlitzer organ and hymn songs. 6.15: Dorothy Silk, stories for the children. 6.30: What's on at the theatres and movies. 6.32: Radio Club. 6.35: Trios and songs. 7.0: Brass bands and ballads. 7.30: Hawaiian music. 7.45: Market reports.

NIGHT SESSION

8.0: "Aeolian" programme. 8.30: Symphony session. 9.0: Band music and hymns. 9.30: Organ, cello, and songs. 10.0: Variety. 10.30: Slumber music. 10.40: News. 10.45: God Save the King.

4QG

Queensland Government Radio Service, Brisbane (Wavelength, 395 metres.)

For morning session schedules, see Friday.

AFTERNOON SESSION

3.0: The official opening of the Meat Hall will be relayed from the Royal Show, Exhibition Grounds.

NIGHT SESSION

At suitable intervals during the evening music, numbers from "The Country Girl," which is being produced by the Brisbane Comic Opera Company, will be relayed from the Cremorne Theatre.

8.0: The studio orchestra—
Overture, "Joys of Spring" (Wagner).
Kennedy Allen. The seventh of a series of re-
views on Shakespeare and his works. "Some
Problems in Hamlet."
Mrs. R. G. Allen (soprano)—
"Nobil Signor" (Meyerbeer).
The Anglo Male Quartette—
"Comrades in Arms" (Farry).
The studio orchestra—
One-step, "Hunkatin" (Levey).
C. R. Kolb (tenor) and Dick Pike (bass)—
Vocal duet, "Two Fascinating Gentlemen"
(Mayne).
Mrs. R. G. Allen (soprano)—
"Snowdrop" (Craxton).
Mrs. Williams and Carl Hansen (violin and
clarinet duet—
"On a Woodland Glade" (Ray).
Accompanied by the studio orchestra.

9.0: Metropolitan programme broadcast.
9.2: The Anglo Male Quartette—
"Southern Memories" (Bergquist).
"Rocked in the Cradle of the Deep" (Parks).
The studio orchestra—
Selection, "The Spring Chicken" (Caryl-
Morison).
The Anglo Male Quartette—
"Keep Down the Middle" (Scott Gatty).
"Piccaninny Land of Dreams" (Phillips).
9.30: A programme of music by the Brisbane Ex-
celsior Band.
10.0: News supplied by the metropolitan dailies.
Weather information.
Close down.

5CL

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

MORNING SESSION

11.15 to 2.0: See Friday.
3.0 to 4.30: General programme, see Friday.
4.30 to 4.30: General programme see Friday.

EVENING SESSION

5.50 to 7.35: General Programme see Friday.

NIGHT SESSION

8.0: Chimes.
8.10: Walter Barratt and his Maison Masters of Melody—
"The Line Up" (Lake).
"Kashmiri."
(Founded on Amy Woodforde-Finden's famous "Love Lyrics").
"My Dream Sweetheart" (Hall).
8.20: Jack Burgess and his Ukulele—
"Why Should I say I'm Sorry."
8.24: Walter Barratt and his Maison Masters of Melody—
"Back in Your Own Backyard" (Jolson).
"Let a Smile be Your Umbrella" (Payne).
"Lonely Little Bluebird" (Woods).
8.34: Introducing Rupert Hazell and Elsie Day, who will entertain you.
8.42: Walter Barratt and his Maison Masters of Melody—
"Could it be You" (Winegar).
"Nebraska" (Revel).
"Lonely Little Cinderella" (Richey).
8.52: Jack Burgess and his Ukulele—
"The King's Love Affairs" (Crumit).
8.56: Walter Barratt and his Maison Masters of Melody—
"Old Man Sunshine" (Dixon).
"Jericho" (Myers).
"Bon Solr, Cherie" (M'Hugh).
9.6: Meteorological information, including Sema-
phore Tides.
9.7: Overseas grain report; announcements.
9.10: A One-act Dialogue, entitled—
"Wireless Harry Meets his Old Friend Dick."
(Specially written for 5CL by Mr. Henry Cohen).
Character: Wireless Harry: Henry Cohen.
Dick: Jack Burgess.

9.20: Walter Barratt and his Maison Masters of Melody.

An Item by Reg. Follow at the Piano.
"There's a Rainbow Round by Shoulder" (Jolson).
"The Savoy American Medley" (Somers).

9.30: Rupert Hazell and Elsie Day.
9.35: Walter Barratt and his Maison Masters of Melody—

"I Kiss your Hand, Madame" (Erwin).
"Love Sings a Song in my Heart" (Cherniavsky).
"Honey" (Simon).

9.48: Jack Burgess and his Ukulele—
"Me and the Man in the Moon" (Leslie).
9.52: Walter Barratt and his Maison Masters of Melody—

"A Precious Little Thing Called Love" (Davis).
"Sweet Sue, Just You" (Harris).

10.2: Jack Burgess and his Ukulele—
"That's how I feel about you" (Davis).
"Oh, what a night to love."
10.6: Walter Barratt and his Maison Masters of Melody—

"I do" (Ash).
"Marle" (Berlin).
"Glad Rag Doll" (Ager).

NEWS SESSION.

10.15: General news service.
10.30: Walter Barratt and his Maison Masters of Melody—

"That's Her Now" (Ager).
"The Wedding of the Painted Doll" (Brown).
"You're Wonderful" (Fields).
"Avalon Town" (Brown).

"Beautiful" (Shay).
"Happy Humming Bird" (De Sylva).
Request numbers.
11.0: G.P.O. chimes. Close down.

6WF

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

10.0: Gramophone records. 11.0: Close down. 12.30: Markets news, etc. Weather. 1.3: Music. 1.30: Close down. 3.30: Afternoon tea music. 4.0: "Seal-
ing Wax Craft," by Miss B. Hoyle. 4.30: Close
down. 6.45: Bedtime stories by Uncle Duffy. 7.5:
Light music. 7.30: Commercial and general informa-
tion. 7.45: Popular science talk. 8.0: Time signal.
8.1: Weather. 8.5: Children's Orchestra. 8.50:
Late news. Ships within range. Late weather. 9.8:
Programme continued. 10.30: Close down. 10.4:
Metre Transmission: Simultaneous broadcast on 104.5
metres of programme given on 1250 metres. com-
mencing at 6.45 p.m.

7ZL

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

11.30 a.m.: Record recital. 11.34: Midlands weather forecast. 11.35: Record recital. 11.55: Tasmanian stations' 9 a.m. weather report. 12.1: Shipping in-
formation; ships within wireless range; mail notices; housewives' guide; commercial news. 12.8: Record

recital. 12.29: Announcements. 12.55: News service. British official wireless news; railway auction produce sales held at railway. 1.10: Under the auspices of the "Come to Tasmania" organisation, A. J. Honey, will speak on "All Australian Fruit Exhibition." 1.20: Record recital. 1.30: Close down. 3.0: G.P.O. clock chimes the hour. 3.1: Record recital. 3.4: Weather information. 3.5: Record recital. 4.15: "Aunt Edna" on "Evening Wear." 4.30: Close down. 6.15: Children's Hour with "Uncle David." 7.15: News session. 7.30: Under the auspices of the Tasmanian University, Professor T. Thomson Flynn, D.Sc., will speak on "The Marine Resources of Tasmania." 7.45: G. S. Roberts, of the Government Tourist Bureau, will speak on "Tasmania's East Coast." 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; James Marsh, organist; Mrs. Saunders, pianist; Hazel Guest, violinist; Keith Semple, baritone. 9.30: News session. 9.45: Record recital. 10.0: G.P.O. clock chimes the hour. Close down.

Radio Crossword Competition

PRICE'S Radio Service announce a novel competition—to construct a Radio Crossword Puzzle incorporating not less than 50 per cent. Radio terms and the name "Prices." First prize is an open order for £3/3/, second prize open order for £1/1/. Closing date is fixed for August 20, and winners will be announced in WIRELESS WEEKLY issue August 30.

Dramatic Baritone

ERIC JONES, Melbourne bass-baritone, is included in the programme from 3LO on August 13, in some dramatic numbers. Apart from his previous broadcasting and concert work, Mr. Jones will be remembered as the winner of last year's Sun Aria Competition, when the judges predicted a most promising future for this young artist.

Successful Young Singer

MISS KATHLEEN SIMMS will be heard from 3AR, commencing on August 12, by of Old English songs, interspersed with some string quartette "period" music. Miss Kathleen Simms will be remembered as a successful entrant in the 3LO voice competition, and among her Melbourne appearances may be mentioned "Elijah," in which John Brownlee sustained the title role.

Negro Spirituals From 3AR

AMONG the many new quartettes that have been heard over the air lately, mention must be made of the Victory Quartette, who are giving a programme of Negro Spirituals from 3AR on August 11. Each individual member is a soloist of repute, and their ensemble work reaches a high standard.

A Globe-trotter at 3AR

A DIVERTING series of talks will be given from 3AR, commencing on August 12, by Mrs. Maurice Posner, who has just returned from a two years' trip round the world. Mrs. Posner will endeavor to give some intimate glimpses of home life in other countries, as seen through a woman's eyes.

Maynard Dakin Broadcasts

MR. DAKIN has been before the public for many years, and when he first embarked upon his professional career, appeared several times on the same programme as the famous Dan Leno, at the London Pavilion, which was, at that time, the world's recognised home of vaudeville. It is also interesting to know that, during the war, Mr. Maynard organised a band of entertainers, "The Girls Who Stayed at Home," and, through this medium, was successful in raising about £14,000 for war charities.

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Local Programmes, Tuesday, August 13

2FC

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

EARLY MORNING SESSION—7 to 8.15.
 7.0: "Big Ben" and Meteorological Information.
 7.3: This morning's news, from the "Guardian."
 7.8: Early rising music.
 7.45: Mails and shipping.
 7.48: What's on to-day.
 7.50: Children's birthday calls.
 8.0: Music from the Studio.
 8.15: Close.

MORNING SESSION—10.30 to 12.30 p.m.
 10.30: Announcements.
 10.32: A.B.C. Racing Observer.
 10.45: From the State Theatre—Recital at the Grand Organ, by Edgar Stone.
 11.0: Household Helps—Hints to housewives, by Miss Ruth Furst.
 11.10: Cables, A.P.A. and "Sun"—"Herald" news service.
 11.15: Studio Orchestra.
 12.0: "Big Ben"—Stock Exchange and metal quotations.
 12.2: Literary talk.
 12.20: Midday market and weather reports, supplied by the N.S.W. State Marketing Board.
 12.30: Close.

THE LUNCH HOUR—1 p.m. to 2.30 p.m.
 1.0: Lunch to music with the A.B.C. Orchestra.
 2.0: Stock Exchange, second call.
 2.2: A glance at the afternoon papers.
 2.7: Popular education.
 2.27: Announcements.

THE RADIO MATINEE—2.30 to 4.30.
 2.30: The A.B.C. Orchestra.
 2.45: John Andrews, tenor.
 2.52: Nellie Ferguson monologues.
 3.0: The A.B.C. Orchestra.
 3.15: Peggy Dunbar, contralto.
 3.22: Lionel Hekey, violinist.
 3.29: John Andrews, tenor.
 3.36: The A.B.C. Orchestra.
 3.51: Peggy Dunbar, contralto.
 3.58: Lionel Hekey, violinist.
 4.5: Nellie Ferguson monologues.
 4.13: The A.B.C. Orchestra.
 4.28: Stock Exchange, third call.
 4.30: Close.

NOTE—Race results from Gosford will be given as received.

EARLY EVENING—5.45 to 7.55.
 5.45: Kiddies' "Goodnight" stories, told by the "Hello Man," assisted by Aunt Elly.
 6.45: The Studio Dinner Orchestra.
 7.30: A.B.C. Sporting Service.
 7.37: Stock Exchange final call.
 7.40: Late news service.
 7.45: From the State Theatre—Mr. Price Doolittle at the Grand Organ.

EVENING PRESENTATION—8 to 11.30.
 8.0: Fun from Pullers.
 9.15: From the Studio—A dance night—The A.B.C. Dance Band.
 9.27: Hal Stead and John Warren.
 9.24: The A.B.C. Dance Band.
 9.44: Simon Philpott, President Ballalaika.
 9.53: The A.B.C. Dance Band.
 9.5: Offels' weather forecast.
 9.6: Alf Lawrence and Nell Crane, entertainers.
 9.14: The A.B.C. Dance Band.
 9.28: Lionel Hunt, baritone.
 9.33: The A.B.C. Dance Band.
 9.45: Fred Bluff, comedian.
 9.55: The A.B.C. Dance Band.
 10.15: Late weather report and announcements.

Dance.
 10.20: The A.B.C. Dance Band.
 11.30: Close. National Anthem.

2BL

Australian Broadcasting Company, Ltd., Market St., Sydney (Wavelength, 333 metres).

OPENING SESSION—8.15 to 11 a.m.
 8.15: Music for every mood.
 8.45: Meteorological data.
 8.50: A bunch of ballads.
 9.30: British official wireless news.
 9.35: New music.
 10.5: News from the "Guardian."
 10.10: The Ladies' Club Hour—The Australian Women's A.B.C. Association, conducted by Miss Gwen Varley.
 10.30: The Studio Orchestra—Mr. Rodda.
 11.0: Close.

MIDDAY SESSION—12 noon to 2.30 p.m.

12.0: Announcements.
 12.2: The A.B.C. Orchestra.
 1.0: Afternoon news from the "Evening News."
 1.5: Studio music.
 1.15: Women's "Interest Talk."
 1.30: The Traders' "Selling the Set" music.
 2.0: At the console of the Wuriltzer organ at the Capitol Theatre, J. Knight Barnett.
 2.12: Studio music.

AFTERNOON ENTERTAINMENT—2.30 to 5.45 p.m.
 2.30: Business efficiency talks.
 2.45: "The Magic Carpet," a story of travel and adventure.
 3.0: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
 3.12: From the Studio—Gwladys Rowling, popular vocalist.
 3.19: G. W. Desmond, comedian.
 3.27: The Ahad Duo.
 3.35: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
 3.45: From the Studio—Gwladys Rowling, popular vocalist.
 3.52: The Ahad Duo.
 4.0: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
 4.15: From the Studio—G. W. Desmond, comedian.
 4.22: Dance music.
 4.30: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
 4.45: From the Studio—"The Trade Hour," demonstration music.
 5.45: Close.

THE DINNER HOUR.

6.15: The Studio Dinner Orchestra.
 6.45: The A.B.C. Younger Set Club—Girl Guides—Miss Gwen Varley.
 7.5: Studio music.
 7.20: Late market reports.
 7.30: The Studio Dinner Orchestra.
 7.55: What's on the Air To-night?

THE NIGHT PROGRAMME—8 p.m. to 10.30 p.m.

8.0: From the Conservatorium—A concert arranged by the Sydney Madrigal Society.
 9.15: From the Studio—Official weather report.
 9.16: Radio Revue—A musical evening, arranged by Charles Lawrence, assisted by Alf Lawrence and Nell Crane, Lionel Lunt, Hal Stead and Simon Philpott.
 10.25: Late weather report and news service.
 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. 5.30: Children's session, by Uncle George. 7.0: Music. 7.30: Talk from Suttons' 2GB Radio Service Dept., by Mr. Stan Crittenden. 8.0: Miss Molly Long, contralto. 8.7: Instrumental Quartette. 8.15: Mr. Leon Cavallo, tenor. 8.22: Symphony Orchestra. 8.30: Humorous Interlude, by Mr. Jack Win and Mr. Heath Burdock. 8.35: Miss Gladys Verona, soprano. 8.45: Instrumental Quartette. 8.50: Miss Molly Long, contralto. 9.0: Weather report. 9.3: Address. 9.15: Symphony Orchestra. 9.25: Mr. Leon Cavallo, tenor. 9.35: Humorous interlude, by Mr. Jack Win and Mr. Heath Burdock. 9.40: Instrumental Trio. 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: Music and request numbers. 1.0: Clock and chimes. 1.15: Talk on "Home-craft" by Pandora. 1.40: Music. 2.30: Close down. 4.30: Music and request numbers.

EVENING SESSION.
 5.30: Children's Hour, conducted by Uncle Jack. 6.30: Close down. 7.0: Music and request items. 8.0: A Carnival of Animals. 9.0: Comments on foreign affairs, by Mr. J. M. Prentice. 9.10: Request numbers. 10.30: Close down.

2KY

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

MORNING SESSION.
 10 a.m.: Tune in to the ticking of the clock. 10.3: Popular fox-trots. 10.15: News items. 10.30: Vocal items. 10.50: Hawaiian steel guitar selections. 11.0: A few laughs. 11.5: Pianoforte selections. 11.15: Calls and announcements. 11.20: Musical numbers. 11.30: Request numbers. 11.40: Music and vocal items. 11.55: Where to go to-night. 12 noon: Closing announcements.

CHILDREN'S SESSION.
 6 p.m.: Birthday calls, request numbers, and kiddies' entertainment, Aunt Jemima and Uncle Bert.

EVENING SESSION.
 7 p.m.: Musical interlude. 7.15: Sporting feature—Turf topics, how they should run to-morrow, Mr. Geo. A. Davis. 7.45: Request numbers. 8.0: Novelty numbers, Miss Billie Underwood. 8.10: Soprano solos. 8.18: Baritone solos, Mr. Higgins. 8.26: Pianoforte solos, Mr. Hancock. 8.30: Series of Biblical talks, presented by I.B.S.A. 8.45: Music and request numbers, from the Studio. 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-round event. 9.40: Dance music, from the Studio. 10.0: Closing announcements.

2UE

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

AFTERNOON SESSION.
 1.0: Orchestral and vocal music. 1.45: Organ solos. 2.0: Vocal and instrumental music. 2.30: Announcements. Close down.

EVENING SESSION.
 7.15: Orchestral dinner music. 8.0: Overture, "Pique Dame." 8.10: Orchestral music. 10.15: Close down.



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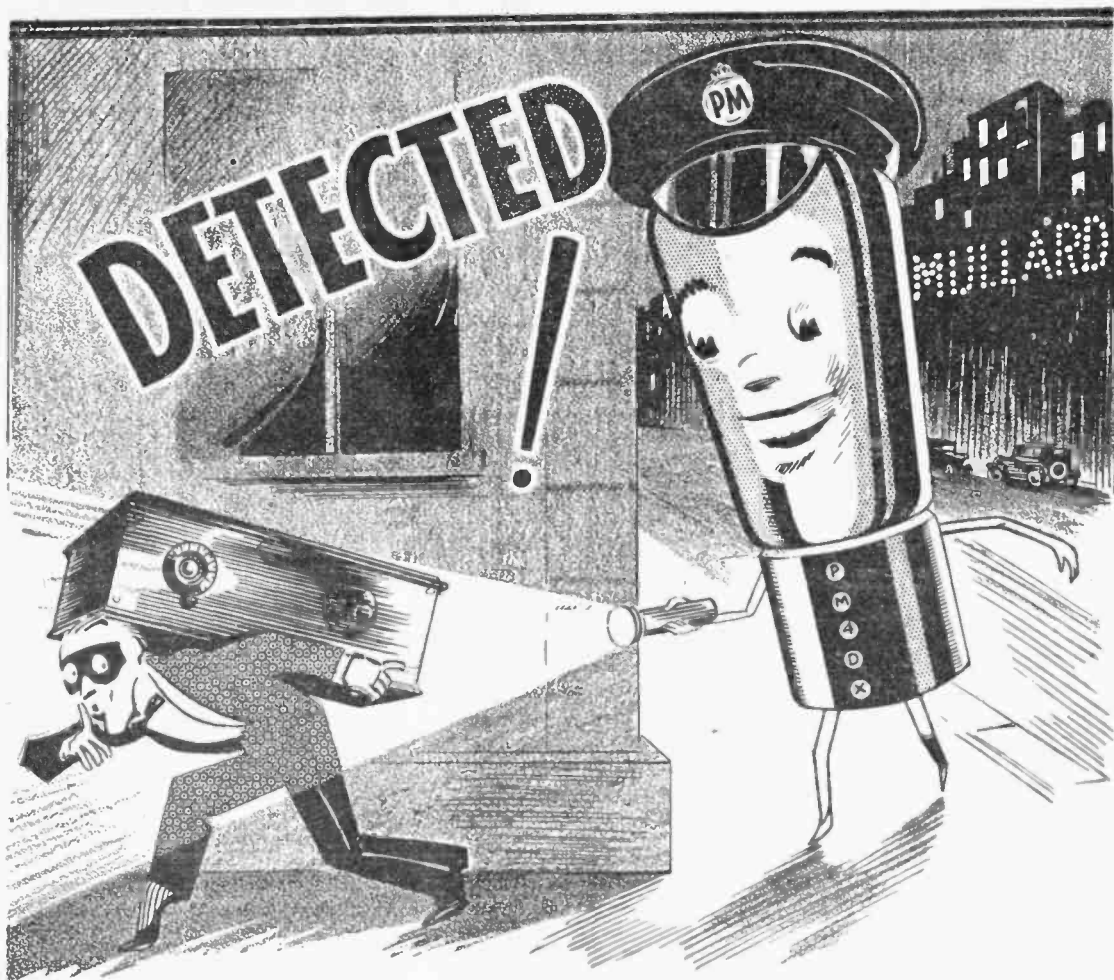
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Interstate Programmes, Tuesday, August 13

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: Eric Welch—Current events in the Racing World. 10.40: Reproduced music. 10.50: Mel Morris—"The Football Field."

MORNING MUSICALS

11.0: A.B.C. Studio Orchestra, assisted by Arthur Douglas, Scottish comedian. 12.30: Close down.

EDUCATION SESSION

2.0: Stories from the operas—Miss A. Babington. 2.15: Reproduced music. 2.25: Science in Everyday Life—Mr. T. O. Graham. M.Sc. 2.40: Reproduced music. 2.45: A Talk in French—Mons. Th. Rouel, B.A.

THE RADIO MATINEE

3.0: National Broadcasting Orchestra—"Dance of the Hours" (Ponchielli). 3.10: Eric Jones, baritone—"Sons of the Sea" (Coleridge-Taylor), "Hope the Hornblower" (John Ireland), "O Could I But Express in Song" (Moussikine). 3.20: Raymond Lambert, piano—First Movement of Schumann Concerto, with orchestral accompaniment. 3.30: Keith Desmond—A Dramatic Monologue. 3.45: Orchestra—March, "Herolique" (Saint-Saens), "Leibesfreude" (Kreisler). 3.55: Jessie M. Michael, soprano—"The Trust" (Sibelius), "Black Roses," "The Forge" (Brahms). 4.5: Madge Gunner, entertainer—Child Studies. 4.20: Orchestra—Suite, "Gitanilla" (Lacome). 4.30: Close down.

THE CHILDREN'S CORNER

5.45: "Bobbie Bluegum"—Further adventures with "Eolor and Orace." 6.5: Freda Northcote will sing some children's songs—"The Second Minute" (Bessley), "My Bear," "Missing." 6.15: "Bobbie Bluegum" hasn't finished yet. 6.25: A Talk of Interest to the Older Boys and Girls.

EVENING SESSION

6.40: Careers for Our Boys and Girls—(1) "What is Vocational Guidance?"—Mr. J. M'Rae, M.A. 6.55: "The Things We Drink" (2) "Tea," Mr. R. N. Gilbert. 7.10: University Extension Series. 7.25: For the Man on the Land—(a) For General Application.

Choral Items

7.30: A programme by St. Paul's Cathedral Choir, Unaccompanied Motets and Anthems of the 16th and 17th centuries—Two Motets by William Byrd (1538-1623): (a) Ave Verum (Jesu, Bist Redeemer); (b) Bow Thine Ear; "Lord, for Thy Tender Mercies' Sake" (Farrant—1520), "Oh Lord, Look Down from Heaven" (Battishill—1738-1801). Two motets from "The Songs of Farewell" (Hubert Parry—1848-1918): (a) "There is a Sure Belief," (b) "Never Weather Beaten Sail"; "There is a Secret Place of Rest" (A. E. Floyd).

NIGHT SESSION

A Military Band Contest

8.1: Railways Military Band. 8.10: J. Alexander Browne, baritone—"What the Red-haired Bo'sunn Said" (Edith Harby). "Thou Art Risen My Beloved" (Col. Taylor). "Sea Fever" (Ireland). 8.20: Band. 8.30: Muriel Creek, soprano. 8.40: Band. 8.50: "The Wanderers" in song and story—The First Port of Call. 9.20: The National Broadcasting Orchestra (under direction Wm. G. James; conductor, Percy Code)—"Song of the Flames" (Romberg). 9.30: Ert. Trotman, humorist—"Fifteen Minutes' Privility." 9.45: "The Whidburns"—Hawaiian Instrumentals—"Songs of the Southern Seas." 10.0: Jane Douglas, soprano—"Here's to Love" ("Sunshine Girl"). "Fugette's Song" ("Vagabond King"). "Some Day" ("Vagabond King"). 10.10: Orchestra—(Primi). Selection, "Katinka" (Liszt). 10.20: "The Rev. Dance Band." 11.30: God Save the King.

3AR

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

EARLY MORNING SESSION

8.15 to 11.0: See Friday.

MIDDAY SESSION

12.0: How to take pictures by W. Dean. 12.15: News service. 12.30: National Broadcasting Orchestra (under direction Wm. G. James; conductor, Percy Code)—Overture, "Rosamunde" (Schubert). Selections from Modern Composers. 1.0: Time chimes from G.P.O. 1.1: Stock Exchange weather reports; comments on the day's news. 1.30: Reproduced music.

AFTERNOON SESSION

2.0: "Victory" Brass Band (conductor, F. C. Johnston)—March, "Angle-Oriental"; overture, "Cordelia." 2.10: C. Simons, baritone—"Thy Sentinel Am I" (Watson). "My Dreams" (Tosti). "The Bandolero" (Leslie Stuart). 2.20: Thelma Reilly will entertain with her banjo. 2.30: Marjory Jacoby, soprano—Selections from musical comedy. 2.40: "Victory" Brass Band—Intermezzo, "Penelope's Garden." 2.45: Martin La Matt, tenor—"Away in Athlone"

(Hermann Lehr), "I Love You Truly" (C. Jacobs-Bond), "Beautiful Garden of Roses" (J. C. Schmid). 2.55: Clarice Weston will interpret the spirit of Jazz. 3.3: Marjory Jacoby, soprano—Selections from her repertoire. 3.10: "Victory" Brass Band—"The Little Michus." 3.15: Agnes Orlebar, comedienne—"How Now, Brown Cow." "The Locket on Her Garter," a "Slavey" number, "Oo-erl!" "That Means Nothing to Me." 3.25: "Victory" Brass Band—Selections from "Tolanthe" (Gilbert and Sullivan). 3.30: "The Baby"—Before the Baby Arrives. Sister Anne Pureell. 3.45: Useful Crafts at Home—Stringy Bark Work, Mrs. Henrietta Walker. 4.0: The Latest Fashions, Madame Pettier. 4.15: Reproduced music. 5.45: Close down.

EVENING SESSION

6.15 to 7.30: Dinner music, supplied by the A.B.C. Studio Orchestra. 7.30: What's on the Air Tonight? 7.32: Latest Musical Releases. 7.45: "Age" news service. Stock Exchange reports.

NIGHT SESSION

8.0: National Broadcasting Orchestra—Overture, "An Irish Comedy (Ansell). 8.10: The A.B.C. Gleesingers present—"DEAR OLD IRELAND" Chorus, "Dear Old Ireland." Song, "Killarney." Song and Chorus, "The Hills of Donegal." Song, "The Meeting of the Waters." Chorus, "Let Erin Remember." Song, "The Harp That Once." Chorus, "The Minstrel Boy." Orchestra, Memories of Ireland. Chorus, "Robin Adair." Song, "Kitty of Coleraine." Song, "Cockles and Mussels." Chorus, "Saint Patrick was a Gentleman." Song, "I'm Off to Philadelphia." Chorus, "Dublin Bay." Song, "In County Clare." Chorus, "Oft in the Silly Night." Song, "I'll Take You Home Again, Kathleen." Chorus, "Oh, Erin Dear" (Londonderry air). 8.40: Suite of English Folk Songs (Vaughan Williams). 8.50: One Act Play—"THE BISHOP'S CANDLETICKS." (Founded on an incident in Victor Hugo's novel "Les Miserables") By Norman McKinnell. Produced by Terence Crisp.

CHARACTERS:

The Bishop Charles Row
The Convict Terence Crisp
Pernese, the Bishop's Sister, a Widow Betty Rae
Marie Ruby May
Sergeant of Gendarmes Rex Sinclair
Time—The beginning of last century.
Place—France, about 30 miles from Paris.
9.5: "The Peerless Trio" (violin, flute, and piano)—Fifteen Minutes of Chamber Music.
9.20: Mona Nugent, soprano—Selections from her repertoire.
9.30: "A.B.C. Wireless" Dance Band—"Wedding of the Painted Dolls" (Brown). "I Always Knew 'd Find You" (Wayne). "If I Had You" (Campbell).
9.40: Norman Pill, entertainer—Ten Minutes Well Spent.
9.50: "A.B.C. Wireless" Dance Band—"Another Kiss" (Schertlinger). "All by Yourself in the Moonlight" (Wallis). "Sleep Baby Sleep" (Tucker).
10.0: Harold Webb, baritone—"Harlequin" (Wilfred Sanderson). "O Flower of All the World" (Woodforde-Pinden). "Wimmen, O Wimmen" (Lyall Phillips).
10.10: "A.B.C. Wireless" Dance Band—"Humoreskima" (Wending). "In a Little Town Called Home Sweet Home" (Donaldson). "I Faw Down and Go Room" (Brockman).
10.20: Norman Pill, entertainer—Some Good-night Stories.
10.25: "A.B.C. Wireless" Dance Band—"Sonny Boy" (Henderson). "Evening Star" (Turk). "Good-night Waltz" (C. Jacobs-Bond). "I Love You Truly."
10.30: Close down.

3DB

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

MORNING SESSION.

11.0: Time signal. Military band concert. 11.30: Wurlitzer and modern songs. 12.0: Light orchestral and ballads. 12.25: News. 12.30: Close down.

AFTERNOON SESSION

2.0: Brass bands and songs. 2.30: Chamber music. 2.55: Atwater Kent radio hour. 3.55: News. 4.0: Close down.

EARLY EVENING SESSION

5.30: Bobby Bluegum's children's hour. 6.0: Instrumental and vocal solos. 6.30: What's on at the theatres and movies. 6.32: Radio Club. 6.35: Dance music. 7.0: Orchestra and singer. 7.30: Chamber music. 7.45: Market reports.

NIGHT SESSION

8.0: Military bands and vocal quartettes. 8.30: Organs and oratorio. 9.0: Symphony concert. 9.30: Chamber music. 10.0: Brass bands and ballads. 10.30: Slumber music. 10.40: News. 10.45: God Save the King.

4QG

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

Schedules for morning and afternoon sessions, see Friday.

AFTERNOON SESSION

3.0: The ring events at the Royal National Show will be described direct from the Exhibition Grounds.

NIGHT SESSION

8.0: Francis Hawaiians—Selected novelties. Mrs. Phil Stewart (soprano)—"It is Only a Tiny Garden" (Wood). "Wondering Why" (Clarke). L. Collins (baritone)—"The Tramp" (Trotter). "Cloze Props" (Charles). Ruby Massey (elocutionist)—"Specially Jim." Ivy Rogers (contralto)—"The Glory of the Sea." "The Sweetest Flower that Blows" (Hawley). 8.30: From the annual dinner of the Axemen's Association. Main speech. 8.50: Francis Hawaiians in a specialty Hawaiian novelty. W. W. Crisp (tenor)—"Twilight is Gently Falling" (Raft). "Roses of England" (Alyward). Jeanette Smiles (soprano)—"Prince Charming" (Lehmann). "Love's Echo" (Newton). 9.0: The Brisbane Apollo Club will sing the following:—"Drake's Drum" (Coleridge Taylor). "Irish Folk Song" (Footie). "Victory" (Schubert). "Eventide" (Schepherd). 9.15: Francis Hawaiians in Hawaiian novelties. Ruby Massey (elocutionist)—"The Unusual Way" (Weatherley). Phyllis Dauth (soprano)—"The Star" (Rogers). "Spring" (Hensheli). Allen Hughes (tenor)—"A Dream" (Bertriet). "O Night of Stars and Splendour" (Thompson). Francis Hawaiians in Hawaiian novelties. Lillian Comlo (contralto)—"The Adieu" (Schubert). "Sweet Miss Mary" (Niedlinger). Francis Hawaiians in selected numbers. 10.0: News supplied by the metropolitan dailies. Weather information. Close down.

5CL

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

MORNING SESSION

10.0: G.P.O. chimes. 10.1: From St. Francis Xavier's Cathedral, Jubilee Pontifical High Mass. 11.30: Recordings. 11.45: An Educational Talk on "Progress of Civil Aviation in U.S.A." "Importance of Caseln Production." 12.1: Recordings. 12.15: General news. 12.52: Stock Exchange and meteorological information. 1.0: Chimes. 1.1: Recordings. 1.59: Meteorological information. 2.0: Close down.

AFTERNOON SESSION

3.0 to 4.30: General programme. See Friday.

EVENING SESSION

6.30 to 7.30: See Friday. 7.35: Mr. R. C. Bald, Ph.D. (Assistant Lecturer in English at the Adelaide University) will continue his series of talks. 7.45: Dr. Herbert Basedow, M.P.

NIGHT SESSION

8.0: Chimes. 8.1: Programme Review. 8.10: Opera Night. Characters: Leonora (Soprano)—Marcelle Berardi. Manrico (Tenor)—Dino Pelardi. Conte de Luna (Baritone)—Malcolm Jones. Azucena (Contralto)—Gwen Collett. Ferrando (Bass)—Fred Guster. Ines (Mezzo)—Ann Young. Ruiz, Un Messo, Un Zingano—Bert Woolley. And Chorus. Explanatory remarks by Horace Perkins, Mus. Bac., A.M.U.A., and Bessie Francis. Music by the Operatic Orchestra. 10.15: General news. 10.29: Modern Dance; Recordings. 11.0: Close down.

6WF

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

10.0: Gramophone records. 11.0: Close down. 12.30: Markets, news, etc. 1.0: Weather. 1.2: Luncheon music. 1.4: Talk. 1.19: Music. 2.0: Close down. 3.30: Tune in. 3.35: Pianoforte solos. 4.30: Close down. 6.45: Tune in. 6.48: Bedtime stories by Uncle Duffy. 7.5: Light music. 7.30: Commercial and general information. 7.45: Talk. 8.0: Time signal. 8.1: Weather. 8.32: Variety programme. 8.30: Late news items. Late weather. 9.5: Programme continued. 10.30: Close down. 10.45: Metre Transmission; Simultaneous broadcast on 104.5 metres of programme given on 1250 metres, commencing at 6.45 p.m.

7ZL

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

11.30 a.m.: Selections. 11.34: Midlands weather forecast. 11.35: Record recital. 11.38: Adeline Eager will speak on "Household Hints." 11.50: Selections. 11.55: Tasmanian stations' 9 a.m. weather report. 12.1: Shipping information; ships within wireless range; mail notices; housewives' guide; commercial news. 12.8: Selections. 12.29: Announcements. 12.33: Selections. 12.55: News service; British official wireless news; railway auction produce sales held at railway. 1.10: Selections. 1.30: Close down. 3.0: Clock chimes the hour. 3.1: Selections. 3.4: Weather information. 3.5: Selections. 3.45: Miss Joyce Walker on "Homecraft." 4.0: Selections. 4.15: An Educational Talk on "Meat: Production in U.S.A." 4.30: Close down. 6.15: Children's Hour, with "Uncle David" and "The Storey Lady." 6.45: Eileen Carter will play the piano for the wee folk. 7.0: Answers to Letters and Birthday Greetings. 7.15: News session. 7.30: Under the auspices of the Agricultural Department, T. Philip, Chief Veterinary Officer, will speak on "Mammitis in Dairy Cattle." 7.45: W. E. Fuller will speak on "Literary Lapses and Library Lists." 8.1: Record recital. 8.15: Dance music. 8.27: Nick Lucas, "For Old-time Sake." 8.30: Dance numbers. 8.42: Lew White, "My Angel." 8.45: Dance numbers. 8.57: Wendall Hall, "My Dream Sweet-heart." 9.0: Dance numbers. 9.12: Nick Lucas, "Just Like a Melody." 9.15: Dance numbers. 9.27: Lew White, "Roses of Yesterday." 9.30: News session. 9.40: Dance numbers. 9.52: Slumber music. 10.0: G.P.O. clock chimes the hour. Close down.

St. John's Church, Balmain

REV. ARTHUR GEORGE RIX, of St. John's Church, Balmain, began church life as a choir boy. His thoughts turned first to a musical career; but he served his apprenticeship in church and social work, particularly in teaching in his spare time in the Chinese Mission in Sydney. He served as a lay reader in the Parish of Brewarrina, which extends into the heart of Australia, and across the Queensland border, and which has an area as large as England. After ordination, Mr. Rix worked in the parishes of Grenfell, Adaminaby (which included Kosciuszko, and Kiandra), also the parishes of Moruya, Yass, South Goulburn, and Tumut, and he was also on the staff of Goulburn Cathedral. He came to Sydney and was assistant to Canon Lea at St. Mark's, Darling Point, and was Acting-Rector of that parish when Canon Lea went to England. It was in this parish that he was associated with Canon Lea in the broadcasting of the first church services broadcast in the Southern Hemisphere, through 2FC; he intoned the service, while Canon Lea was the preacher. Afterwards for a year Mr. Rix was acting-rector of St. Thomas', North Sydney, the Mother Church of the North Shore. He was appointed Rector of the old parish of St. John's, Birchgrove, Balmain, eighteen months ago, and in this large industrial parish finds great scope in work amongst men and boys and the young people of that suburb.

The morning service at St. John's, Balmain, will be broadcast through 2FC on August 4.

Goodie Reeve in Children's Session

PEOPLE are hearing something quite new in the Children's Session now that Goodie Reeve is assisting on 2FC. She sings a song then talks to the children, explaining it, while she continues to strum away some appropriate tune on the piano. "It seems to take away some of the dullness of the speaking voice," Goodie Reeve explains, "to have an accompaniment in the background; but it is not too easy to keep the piano down quiet enough to be sure of the voice being heard." It is impossible for anyone to accompany Goodie Reeve as most of her little talks and stories are impromptu, and no one else would know when to start or when to stop. Listen in next Friday night about 6.15 p.m.

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Local Programmes, Wednesday, August 14

2FC

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

EARLY MORNING SESSION—7 to 8.15.

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

MORNING SESSION—10.30 to 12.30 p.m.

10.30: Announcements.
10.32: General sporting talk, by Oscar Lind.
10.45: From the State Theatre—At the Grand Organ, by Edgar Stone.
11.0: Household Helps—Talk on cooking, by Miss Ruth Furst.
11.10: Cables, A.P.A. and "Sun"—"Herald" news service.

11.15: The Studio Orchestra.
12.0: "Big Ben": Stock Exchange and metal quotations.

12.2: A "Dickens" story.
12.20: Midday market and weather reports, supplied by the N.S.W. State Marketing Board.

12.30: Close.
THE LUNCH HOUR—1 p.m. to 2.30 p.m.
1.0: Lunch to music with the A.B.C. Orchestra.

2.0: Stock Exchange, second call.
2.2: A glance at the afternoon papers.
2.7: Popular education.
2.27: Announcements.

THE RADIO MATINEE—2.30 to 4.30.

2.30: The A.B.C. Orchestra.
2.45: Aida Bulmas, soprano.
2.52: David McKissock, cellist.
2.59: The A.B.C. Orchestra.
3.14: H. W. Varna and partner, in a modern radio sketch.
3.24: Wilfred Arlom, pianist.
3.34: Aida Bulmas, soprano.
3.41: The A.B.C. Orchestra.
3.56: David McKissock, cellist.
4.3: H. W. Varna and partner, in a modern radio sketch.

4.13: Wilfred Arlom, pianist.
4.21: The A.B.C. Orchestra.
4.28: Stock Exchange, third call.
4.30: Close.

NOTE.—Race results from Ascot will be transmitted as received.

EARLY EVENING—5.45 to 7.55.

5.45: Kiddies' "Goodnight" stories—An hour of entertainment for the children; the Farmyard Five, associated with other artists.

6.45: The Studio Dinner Orchestra.
7.30: A.B.C. Sporting Service.
7.37: Stock Exchange, final call.
7.40: Late news service.
7.45: From the State Theatre—Mr. Price Dunlavy at the Grand Organ.

EVENING PRESENTATION—8 to 11.30.

8.0: Will Prior's Hour, from the State Theatre—The State Theatre Orchestra, conducted by Will Prior; Price Dunlavy at the Grand Organ.

9.0: "Big Ben" From the Studio—Sonia Mitchell, pianist.

9.13: Muriel O'Malley, contralto.
9.20: Florent Hoogstoel, violinist.
9.27: John Boulton and Reg Mitchell in sketches.

9.37: Lance Jeffrey, tenor.
9.44: Music of Bygone Days—A novel programme arranged by Madame Evelyn Griez, in association with Keith Grant and Rene Rich.

10.0: Romano's Cafe Dance Orchestra, conducted by Bonnie Abrahams.

10.15: From the Studio—Weather report and announcements.

10.20: Romano's Cafe Dance Orchestra, conducted by Bonnie Abrahams.

11.30: Close. National Anthem.

2BL

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

OPENING SESSION—8.15 to 11 a.m.

8.15: Music.
8.45: Meteorological data.

8.50: An old folks' programme.
9.30: British Official wireless news.
9.35: New music.
10.5: News from the "Guardian."
10.10: The Ladies' Club Hour—The Australian Women's A.B.C. Association, conducted by Miss Gwen Varley.
10.30: The Studio Orchestra—Mr. Rodda
11.0: Close.

MIDDAY SESSION—12 noon to 2.30 p.m.

12.0: Announcements.
12.2: The A.B.C. Orchestra.
1.0: Afternoon news from the "Evening News."
1.5: Studio music.
1.15: Women's "Interest Talk."
1.30: The Traders' "Selling the Set" music.
2.0: At the console of the Wurlitzer organ at the Capitol Theatre, J. Knight Barnett.
2.12: Studio music.

AFTERNOON ENTERTAINMENT—2.30 to 5.45 p.m.

2.30: Business efficiency talks.
2.45: "The Magic Carpet," a story of travel and adventure.
3.0: The latest dance numbers.
3.15: Harry Croot, basso.
3.22: Hilda Grace, novelty pianist.
3.30: Dance music.
3.42: Rozina Madell, soprano.
3.50: Hilda Grace, novelty pianist.
3.58: Popular dance numbers.
4.10: Harry Croot, basso.
4.17: Hilda Grace, novelty pianist.
4.25: Rozina Madell, soprano.
4.32: Dance numbers.
4.45: "The Trade Hour"—Demonstration music.
5.45: Close.

THE DINNER HOUR.

6.15: The Studio Dinner Orchestra.
6.45: The A.B.C. Younger Set Club—Boys' Radio Club—Mr. Norman Lyons.
7.5: Studio music.
7.20: Late market reports.
7.30: The Studio Dinner Orchestra.
7.55: What's on the Air To-night?

THE NIGHT PROGRAMME—8 p.m. to 10.30 p.m.

8.0: Our Hour of Comic Opera—The N.S.W. Tramways Band.
8.15: Gwladys Evans, soprano.
8.22: The Wireless Singers.
8.32: The N.S.W. Tramways Band.
8.45: George Brown, baritone.
8.52: The Wireless Singers.
9.2: Official weather forecast.
9.3: The N.S.W. Tramways Band.
9.18: Sonia Mitchell, pianist.
9.30: John Boulton and Reg Mitchell in sketches.
9.40: Muriel O'Malley, contralto.
9.47: Florent Hoogstoel, violinist.
9.54: Lance Jeffrey, tenor.
10.1: Trifles from the Talks.
10.25: Late weather report, and news service.
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; house-keeping hints and shopping guide. 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. 4.0: Close down. 5.30: Children's session, by Uncle George; Movie Club session. 7.0: Music. 7.45: Feature story. 8.0: Miss Heather Kinnaird, contralto. 8.7: Violin solos. 8.15: Mr. Clement Q. Williams, baritone. 8.22: Symphony Orchestra. 8.30: Humorous interlude, by Mr. Jack Win and Mr. Heath Burdock. 8.35: Miss Gwladys Edwards, soprano. 8.45: Address. 9.0: Weather report. 9.3: Violin solos. 9.13: Miss Heather Kinnaird, contralto. 9.23: Symphony Orchestra. 9.33: Humorous interlude, by Mr. Jack Win and Mr. Heath Burdock. 9.38: Mr. Clement Q. Williams, baritone. 9.48: Instrumental Trio. 9.53: Miss Gwladys Edwards, soprano. 10.0: Instrumental music. 10.30: Close down.

2UW

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

MIDDAY SESSION.

12.30: Music and request numbers. 1.0: Clock and chimes. 1.15: Talk on "Home-craft," by Pandora. 1.40: Music. 2.30: Close down. 4.30: Music and request numbers.

EVENING SESSION.

5.30: Children's Hour, conducted by Uncle Jack. 6.30: Close down. 7.0: Music and request items. 8.0: Band recital. 9.0: Comments on foreign affairs, by Mr. J. M. Prentice. 9.10: Request numbers. 10.30: Close down.

2KY

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

MORNING SESSION.

10 a.m.: Tune in to the ticking of the clock. 10.3: Popular fox-trots. 10.15: Hawaiian steel guitar selections. 10.30: Request numbers. 10.50: Vocal items. 11.0: A few laughs. 11.5: Pianoforte selections. 11.15: Calls and announcements. 11.20: Musical interlude. 11.30: Request numbers. 11.40: Music and vocal items. 11.55: Where to go to-night. 12 noon: Closing announcements.

CHILDREN'S SESSION.

6 p.m.: Birthday calls, request numbers, and kiddies' entertainment, Aunt Jimima and Uncle Bert.

EVENING SESSION.

7 p.m.: Musical interlude. 7.15: Sporting feature—Complete review of to-day's racing, Mr. Geo. A. Davis. 7.40: Health feature, Northey du Maurier. 8.0: Hawaiian steel guitar selections. 8.15: Tenor solos, Mr. Chas. E. McDonald. 8.30: Banjo solos, Master Harry Weir. 8.36: Al. Rosenberg at the piano. 9.10: Sporting feature—Presented by Tooth and Co., Ltd., Kent Brewery, from Sydney Stadium, full description of main 15-round event. 9.50: Music from the Studio. 10.0 p.m.: Closing announcements.

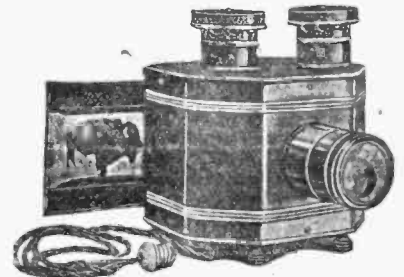
2UE

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

7.15: Breakfast-time Orchestral Hour. 8.30: Weather forecast. Close down.

EVENING SESSION.

7.15: Orchestral dinner music. 7.58: Programme announcements. 8.0: Overture, "Bohemian Girl." 8.10: Vocal and instrumental items. 10.15: Close down.



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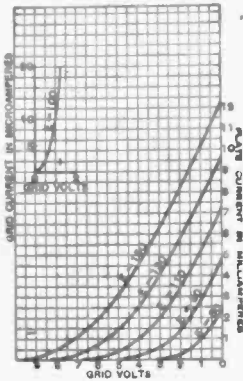
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Interstate Programmes, Wed., Aug. 14

3LO
Australian Broadcasting Co., 120A Russell St., Melbourne (Wavelength, 371 metres.)
EARLY MORNING SESSION
7.0 to 8.15: See Friday.
SPORTING
10.30: Current events in the Racing World, by Eric Welch. 10.40: Reproduced music. 10.50: "The Football Field," by Mel Morris.
MORNING MUSICALS
11.0: A.B.C. Studio Orchestra, assisted by Clarice Kingsley at the piano.
NEWS SESSION
12.15: News service. Rates on Change. Market reports. 12.30: Close down.
MIDDAY SESSION
1.0 to 2.0: Luncheon music provided by the National Broadcasting Orchestra, under direction Wm. G. James (conductor, Percy Code).
SCHOOL SESSION
2.0: Miss Alice Smith—"Spoken English." 2.15: Reproduced music. 2.25: "Rambles in the Bush." 2.40: Reproduced music. 2.45: Dr. Loftus Hills, D.Sc.—"What is Happening in the World."
THE RADIO MATINEE
3.0: The National Broadcasting Orchestra (under the direction Wm. G. James: conductor, Percy Code)—"Ballet of the Flowers" (Hadley). 3.10: Mary Lilley, contralto—"Siesta" (Besley), "Sylvan" (London Ronald), "Love's Rhapsody" (D'Hardelot). 3.20: A one-act play, "The Vamp"—Characters: The Vamp, the Wife, the Husband. 3.35: Joan Smith, cello. 3.45: Victor Baxter, tenor—"Beauty's Eyes" (Toselli), "The Star" (Rogers), Chanson de Florian" (Godard). 3.55: Orchestra—Excerpts from Coppelia Ballet—"Serenade" (Rachmaninoff). 4.5: "The Courtiers" in a programme of stately measures. 4.25: Orchestra—"Three Dances from Henry VIII." (German). 4.30: Close down.
CHILDREN'S CORNER
5.45: Little Miss Kookaburra knows all about some dear little kittens and a little mouse named "Miss Millicent," and she is going to tell it to the tiny tots. The Mouth Organ Man will blow some pretty airs. 6.15: A talk of interest to the older boys and girls. 6.30: Market reports.
EVENING SESSION
7.0: Music for the ordinary listener—Mr. Fritz Hart. 7.15: Romance and History—(1) Lord Clive and India, Captain Donald MacLean. 7.30: Technical talks for mechanics—(1) Modern Steels. 7.45: How to attain and retain good health—Dental Advice for the public, Dr. J. Polasek, D.D.Sc.
NIGHT SESSION
8.0: National Broadcasting Orchestra, under direction of Wm. G. James (conductor, Percy Code)—Overture, "Merry Wives of Windsor" (Nicola). March, "Carnavalesque" (Primi).
8.10: Ernest Wilson, bass-baritone—"Long Ago in Alicant" (Messenger). "Serenata" with Violin (Toselli); obligato by Guildford Bishop. "The Carpet" (Sanderson).
8.20: Joseph Barrie, flute—"Mazurka" (Popp).
8.25: Ernest Wilson, bass-baritone—"Walata Pol" (Alfred Hill).
OUR DANCE NIGHT
8.30: Ken Cotton's Dance Band—"Stay at Home Girl" (O'Hagen). "Deep Night" (Henderson). "For Ever More" (Burnett).
8.39: Syd. Exton, tenor—"Ken Cotton's Dance Band—"Old Man Sunshine" (Dixon). "My Heart Stood Still" (Rodgers). "Where the Shy Little Violets Grow" (Kahn).
8.51: Bessie B. Curran, soprano—"Hol Mr. Piper" (Curran).
8.54: Ken Cotton's Dance Band—"Honey" (Simons). "Glad Rag Doll" (Ager). "That's Her Now" (Ager).
9.3: E. Mason Wood, baritone—"Cloze Props" (Charles).
9.6: Ken Cotton's Dance Band—"Thinking of You" (Ruby). "Up in the Clouds" (Ruby). "I Can't Give You Anything But Love" (Fields).
9.15: Allan Adcock, entertainer—Five Minutes' Fun.
9.20: Ken Cotton's Dance Band—"Sweethearts on Parade" (Lombardo). "Precious Little Thing Called Love" (Coota). "What D'ya Say?" (Henderson).
9.29: Syd. Exton, tenor—"Ah, Moon of My Delight" (Lehmann).
9.32: Ken Cotton's Dance Band—"Happy Days and Lonesome Nights" (Fisher). "If You Want the Rainbow" (Rose). "My Mother's Eyes" (Baer).
9.41: Bessie Banks, soprano—"Himemo's Love Song" (James).
9.44: Ken Cotton's Dance Band—"My Angelina" (Wayne). "Carolina Moon" (Bourne). "Crazy Rhythm" (Kahn).
9.51: E. Mason Wood, baritone—"A Warwickshire Wop" (James).
9.54: Ken Cotton's Dance Band—"You Can't Cry Over My Shoulder" (Heath). "I Fell Head Over Heels" (Thayer). "Two Lips" (Rose).
NEWS SESSION
10.3: British Official Wireless news service. News service. Meteorological information.
10.15: Allan Adcock, entertainer—"That's a Good Girl."

10.18: Ken Cotton's Dance Band—"Pickin' Cotton" (Henderson). "One the Crest of a Wave" (Henderson). "Blue Night" (Rollins).
10.27: E. Mason Wood, baritone—"A Dinder Courtship." "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 to 12.15: Inexpensive and nutritious dishes for winter meals—Miss Avis MacLachlan. 12.15: Midday news session, from the studio. 12.30 to 1.0: National Broadcasting Orchestra; under direction Wm. G. James, conductor, Percy Code. 1.0: Time chimes from G.P.O. 1.1: Stock Exchange, weather reports; comments on the day's news. 1.30: Relation of character to service, J. J. Virgoe, C.B.E.
AFTERNOON SESSION
2.0: Estrella Trio—Light classical. 2.15: Dawn Harding, mezzo—"Come Away," Old English (John Dowland). "Down-a-Downe," Old English (Pilkington). 2.22: Cecilia Kilduff, violin. 2.27: E. Mason Wood, baritone—"On No Philadelphia," "Nightfall at Sea" (Montague Phillips), "Onaway Awake" (Cowan). "Wimmen" (Kennedy Russell). 2.37: Marget Sheridan, piano—"The Indian Maid" (Coleridge Taylor). 2.47: Dawn Harding—Request (Bantock). 2.54: Cecilia Kilduff, violin. 3.2: Robert Le Ben, Australian specialty entertainer—"Six Brown Boxer Hats" (John O'Brien), "The Old Bush School" (John O'Brien), "Trouble on the Selection" (Henry Lawson). 3.10: Wm. Perryman, tenor—"Lollita" (A. Buzzi Pucelli). "Thank God for a Garden" (Terese del Rizzo). "Carroll" (Frier). 3.20: Estrella Trio, Marget Sheridan (piano), and Cecilia Kilduff (violin)—"Sonata in D Minor" (Schumann). 3.30: Talks. 3.40 to 3.55: The older child; the pre-school child—Miss A. Wallis. 4.10 to 4.25: "Home Life in Other Countries—Canada," Miss R. Chisholm, B.A. (Melb.), M.A. (Toronto). Trivia demonstration session. 4.15: Reproduced music. 5.45: Close down.
EVENING SESSION
6.15 to 7.30: Dinner music, supplied by the Studio Orchestra. 7.30: What's on the Air To-night? 7.32: Latest musical releases. 7.45: Market reports.
NIGHT SESSION
8.0 to 10.15: Concert by the students of the University Conservatorium. "The Smart Set"—Fifteen minutes' frivolity.
10.30: God Save the King.
3DB
The "Herald" Broadcasting Station, Flinders Street, Melbourne (235 metres.)
MORNING SESSION
11.0: Time signal. Brass bands and songs. 11.30: The world's fashions and follies, by "La Vogue." 11.35: Light classical music. 12.0: Modern tunes and songs. 12.25: News. 12.30: Close down.
AFTERNOON SESSION
2.0: Trios and duets, instrumental and vocal. 2.30: Mrs. Dorothy Silk, "Homesteads." 2.45: Musical comedy memories. 2.55: Atwater Kent radio hour. 3.55: News. 4.0: Close down.
EARLY EVENING SESSION
5.30: Children's hour. 6.0: Variety. 6.30: What's on at the theatres and movies. 6.32: Radio Club. 6.35: Chamber music. 7.0: From many countries. 7.30: Mr. Harman, of Burns Philp, and Co.—"Travel Talk." 7.45: Market reports.
NIGHT SESSION
8.0: A trip to New Zealand. 8.30: Famous overtures and singers. 9.0: Chamber music. 9.30: Idylls of other countries. 10.0: Slumber music. 10.40: News. 10.45: God Save the King.
4QG
Queensland Government Radio Service, Brisbane (Wavelength, 385 metres.)
Schedule for morning and afternoon sessions, see Friday.
10.0: The unveiling of the Burns statue will be described and the speeches broadcast.
MIDDAY SESSION
12.0: The official opening of the Royal National Show, which will be performed by His Excellency the Governor, Sir John Goodwin, will be relayed from the Exhibition Grounds. 2.0: Close down.
AFTERNOON SESSION
3.0: A description of the ring events will be relayed from the Exhibition Grounds. Musical items from Hotel Carlton between events.
NIGHT SESSION
8.0: A Scottish programme arranged by Mr. W. Donald.
Studio orchestra (selection)—"Lauder's Song" (Lauder).
Miss H. Oswald (soprano)—"The Star of Rabbie Burns."
D. Duncan (bass)—"Oor Ain Glen."
Miss H. Oswald and Miss G. Henderson—Vocal duet, "Lullaby."
J. Morrison (Scottish reading)—"Preparing for Visitors" (J. M. Barrie).
Miss G. Henderson (contralto)—"Fisher Lad."

W. Donald, Jun. (tenor)—
 "Dear Were the Days."
 Studio orchestra—
 Fox-trot, "Thistles and Heather" (arr. Black).
 W. Donald—
 Scotch comic, "Selling Up the Clyde."
 Scottish Four—
 Quartette, "The Banks o' Doon."
 J. Morrison—
 Scotch reading, "Edinburgh Castle."
 Miss H. Oswald (soprano)—
 A Rosebud in Her Early Walk."
 J. Cruickshank—
 Humorous song, "The Roden Tree."
 Studio orchestra—
 Highland Patrol, "Wee M'Gregor" (Amers).
 Miss G. Henderson (contralto) and W. Donald.
 Jun. (tenor)—
 "The Crookit Ban-bee."
 D. Duncan (bass)—
 "Hurrah for the Highlands."
 W. Donald—
 Scotch comic, "Ye Can Come and See the
 Baby."
 9.30: A description of the fireworks.
 10.0: Miss G. Henderson (contralto)—
 "The Auld Fisher."
 Scottish Four—
 Quartette, "Annie Laurie."
 J. Morrison—
 Scotch reading, "Johnnie Gunn" (Morrison).
 W. Donald, Jun. (tenor)—
 "Scottish Emigrant."
 Orchestra—
 One-step medley, "Savoy Scottish" (arr.
 Somers).
 W. Donald, Jun., and J. Cruickshank—
 Vocal duet, "Wee Cooper o' Pife."
 W. Donald—
 Scotch comic, "Brither Scots."
 The Company—
 Concerted item, "Dance to Your Shadow."
 J. Cruickshank—
 Humorous song, "The Beadle o' the Kirk."
 Studio Orchestra—
 Patrol, "Scottish Patrol" (Williams).
 10.30: "The Hoot Owls."
 11.0: News supplied by the metropolitan dailies.
 Weather information.
 Close down.

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5CL

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

MORNING SESSION

11.15 to 2.0: See Friday

AFTERNOON SESSION

3.0: General programme, see Friday.

EVENING SESSION

6.0 to 7.30: See Friday. 7.35: An address to Boy Scouts. 7.48: 5CL Blackbird Girls' Club.

NIGHT SESSION

8.0: Chimes.

8.10: Another Fireside Evening—

A Twenty-first Birthday Party. Characters—

Guest (21 years old) Bessie Francis

Friends The Madrigal Singers

(Under the direction of Horace Perkins.)

Brother Tom Tom O'Dea

Cousin Jack Jack Burgess

Cousin Jean Jean Finlay

Friends of Jack, Allan's Mouth Organ Band

Surprise Visitors, Rupert Hazell and Elsie Day

Cousin Angelo Demodena

9.1: Meteorological information, including Semaphore tides.

9.2: Overseas grain report.

9.3: General news.

9.10: Fireside Evening continued.

10.15: General news service.

10.30: Dance recordings.

11.0: Close down.

6WF

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

10.0: Gramophone records. 11.0: Close down. 12.30:

Market, news, etc. 1.0: Time. Weather. 1.3: Pana-

tropic Hour. 2.0: Close down. 3.30: Musical pro-

gramme. 4.30: Close down. 6.45: Bedtime stories

by Uncle Duffy. 7.5: Light music. 7.30: Commer-

cial and general information. 7.45: Talk by Lieut.-

Colonel le Souff, Director, Zoological Gardens, South

Perth. 8.0: Time signal. 8.1: Weather. 8.3: Con-

cert. 8.20: Talk. 8.50: Late news. Ships within range

Late weather. 9.5: Programme continued. 10.30:

Close down. 104.5 Metre Transmission: Simultaneous

broadcast on 104.5 metres of programme given on

1250 metres, commencing at 6.45 p.m.

7ZL

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

11.30: Musical selections. 11.34: Midlands weather

forecast. 11.35: Musical selections. 11.55: Tas-

manian stations' 9 a.m. weather forecast. 12.1:

Shipping information. Ships within wireless range

Mail notices. Housewives' Guide. Commercial news.

12.20: Announcements. 12.33: Musical selections.

12.55: News service. Railway auction produce sales,

held at railway. 1.10: Musical selections. 1.30:

Transmission from the Imperial Hotel, Collins

Street, Hobart. 2.0: Close down. During the after-

noon running descriptions will be given of the Ben-

digo Races, held at Bendigo Racecourse, Bendigo,

Victoria. 3.1: Musical selections. 3.4: Weather in-

formation. 3.5: Musical selections. 4.15: Readings

from the "Illustrated Tasmanian Mail." 4.30: Close

down. 6.15: Children's Hour, with Bertha Southey

Brammall. 7.18: News session. 7.30: Belle St. Lau-

rence will continue her travel talks. 7.45: V. C.

Webb will speak on "Road Troubles." 8.1: Musical

selections. 8.15: Columbia recital, including latest

releases, specially arranged by Pindlay's Music Ware-

house. 9.30: News session. 9.45: Columbia recital

(continued). 10.0: G.P.O. clock chimes the hour.

Close down.



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Local Programmes, Thursday, August 15

2FC

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

EARLY MORNING SESSION—7 to 8.15.

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

MORNING SESSION—10.30 to 12.30 p.m.

10.30: Announcements.
10.32: A.B.C. Racing Observer.
10.45: From the State Theatre—Recital at the Grand Organ, by Edgar Stone.
11.0: Household Helps—Talk on domestic notes.
11.10: Cables, A.P.A. and "Sun"—"Herald" news service.
11.15: The Studio Orchestra.
12.0: "Big Ben"; Stock Exchange and metal quotations.
12.2: With the poets.
12.20: Midday market and weather reports, supplied by the N.S.W. State Marketing Board.
12.30: Close.

THE LUNCH HOUR—1 p.m. to 2.30 p.m.

1.0: Lunch to music with the A.B.C. Orchestra.
2.0: Stock Exchange, second call.
2.2: A glance at the afternoon papers.
2.7: To-day's acceptances, by the A.B.C. Racing Observer.
2.17: Popular education.

THE RADIO MATINEE—2.30 to 4.30.

2.30: The A.B.C. Orchestra.
2.45: Nora Hill, soprano.
2.52: Marcus Burkitt, blind pianist.
3.2: The A.B.C. Orchestra.
3.20: Maurice Ballance, basso.
3.28: Dorothy Nall, monologues.
3.38: The A.B.C. Orchestra.
3.53: Nora Hill, soprano.
4.0: Marcus Burkitt, blind pianist.
4.10: Maurice Ballance, basso.
4.17: Dorothy Nall, monologues.
4.28: Stock Exchange, third call.
4.30: Close.

EARLY EVENING—5.45 to 7.55.

5.45: Kiddies' "Goodnight" stories, told by the "Hello Man," assisted by Uncle Ted and Sandy.
6.45: The Studio Dinner Orchestra.
7.30: A.B.C. Sporting Service.
7.37: Stock Exchange, final call.
7.40: Late news service.
7.45: From the State Theatre—Mr. Price Dunlavy at the Grand Organ.

EVENING PRESENTATION—8 to 11.30.

8.0: British Music Society's String Quartette.
8.15: Etta Field, soprano.
8.22: Mildred Harris, harpist.
8.30: The Royal Four Quartet.
8.40: The Turret Players, in a modern radio play.
9.10: Official weather forecast.
9.11: Gabriel Joffe, pianist.
9.23: Frazer Coss, baritone.
9.30: British Music Society's String Quartette.
9.45: Margaret Grimshaw, popular vocalist.
9.52: Billy O'Hanlon and Zara Clinton, in sketches.
10.2: From the Hotel Australia—Cec. Morrison's Dance Band.
10.15: From the Studio—Late weather report and announcements.
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, 333 metres).

OPENING SESSION—8.15 to 11 a.m.

8.15: Music for every mood.
8.45: Meteorological data.
8.50: A melange of mirth and melody.
9.30: British official wireless news.
9.35: New music.

10.5: News from the "Guardian."
10.10: The Ladies' Club Hour—The Australian Women's A.B.C. Association, conducted by Miss Gwen Varley.
10.30: The Studio Orchestra—Mr. Rodda.
11.0: Close.

MIDDAY SESSION—12 noon to 2.30 p.m.

12.0: Announcements.
12.2: The A.B.C. Orchestra.
1.0: Afternoon news from the "Evening News."
1.5: Studio music.
1.15: Women's "Interest Talk."
1.30: The Traders' "Selling the Set" music.
2.0: At the console of the Wurlitzer organ at the Capitol Theatre, J. Knight Barnett.
2.12: Studio music.

AFTERNOON ENTERTAINMENT—2.30 to 5.45 p.m.

2.30: Business Efficiency talks.
2.45: "The Magic Carpet," a story of travel and adventure.
3.0: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
3.15: From the Studio—Len Maurice, popular vocalist.
3.22: Turner Ross, entertainer.
3.30: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
3.42: From the Studio—Eva Newbury, contralto.
3.49: Turner Ross, entertainer.
3.56: Popular dance items.
4.0: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
4.15: From the Studio—Len Maurice, popular vocalist.
4.22: Turner Ross, entertainer.
4.30: Eva Newbury, contralto.
4.37: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
4.45: "The Trade Hour"—Demonstration music.
5.45: Close.

THE DINNER HOUR.

6.15: The Studio Dinner Orchestra.
6.45: The A.B.C. Younger Set Club—Girl Guides—Miss Gwen Varley.
7.5: Studio music.
7.20: Late market reports.
7.30: The Studio Dinner Orchestra.
7.55: What's on the Air To-night?

THE NIGHT PROGRAMME—8 p.m. to 10.30 p.m.

8.0: From the Capitol Theatre—Ted Henkel's Hour; Fred Scholl at the Wurlitzer organ.
9.0: From the Studio—Official weather forecast.
9.1: Etta Field, soprano.
9.9: Gabriel Joffe, violinist.
9.19: Mildred Harris, harpist.
9.26: The Royal Four Quartette.
9.36: Connie Harris, violinist.
9.41: Frazer Coss, baritone.
9.51: Dan Thomas and May Crean, entertainers.
10.1: Margaret Grimshaw, popular vocalist.
10.8: Billy O'Hanlon and Zara Clinton, in sketches.
10.18: Connie Harris, violinist.
10.25: Late weather report and news service.
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. 11.45: Close down. 2.0: Music. 2.5: Women's Radio Service, by Mrs. Dorothy Jordan. 2.50: Movie Know-all. 3.0: Gardening talk. 3.30: Close down. 5.30: Children's session, by Uncle George. 7.0: Music. 7.30: Gardening talk. 8.0: Mr. Len Howell, tenor. 8.7: Symphony Orchestra. 8.15: Miss Mary Neal, contralto. 8.25: Mr. Jack Win and Miss Nora Windle, in a dramatic sketch. 8.35: Mr. Clifford Lathlean, baritone. 8.50: 'Cello solos. 9.0: Weather report. 9.3: Address. 9.15: Mr. Len Howell, tenor. 9.25: Symphony Orchestra. 9.35: Mr. Jack Win and Miss Nora Windle, in a humorous sketch. 9.45: 'Cello solo. 9.50: Miss Mary Neal, contralto. 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: Music and request numbers. 1.0: Clock and chimes. 1.15: Talk on "Home-craft," by Pandora. 1.40: Music. 2.30: Close down. 4.30: Music and request numbers.

EVENING SESSION.

5.30: Children's Hour, conducted by Uncle Jack. 6.30: Close down. 7.0: Music and request items. 7.45: Garden talk, by Mr. S. H. Hunt. 8.0: Famous scenes from opera. 9.0: Comments on foreign affairs, by Mr. J. M. Prentice. 9.10: Request numbers. 10.30: Close down.

2KY

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

MORNING SESSION.

10.0 a.m.: Tune in to the ticking of the clock. 10.3: Popular fox-trots. 10.16: Hawaiian steel guitar selections. 10.30: Request numbers. 10.50: Vocal items. 11.0: A few laughs. 11.15: Calls and announcements. 11.20: Musical interlude. 11.30: Request numbers. 11.40: Music and vocal numbers. 11.55: Where to go to-night. 12 noon: Closing announcements.

CHILDREN'S SESSION.

6 p.m.: Birthday calls, request numbers. and kiddies' entertainment. Aunt Jemima and Uncle Bert.

EVENING SESSION.

7 p.m.: Musical interlude. 7.5: Birthday calls. 7.15: Request numbers. 7.30: Hawaiian steel guitar selections. 7.45: Humorous interlude. 8.0: Orchestral selections. 8.10: Tenor solos, Mr. G. Mason. 8.17: Bert Wayne presents a humorous interlude. 8.30: Frederick Holt presents a recital of Australian composers and compositions, with musical and vocal illustrations. 8.45: Selection of humorous records. 9.10: Request numbers. 9.40: Continue record recital. 10.0: Closing announcements.

2UE

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

EARLY MORNING SESSION.

7.15: Breakfast-time Hour, orchestral selections. 8.30: Weather forecast. Close down.

MIDDAY SESSION.

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

AFTERNOON SESSION.

1.0: Orchestral and vocal items. 1.45: Organ solos. 2.0: Vocal and orchestral music. 2.30: Announcements. Close down.

EVENING SESSION.

7.15: Orchestral dinner music. 7.58: Programme announcements. 8.0: Overture, "La Traviata." 8.10: Orchestral and vocal music. 10.15: Close down.

Lord Mayor's 3LO Hospital Radio Fund

SIR BENJAMIN FULLER, one of the directors of the Australian Broadcasting Company, has announced the scheme for the Hospital Radio Fund, to be known as "The Lord Mayor 3LO Hospital Radio Fund," which has been organised to mark the advent of the new era of broadcasting in Victoria. The object of the fund is to provide and maintain radio sets for all hospitals throughout Victoria. The secretary of the Lord Mayor's Fund (Mr. E. Glanville Hicks) will act as secretary, and the auditors are Messrs. David Fell and Co. A special committee will be formed to supervise the collections at the 3LO weekly community singing, which will be devoted entirely to the fund, to which the profits from the sale of community singing books will also be applied.

<p>Vitreous Enamel Wire-wound Tapped Resistors. 14/6. For B Eliminators. (13,000 ohms.)</p>	<p>Lugs, Bolts, Screws, etc. Gadgets Galore.</p>	<p>Wallace Condensers. Single-hole Mounting. 5/11. Three-hole Mounting. 3/6.</p>	<p>Sterling Mellovox Cone Speakers. Good as the best. 27/6.</p>
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<p>Wallace Constructional Booklets, One, Two, and Four Valves. 6d. Posted 8d.</p>	<p>UNEQUALLED £17 BUYS OUR ALL-ELECTRIC 3-VALVE KIT £19/10/- with speaker</p>		<p>"Community Three" Booklet. A set for the Multitude. 10d. Posted, 1/-.</p>
<p>B Batteries, double capacity, 60-volt. 13/6.</p>	<p>Exide 20-amp. 4-volt Accumulators. 15/6. 2 Volt, 7/9.</p>	<p>Exide 45-amp. 4-volt Accumulators. 29/6. 2 Volt, 14/9.</p>	<p>Grimes' Audio Transformers, a few left. 6/9.</p>
<p>Quaker Condensers, .0005, 7/6; .00035, 7/3; .00025, 7/.</p>	<p>Western Electric Headphones, 4000 ohms. 19/6.</p>	<p>Elwood Headphones. Sensitive. 10/6.</p>	<p>"Electrified Radio." How to Make your Set All-electric. 1/-. Posted, 1/3.</p>

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Beede Accumulator Test, Meter	3/-

PRICE'S RADIO SERVICE,
Angel Place, Sydney. B4146

Interstate Programmes, Thursday, August 15

3LO

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

EARLY MORNING SESSION

See Friday.

MORNING SESSION

10.30: Current events in the Racing World, by Eric Welch. 10.40: Reproduced music. 10.50: "The Football Field," by Mel. Morris. 11.0: A.B.C. Orchestra, with Jessie Smith, contralto. 12.30: Close down.

MIDDAY SESSION

1.0: Luncheon music provided by the National Broadcasting Orchestra, under direction Wm. G. James (conductor, Percy Code).

THE EDUCATIONAL SESSION

2.0: Great Australians—2. Sir Edward Braddon, Mr. Howlett Ross. 2.15: Reproduced music. 2.25: Music explained and illustrated—Musical Coincidences, Mr. Claude Monteath, F.R.C.O., A.R.C.M. 2.40: E. Green, M.A. Dip. Ed.

THE RADIO MATINEE

3.0: Metropolitan Fire Brigade Band. 3.10: Milton Chick, baritone—"The Roadside Fire" (Vaughan Williams). "I am a Friar of Orders Grey" (Rieve). "O' Month of May" (Quilter). 3.20: Alfred Ackland, violin—"Andante Cantabile" (Tschalkowsky). "Chanson Louis XIII and Pavane" (Couperla-Kreisler). 3.30: Gwen Hart, soprano—"Songs my Mother Taught Me" (Dvorak). "Butterfly Wings" (Phillips). "The Night Nursery" (Arundell). 3.40: Metropolitan Fire Brigade Band. 3.50: Tom Semple, tenor—"The Curtain Falls" (D'Hardelot). "Sailing Westward" (Eigar). "Flutes of Arcady" (Wm. James). 4.0: Frank Lee, synocopated pianists. 4.10: Gertrude Hutton, contralto. 4.20: Metropolitan Fire Brigade Band. 4.30: Close down.

CHILDREN'S CORNER

5.45: Bobby Bluegum in song and story. Clever Clarice at the piano. 6.15: A talk of interest to the elder boys and girls. 6.30: Market reports.

EVENING SESSION

7.0: Let's talk about our animals—2. The Ailsation Dog, Mr. Norman Mitchell. 7.15: Novels and Authors of To-day—M. Mickel. 7.30: For the Men on the Land—"Growing of Summer Podder Crops." Mr. P. Ryan, B.Sc. 7.45: Ancient Civilisations—Dr. E. Sweetman, M.A., Litt. D.

NIGHT SESSION

8.0: National Broadcasting Orchestra (under direction of Wm. G. James, conductor, Percy Code)—"Polonaise Militaire" (Chopin). "Prelude" (Chopin). "Valse Op. 64 No. 2" (Chopin).

8.10: Clarice Maljon, soprano, and Elsie Fraser, piano. In a classical programme.

8.30: Pietro Sarcoli, violin—"Love Song" (Semmattini-Elman). "Praeludium and Allegro" (Pugnani-Kreisler). "Ave Maria" (Schubert-Wilhelmg). Poem (Fibich-Kubelk).

8.45: Outstanding Personality or Question of the Week. 9.0: A.B.C. Glee Singers present "Les Cloches de Corneville," comic opera, by Planquette—

CAST

Serpoulette Eveline Ringwood
Germaine Veronica Cox
Gertrude Nellie Gibbs
Jeanne Marion Daniels
Manette Josephine Muller
Suzanne Millie Dixon
Greenichoux George Bryer
Clerk James Smith
Notary Collin Craig
Gobo William Liard
Gaspard Jack Craig
Marquis Cyril Evans

ACT 1

Scene 1: Sea Coast of Corneville.

ACT 2

Scene 2: Market Place.

ACT 3

Scene: Haunted Chamber of Castle

ACT 3

Scene: Apple Orchard.

10.30: News from to-morrow's papers

10.30: "Rex" Dance Band

11.30: God Save the King

3AR

Australian Broadcasting Co., 120A Russell St., Melbourne (Wavelength 191 metres.)

EARLY MORNING SESSION

See Friday.

MIDDAY SESSION

12.0: Community singing, transmitted from the Melbourne Town Hall; conductor, Frank Hatherley. Proceeds in aid of the Lord Mayor's Hospital Radio Fund. 12.15 "Argus" news session from the studio 12.30: Community singing resumed.

AFTERNOON SESSION

2.0: National Broadcasting Orchestra—"Blue Danube" (Strauss). 2.10: J. Alexander Brown, baritone—"On the Road to Mandalay" (Oley Speaks). "The Jolly Miller" (Quilter). 2.17: Tasma Tiernan, cellist—"Movement from Sonata" (Grieg). 2.27: Leonora Scott, soprano—selected. 2.37: National Broadcasting Orchestra—"Wine, Women, and Song" (Strauss). 2.47: Leonora Scott and J. Alexander Brown, duet—"At Love's Beginning" (Lisa Lehmann). "Trot Here and There" from Veronique. 2.57: One-act Play, produced by Catherine Nellie. 3.13: Jack Hockings, Scott, soprano—selected. 3.23: National Broadcasting Orchestra—Selections, "High Jinks" (Friml). 3.30 to 2.45: Your Health and Appearance—Face Massage, by "Ain." 3.45: Reproduced music. 4.0: To 4.15: Food and Cookery—Cooking by gas, Miss Noble. 4.15:

Reproduced music. 4.45: Evensong, transmitted from St. Paul's Cathedral. 5.45: Close down.

EVENING SESSION

6.15 to 7.30: Dinner music, supplied by the Studio Orchestra. 7.30: What's on the Air To-night? 7.32: Latest musical releases. 7.45: Market reports.

NIGHT SESSION

8.0: Brunswick City Band—Overture, "Zampa" (Herold). Two Little Dances (Finckel). 8.10: Sundowners' Male Quartette—"In the Wee Little House." "Blue Skies" (Berlin-Alberts). "Whisper Song" (Friend-Davis). 8.20: A comedy in one act—"Lady Molesey's Jewels," produced by Frank Pearson.

8.35: Brunswick City Band—"Hypatia" (Hume). 8.45: Mollie Warden, soprano—"Spring's a Loveable Lady" (Elliot). "Little Lady and the Moon" (Eric Costes). 8.55: Victor Stephensen, piano recital—"Dance of the Gnomes" (Liszt). "Reverie" (Strauss). "Humoresque" (V. Bowen). "Rhapsody in C Major" (Dohnanyi). "Valse Caprice." "Capriccio No. 2" (Frank Bridge).

9.15: Sundowners' Male Quartette—"Coppin' Moon" (Shelley-Schirmar). "Use Gwine Back to Dixie" (Anon., own arrangement). "Close Harmony" (O'Hara-Boston). 9.25: Brunswick City Band—"Maid of the Mountains." 9.35: Mollie Warden, soprano—Request numbers. 9.45: Arved Norli's Quartette. 10.0: Herbert Sanderson, baritone—"Song of the Waggoner" (Smith-Chappell). Melbourne Male Quartette—"Nancy Lee" (Adair-Lorenz). "Kentucky Babe" (Gibbet-White Smith). 10.10: Bob M'Queston's Melody Boys. 10.30: Close down.

3DB

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

MORNING SESSION

11.0: Time signal. Organ, cello, baritone. 11.30: Variety. 12.0: Theima Ready's Band, and community singing at King's Theatre. Conductor, G. J. Mackay. 1.45: Close down.

AFTERNOON SESSION

2.0: Symphony concert. 2.30: Wurlitzer, banjo, and songs. 2.55: Atwater Kent radio hour. 3.55: News. 4.0: Close down.

EARLY EVENING SESSION

5.30: Bobby Bluegum's children's hour. 6.0: Tea-time music. 6.30: What's on at the theatres and movies? 6.32: Radio Club. 6.35: Military bands and songs. 7.0: Novelty solos. 7.30: Piano and vocal solos. 7.45: Market reports.

NIGHT SESSION

8.0: Harold Williams, William Murdoch, and orchestra. 8.30: A symphony orchestra, and contralto songs. 9.0: Some popular items. 9.30: Organ solos and vocal quartets. 10.30: Some good-night music. 10.40: News. 10.45: God Save the King.

4QG

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

Schedules for morning and afternoon sessions, see Friday.

3.0: The ring events at the Royal National Show will be described.

NIGHT SESSION

8.0: A description of the ring events. 9.0: Metropolitan weather forecast. Movements of the Travelling Dental Clinic. Between 9 and 10 o'clock suitable musical items from "The Country Girl," which is being produced by the Brisbane Comic Opera Company, will be relayed from the Cremorne Theatre during unsuitable periods at the Cremorne, the following items will be broadcast from the studio: Winnie Trackson (violinist)—"The Old Refrain" (Kreisler). "Papillon" (Bohm). Margaret Sinclair Anderson (soprano)—"If I Had Dreams to Sell" (Ireland). "The Second Minute" (Besley). "I've Been Roaming" (Horrie). E. Ryberg—

Mouth organ solos. Selected. 10.0: News supplied by the metropolitan dailies. Weather information. Close down.

5CL

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

MORNING SESSION

11.15 to 2.0: See Friday.

AFTERNOON SESSION

3.0 to 4.30: See Friday.

EVENING SESSION

6.0 to 7.30: See Friday. 7.35: Mr. H. G. Olfert will speak on "Public Administration." 7.45: Mr. A. M. Whittenbury—"Hints to Poultry Breeders."

NIGHT SESSION

8.0: Chimes. 8.10: A Special Programme has been arranged. 10.15: General news service. 10.30: Dance recordings. 11.0: Close down.

6WF

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

10.0: Gramophone records. 11.0: Close down. 12.30: Markets, news, etc. 1.0: Time signal. Weather. 1.30: Organ recital. 1.20: Community singing. 1.50: Programme continued. 2.0: Close down. 6.45: Bed-time stories by Uncle Duffy. 7.5: Light music. 7.30: Commercial and general information. 7.45: Talk. 8.0: Time signal. Weather. 8.3: Musical programme. 8.50: Late news. Ships within range. Late weather. 9.5: Programme. 9.45: "Health" talk. 10.30: Close down. 104.5 Metre Transmission: Simultaneous broadcast on 104.5 metres of programme given on 1250 metres, commencing at 6.45 p.m.

7ZL

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

11.30 a.m.: Selections. 11.34: Midlands weather forecast. 11.35: Selections. 11.38: Adelaide-Eager will speak on "Household Hints." 11.55: Tasmanian stations' 9 a.m. weather report. 12.1: Shipping information. Ships within wireless range. Mail notices. Housewives' guide. Commercial news. 12.8: Selections. 12.29: Announcements. 12.33: Selections. 12.55: News service. British official wireless news. Railway auction produce sales held at railway. 1.10: Selections. 1.30: Close down. During the afternoon results will be given of the Bendigo Races, held at Bendigo Racecourse, Bendigo, Victoria. 3.0: G.P.O. clock chimes the hour. 3.1: Selections. 3.4: Weather information. 3.5: Selections. 4.15: A representative of the Child Welfare Association will speak on "Open Windows." 4.30: Close down. 5.15: Children's Hour, with "Uncle David" and "The Story Lady." 7.15: News session. 7.30: Under the auspices of the "Come to Tasmania" organisation. Aid. H. H. Facy and Dan Griffiths speak on "Mountaineering on Mount Wellington." 7.45: W. H. Cumnie will speak on "Soccer." 8.1: Musical selections. 8.15: A studio concert by 7ZL artists (interspersed with gramophone records). 8.22: Duets. Val Ubrick and Les Ubrick. 8.29: Musical selections. 8.36: Gwen Davidson (soprano). "Cradle Me Low" (Brahe). "John Anderson" (Lees). 8.43: Musical selections. 8.50: Duets. "Val Ubrick and Les Ubrick. 8.57: Musical selections. 9.5: Gwen Davidson. "The First Violet." "Cherry Ripe." 9.14: Musical selections. 9.30: News session. 9.45: Musical selections. 10.1: Close down.

Mr. Rowell Bryden

MR. BRYDEN has been broadcasting in Australia since October last, and his voice is one of the most appreciated by radio fans in the Commonwealth. Whilst in New Zealand he toured both islands for concert festivals. He has an extensive repertoire, ranging from operatic to light ballad. He has made a study of English folk songs and negro spirituals. He is very keen about the former, for they are, as he says, the very heart of the people. Mr. Bryden first achieved fame as a boy soprano in Dunedin

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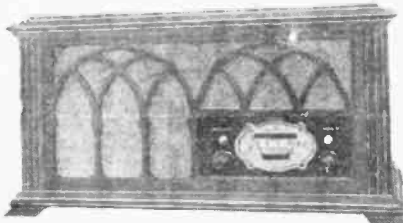
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The WIRELESS WEEKLY
RADIO INFORMATION SERVICE

Under the direction of Ross A. Hull



GENERAL.—Can any reader please supply K. Richardson, 1 Beaconfield Road, Mosman, Sydney, with Nos. 4 and 5 (January 18 and 25) WIRELESS WEEKLY, Vol. 13?

E.V.D. (Arenhite).—If I place my eliminator in the same cabinet as my receiver will I get A.C. hum?

Answer.—It is as well to place the eliminator at least two feet away from the receiver unless the eliminator is totally shielded.

MARCO (Concord).—I built the Marco Four and used the straight out winding on the aerial coil. It, using 35 turns tuned with a .0035 condenser. This I found was not selective enough.

Answer.—The capacity of the condenser should be .005 mfd., not .0035 mfd. The coil should consist of 47, not 55 turns. You probably refer to a .00035 condenser, but this is too small to cover the band properly.

(2) "I found tuning rather broad, and the band difficult to cover, so I then used an aerial coil of 15 turns, loosely coupled, and found I could not control reaction. I am using 35 turns reaction coil, tuned by a midget condenser."

Answer.—It is difficult to control reaction right round the band with only a midget condenser. Try removing about eight turns of wire, and placing a .0025 fixed condenser in, shunt with the midget. It would be far better, however, to use the .00035 condenser that you now have in the R.F. circuit.

W.G. (Hurstville).—Increase length of aerial, and decrease length of earth. Better to use an outdoor aerial. Makes no difference whether insulated wire is used or not so long as lead in or aerial touches no earthed object. Three feet by three feet baffle board O.K. Re hum, see last week's Radio Information Service.

C.M. (Sydenham).—Sorry, no copies. See below.

GENERAL.—Can any reader please supply Mr. C. Mack, 41 Unwin's Bridge Road, Sydenham, with a copy of WIRELESS WEEKLY containing instructions on building a 30 volt "B" accumulator?

J.M. (Double Bay).—Alterations would be necessary in filament wiring and by-passing, also in the audio stages. There is no room here for a detailed description, which would entail publication of numerous diagrams, for which we have no space at present. Re Peridyne Coils, Messrs. Gross and Danniell market a kit for winding your own. Instructions are supplied.

F.C.J. (Bastow).—Glad you liked the Countryman's Two Kilocombis is good. Yes, Countryman's Two O.K. for headphone reception there.

A.H. (Maroubra Junction).—No, not as a general charger, but only to be used when special occasion demands. We do not sell radio apparatus. Write to one of our advertisers. Yes, Mr. Hull was connected with Q.S.T.

A.V.E. (Leitchfield).—Primary twenty turns, secondary 50 turns, on a three-inch diameter former. Space, 1/4 inch. Yes, the condensers may be ganged.

J.G. (Mosman).—Re the Midget S.G.S.W. receiver. Would 4 inch plain dials be quite satisfactory in place of the vernier dials?

Answer.—They can be used, but tuning will be very difficult, and S.W. tuning is very sharp. (2) "Could a 1 mfd. condenser be substituted for the mfd?"

Answer.—Yes. (3) "I am going to use an A.P.4 transformer in place of the 'All American.'" Will the value of R4 be changed?"

Answer.—No. (4) "Would the A442, A415, A415, and B406 valves be a good combination?"

Answer.—A better selection would be A442, A415, B406.

(5) "In the A442, what is the connection to top of valve? Is it grid, plate, or screen grid?"

Answer.—Plate terminal of valve. The P terminal of valve socket is the S.G. connection.

(6) "Is the enclosed battery connection diagram correct?"

Answer.—Yes.

W.G.B. (Hamilton).—Probably an open grid circuit. See last week's queries re bad reception of 2PC at Newcastle.

"COCKIE" (Buralyang).—Perhaps you are using wrong voltages. However, I am inclined to believe that in spite of what you say a valve or several valves are faulty. You haven't got the "C" battery leads reversed have you?

D.J.S. (Tamut).—Signal Box Four is an excellent S.W. receiver, and incorporates several novel arrangements, including a small midget that entirely covers the amateur band without further tuning, and the peaked audio amplifier. A short wave receiver of the simplest type should receive London, so your request for the distance possible to cover with the S.B.F. is rather wasted.

A.C.C. (Braidwood).—Probably wrong battery connections, or faulty valve. Also test batteries.

E.T. (Granville).—Use a filament jack in the first stage. Run the positive filament lead through the jack. When speaker is plugged into last stage, filament jack will have a closed filament circuit. When speaker is plugged into first jack filament, the filament supply to the last valve will be opened.

K.C.P. (Avou. S.A.).—"From what address in Australia can I subscribe regularly to Q.S.T.?"

Answer.—Messrs. McOllis, 179 Elizabeth Street, Melbourne, Vic.

(2) "Where can I obtain back numbers of this magazine?"

Answer.—Either from McOllis, or direct from the A.R.R.L.

GENERAL.—Can any reader please supply Mr. K. C. Parker, Avon, S.A., with a copy of WIRELESS WEEKLY containing the "All Empire" S.W. receiver?

K.R.H. (Sydney).—Try a 100,000 ohm variable resistance across the primary of the transformer. Your reaction condenser is much too large. Use one of 0.0025 mfd. Your subscription has been passed on, and you will receive acknowledgment in a few days. The circuit is not a "Reinartz" but a "Schneid".

E.S. (Delegate).—"Some time ago WIRELESS WEEKLY explained how to recharge a dry 'B' battery. The one I wish to experiment with is a Columbia flat 45 volt. Please explain where holes have to be bored, and other procedure."

Answer.—Strip off all paper and cardboard, then drill 1/8 inch holes in the bottom of each cell. Place battery in a solution of salt-ammoniac (same as used in Leclanche cells), and leave for twenty-four hours, then remove battery, and re-solder bottoms, afterwards gluing on fresh moisture-proof covering. Unless the battery still retains at least 20 volts, the rejuvenating process will not be worth while.

A.V. (Noreburn).—"Would earthing the 'A' battery of a Neutrodyne blow the valves or run the battery flat?"

Answer.—Depends on whether the filament is earthed through the primary. If not it will be O.K.

(2) To hear inter-State stations fair strength on the speaker with three valves is good reception. You cannot expect much more from three valves. You could add an R.F. stage if you wanted more volume. The R.F. stage of the Marco Four would be suitable, but if it were done the wavetrap would have to be omitted or placed before the R.F. stage.

J.G. (Mosman).—"Is enclosed copy of S.W. adaptor O.K.? Re valve base, I have marked two pins A and B. Which is the plate? Could a B409 be used in place of the B406 in the Go-Getter? Have you any copies containing the Pentavox receiver?"

Answer.—Circuit O.K. A pin is plate, B is grid, B409 O.K. Sorry, no copies containing this particular receiver left. See below.

GENERAL.—Can any reader please supply Mr. J. Gosland, Holydene, 35 Middle Head Road, Mosman, with a copy of WIRELESS WEEKLY containing the "Screen Grid Pentavox" receiver?

GENERAL.—Has any listener an old worn-out "Philco" "B" battery for sale? Must be unbroken. Inquirer, Robert Olson, 26 Cornfort Avenue, Cessnock, N.S.W.

V.G. (Broken Hill).—"On page 60, WIRELESS WEEKLY, 5/7/29, you referred me to the A.R.R.L. Handbook. I wrote to the N.S.W. Bookstall Co., re this book, and was advised that it cannot be procured locally. Can you recommend any other publication that would cover the design of choke coils for 'B' battery eliminator purposes?"

Answer.—The design and construction of Inductances and Chokes. Electrifying the Receiver. "Chokes, their Design and Manufacture," all from Messrs. Angus and Robertson, Castlereagh Street, Sydney. Think you will find Messrs Swains, Ltd., have a few copies of the A.R.R.L. Handbook left. If not, you might be able to get a copy from McOllis Agency, 179 Elizabeth Street, Melbourne, Vic.

B.H. (New Zealand).—The Pilot Wasp. Sorry, do not know the receiver though the name points to an American version. See below.

GENERAL.—Mr. B. Hope, Public Trust Office, Christchurch, New Zealand, writes: "I wish to obtain copies of WIRELESS WEEKLY prior to No. 20, Vol. 13, containing articles on 'Proving Radio,' or construction of Short Wave receivers. Will pay cost and postage."

A.N. (Lithgow).—Reason why battery consumption is high is probably owing to the fact that the meter (which is permanently connected) draws a heavy current. Advise you to carry leads through a switch. If the switch on the receiver does not operate the meter, there is probably a faulty connection inside the receiver.

J.T. (Hurstville).—Use a 30 Henry choke designed to carry the current. Transformer secondary unsuitable.

C.R. (Harris Park).—Try a midget condenser in series with the aerial. If this does not suffice, a wavetrap will probably be necessary.

D.M. (Corrimal).—Yes, it could be done. A circuit of a Screen Grid R.F. Marco Four was published in queries columns a few months back. The R.F. stage of this would be quite suitable for the Flexible Three, though, of course, it would be unsuitable for short waves unless the condenser capacity and coils were changed.

J.B. (Hurstville).—See reply to A.H., Maroubra Junction.

J.W. (South Australia).—We do not reply by post. To which article do you refer?

N.E.C. (Gurley).—Almost any receiving valve can be used as a transmitting valve with fair results. A special transmitting is, however, very desirable. Interference eliminator may help with hum from A.C. lines.

A.B. (Queensland).—Your letter and Q.S.L. card passed on to Messrs. Colville Moore, who are now distributing these cards to the various institutes.

R.C.G. (Adelaide).—Sorry, no copies of Go-Getter, see below. No, Countryman's One-Valver is a Broad-cast receiver only. Yes, Go-Getter may be used on broadcast band.

GENERAL.—Can any reader please supply Mr. H. C. Godring, Box 951, H. G.P.O., Adelaide, with copy of WIRELESS WEEKLY containing the "Go-Getter" Copies required have been forwarded.

K.T.P. (Enfield).—No other connections have to be made to the adaptor. Merely plug the adaptor into the detector socket, removing both the detector and the R.F. valves, and transferring the aerial and earth connections to the adaptor.

L.P. (Wronite).—You will probably find the fault is in the set, and not the eliminator. See if two different makes of transformers are being used, and, if so, reverse primary connections of one of the transformers. Try changing detector valve. Perhaps you are putting too high voltage on detector. Look for close grid and plate leads, which might cause interaction. Try the inclusion of an R.F. choke in series with the plate of the valve and the plate terminal of the first transformer. A .002 fixed condenser across the secondary of the first transformer may help.

A.N.S. (Mascot).—"As there appears to be some doubt as to the terminals of transformers of English type, I would esteem it a favor if you would enlighten me through your columns. In WIRELESS WEEKLY dated 26/4/29, your list reads IP, B plus; OP, plate; IS, grid; OS, filament. In the Guardian, the list is IP, plate; OP, B plus; IS, grid; OS, filament. The A.W.A. give IP, plate; OP, B plus; IS, filament; and OS grid. Which is correct?"

Answer.—These differ greatly, but the writer has always used IP, B plus; OP, plate; OS, grid; and IS, filament, without striking trouble. Suggest you use this, and if a whistle is heard, reverse connections to primary, i.e., IP and OP.

QUERY COUPON
If you are in difficulties with reconstruction or set-construction, let us know, and we will endeavor to answer you right. Make your questions brief to the point, and, where possible, show layout and wiring design. Our answers will appear in the columns in which they are received.
The Radio Information Service, 3300/17, C.P.O., Sydney.
Please forward the accompanying invoice in the power of the Radio Information Service Department, at which this coupon is order to indicate that I am a bona-fide reader.

J.H.W. (Parramatta).—The additional stage of audio, in back of panel wiring diagram, can be followed from "Proving Radio." Circuits were recently given. A battery switch is not required. Filament rheostat when off breaks "A" supply, and no "B" current will flow unless filament current is on. Yes. "B" stations can be heard.

K.G. (Allawah).—"I have a .0005 condenser. How many plates shall I have to remove to make this a .00025?"

Answer.—Remove half the fixed and half the moving plates, since .0005 is twice the capacity .00025.
(2) "Do the higher priced condensers (about 12/6) possess any characteristics which the lower priced ones, say 5/ to 6/, do not possess?"

Answer.—Besides being a better mechanical job, they are generally so made as to bring dielectric losses down lower. Noises due to frictional contacts are common. Further, the higher-priced condenser of .0005 mfd. has a maximum capacity of .0005 mfd., whereas the cheaper condenser is usually "somewhere round about there." The plates and supports of the better quality condenser are more rigidly constructed, so that shorts through buckled plates are less common.

(3) "I have a B.T.H. 4-1 and a 2-1 transformer in a three-valve set. Are these O.K. Do they match the set? Curves are enclosed."

Answer.—The curves show that the transformers are excellent, particularly the 2-1 type, for which the curve is a straight line all the way from 500 to 4000 cycles per second.

(4) "Would you call these transformers high class?"

Answer.—Yes. The B.T.H. Co. transformers carry a guarantee that the transformers are true to curve within 5 per cent., and they replace transformers that become faulty within a certain period (six months, I think).

A.S.Q. (Brisbane).—An article appearing in last week's WIRELESS WEEKLY treated this subject in detail. Re needle-scratch filter. Did you see "The Electric Phonograph," an article by Alexander, published in "RADIO." Covers the subject thoroughly. If you haven't a copy please advise, when we can give you a paragraph in these columns.

A.C.H. (Cessnock).—Yes, the Reinartz may be used for short waves providing S.W. condensers and proper inductances are used. No need to use rheostats for audio stages. One ten ohm rheostat for the detector is O.K. Coils could be wound as suggested. 24 gauge wire suitable. Don't know the battery to which you refer. Glad you liked "Proving Radio." Mr. Simmonds, "Guntun," Marsh Street, Arncliffe, country organiser of the P.R. Club, will be able to give you some help on forming a club in Cessnock. Re R.F. stage. Wind 47 turns 24 gauge wire on a three-inch diameter former. Connect aerial to first turn, then to stator plates of a .0005 variable condenser, and to grid of R.F. valve socket. From end of coil to earth and also to rotor

plates, and thence to A plus, and on to one filament terminal of the R.F. valve socket. Other filament terminal of socket to one side of rheostat, and other side of rheostat to A negative. Plate of valve to first turn of a 26 turn coil on three inch diameter former, same wire (this is the plate coil, and should be coupled to the other coil, coupling to be variable till best spot is found) and other end of coil to B plus R.F. (about 45 volts).

A.R.S. (Queensland).—Coil system all wrong. Wind 15 turns 24 gauge wire on a three inch diameter former. Space quarter inch. Now, wind 50 turns. Connect, as in your diagram, only try earth tapping in a different place. The original Reinartz is better. Would be easy to alter. L1 should be 15 turns. Space 1/4 inch. L2 47 turns, then without breaking wire, but making a tap, wind another 25 turns. First turn of L1 to aerial. Last turn to earth. First turn of L2 to stator plates, grid leak, and condenser, thence to grid of valve. Tapping of coil to rotor plates and to one side of filament (as in your drawing). Other end of coil to moving plates of reaction condenser, and stator plates of condenser to plate of valve.

GENERAL.—Mr. E. Collins, "Given," Edenholme Road, Five Dock, writes: "I have a quantity of WIRELESS WEEKLY, dated from about October last year. No copies are missing. Any reader can have these copies by calling for them." (Thanks, Mr. Collins.)

F.K. (Ballina).—Evidently someone is using your call sign, or someone has a very bad fist. Hill The Q.S.L. cards have been handed over to Colville Moore, so we have passed your letter on to them.

R.W.P. (Ulmarra).—Your proposition being considered. Good idea. Glad you liked "P.R." Thanks for kind remarks. See below.

GENERAL.—Mr. R. W. Pattermore, Deep Creek, Ulmarra, writes: "I can supply the following back numbers of WIRELESS WEEKLY to readers requiring same: Vol. 12, from No. 9 to 35, except Nos. 10 and 14. These may be had on receipt of cost and postage. Volume 13, No. 2 to No. 24 (except No. 13). Vol. 13 can be had for 3d a copy (no postage), and I would advise only those who are after circuits and diagrams to apply for these, as I am keeping the "Proving Radio" articles."

A.T.F. (Canberra).—The article appeared in WIRELESS WEEKLY dated December 28, 1928.

G.F. (Kensington).—Sorry, know of no firm which would be willing to let you have a receiver on these terms, but suggest you try J. Beardsmore, United Distributors, Levensons, F. V. Wallace, Colville Moore, Harry Wiles, Price's Radio Service, Economic Radio, E.S.E. Co. Resco Radio Co., Slingsby and Coles, Harrington, etc. Dr. Cedric W. Whiting, Marsden Street, Parramatta, advertised such a set in last week's "WIRELESS WEEKLY."

GENERAL.—Can any reader please supply Mr. Jackson, Salisbury Flats, Salisbury Street, Waverley, with a copy of "WIRELESS WEEKLY" containing the circuit of the Economist "B" Eliminator?

GENERAL.—Mr. Arthur M'Laren, "Delmont," Mort Street, Toowoomba, Queensland, writes:—"Since my last letter to you re 'WIRELESS WEEKLY' back numbers, which I offered to listeners, I have had numerous requests for these, so many, in fact, that I am compelled to ask you to publish the list of numbers left, as there are many letters that I have had to refuse, as I have previously sent the numbers they require to other 'W.W.' readers. These numbers are still available to readers paying postage.—'RADIO,' Vol. 1, Nos. 2, 3, 4, 7, 8, 10; Vol. 2, No. 8. 'WIRELESS WEEKLY,' 1927 numbers, Vol. 11, Nos. 8, 9, 11, 12, 13, 14, 15, 17, 18, 19, 20, 22, 23; Vol. 12, Nos. 3, 26, 27, 32, 33; vol. 13, Nos. 4, 12, 17, 20, and issues up to date."

GENERAL.—Mr. N. W. Morgan, Thomas Street, Toowoomba, Queensland, writes:—"Having seen a number of requests for back copies of 'WIRELESS WEEKLY,' I would like you to let readers know, through your paper, that I have back copies from October, 1928, to present issue. I will be pleased to forward any copy on receipt of address and postage." Thanks, Mr. Morgan.

W.H.W. (Chatswood).—"Which is the better arrangement for Reinartz? Detector and one stage transformer with Penthode, or detector and three stage resistance amplifier?"
Answer: Detector with three stage resistance amplifier.

L.T. (Victoria).—Suggest A.R.R.L. Handbook. Cassell's also publish a Short-wave Handbook. Go-getter, May 10. Sorry, no numbers left of supplement, Date March 31. Perhaps some reader can help you. Write to one of the readers (see previous notes) who have so kindly offered to supply back numbers to readers requiring them.

XYZ (Canley Vale).—"I am going to build the Countryman's Two-valve receiver, but am held up owing to two things. What gauge wire is used on coils? In which 'WIRELESS WEEKLY' was the two-valve receiver published? I have looked through my copies but cannot find it."

Answer: 24-gauge D.C.C. wire. The Countryman's Two was not published as an article. A reader requested that a circuit be published showing the Countryman's One with a stage of audio added. A circuit of the Countryman's One last appeared in queries columns May 10, 1929. Back of panel diagram of the Countryman's Two was published in queries columns March 1, 1929.

R.H.L. (Canterbury).—Same as per Marco Four published February 1. Only make primary a little larger, say, 15 to 20 turns.

OPERATING FILAMENT'S FROM A.C.

UNFORTUNATELY an article published last week under the above heading was incomplete. The conclusion of the article follows below. Refer to Figs. 1, 2, and 3.

Though no reader forwarded a complete explanation of the "Hum Problem," the prize of one Precise 4-1 audio transformer has been awarded to Mr. G. Younger, Wallsend Street, Pelaw Main, who submitted his theory regarding grid and plate returns.

In Fig. 1 we see the conventional detector circuit. The principle is generally known. The filament on being supplied with D.C. heats up, and emits electrons (particles of negative electricity), which, owing to the positive potential of the plate with respect to the filament, are attracted. On their way to the plate, the electrons are controlled as regards their rate of flow, by the grid which is made negative to decrease the rate of flow (as like kinds of electricity repel, and positive when a greater flow is required. The coil, together with the grid condenser, grid leak, and grid element of the valve, form the "grid circuit."

Now it will be noticed that (still on Fig. 1) one half of the filament (in the diagram, the left half) will be less negative than the other (i.e., the right half). The polarity of the filament wire will gradually become more negative as we follow it round to the right. Since a flow of electrons constitutes a flow of electricity, and since the direction of flow is from negative to positive (because of a superabundance of electrons at the negative pole) it stands to reason that the greater filament emission will be from the right or negative half of the filament.

Now glance at Fig. 2. Here the "A" battery has been reversed, and as a result the

grid is returned to the negative (whilst before it was the positive) and the greater electron emission is from the left side of the filament.

Fig. 3 comes next. Here you see the detector circuit using an A.C. valve. The additional element is termed the cathode. Note that the filament is now independent of any part of the circuit, and that the cathode is placed so that it will intercept neat from the filament.

In Fig. 3 the filament supply is shown as A.C. According to the rate of fluctuation the potential of the left half, and the right half of the filament will be continually changing. However, we are not much concerned with this when using the cathode, because the purpose of the filament here is not to emit electrons, but to supply heat for the cathode, in order that the latter may supply electrons. As the cathode is eventually connected to B negative (through the plate circuit), the complete electrical circuit is completed, and the fluctuating temperature of the filament itself is negligible.

Then we strike another interesting fact. Using the ordinary D.C. valve, a field is set up round the filament, and this influences the electron stream. In "Proving Radio" we learnt that when a current is passed through a wire, magnetic lines of force are set up. Our galvanometer experiment showed us that another wire placed near that carrying a current, would accept energy. Since the magnetic lines of force are fluctuating, the electron stream will be caused to fluctuate.

In addition to this, the A.C. supply (one side of the filament being connected to the grid circuit) will alternately make the grid negative and then positive. Advancing further, we see that a fluctuating grid potential will

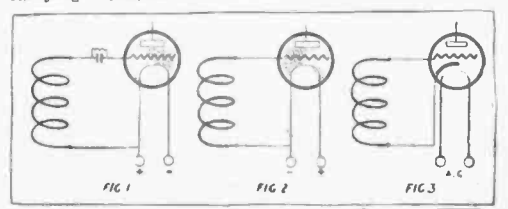
cause a fluctuation in electronic flow (since the grid control controls that flow), and still further, the fluctuating electronic flow will cause a fluctuating plate current.

The cathode is termed "Indirectly Heated," since it derives its heat not directly from the A.C. mains, but from the heat generated by the current through the filament.

Thus, it will be seen that using A.C. on a three electrode valve, i.e., one without an indirectly heated cathode, a fluctuating magnetic field is set up round the filament; a fluctuating potential drop along the filament, and fluctuations in the filament temperature are three factors which must be considered.

The hum is more pronounced when A.C. is being used on the detector owing to the fact that the audio stages following amplify all that is fed to them by the detector.

The fluctuating drop along the filament results in an output voltage ripple which may be reduced greatly by returning the grid and plate circuits to a centre tap across the filament supply. This means that the B negative return to filament (for return of the electrons to the filament) and the grid return, should be connected to the electrical centre of the filament supply when it is A.C. When this is done, it matters little whether the left half or the right half of the filament is at negative or positive potential.



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