

Wireless Weekly 3^d

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INCORPORATING "RADIO IN AUSTRALIA & NEW ZEALAND"

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FRIDAY, MARCH 1, 1928⁹
(Registered at the G.P.O., Sydney, for transmission by post as a newspaper).

MARCH WILL SEE



Transmission by
Light Waves

Jottings from
the Radio Shack
By D. B. Knock

Loud-Speaker
Principles

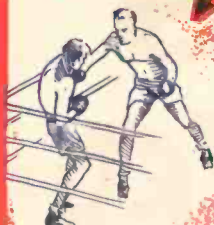
What's Wrong
with Radio
Announcers

VALVES BY PHILIPS

PHILIPS

AC PRODUCTS.

at your command!



SPORT

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COOKING



FASHIONS



DANCE MUSIC



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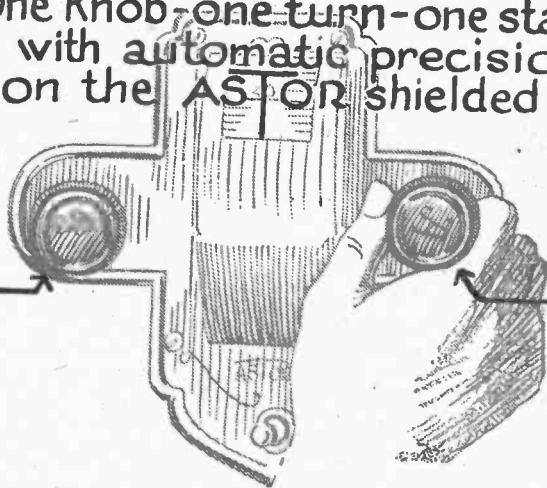
from many so-called "One-Control" sets that have preceded it. The

ASTOR

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One Knob—one turn—one station with automatic precision on the ASTOR shielded six

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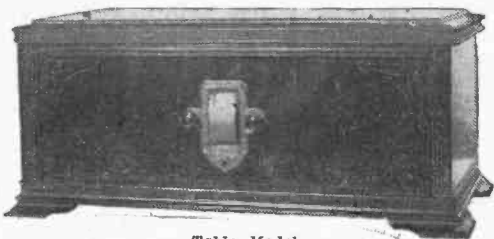


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Table Model—Instrument only, £31; Complete (Battery operated), £47; All Electric, £59.

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Address

Date

Wireless Weekly

Incorporating Radio in Australia & New Zealand

Address:
51 Castle-
reagh St.,
Sydney.
Phones:
B7148-9.

The Control Operator



MARJORIE PRITCHARD

"It's beautiful to be
The Control Operator,
Who turns the switches on
And turns the switches off.
Of every programme he
Is surely the dictator;
For several times each day
He turns the switches on;
And in the same old way
He turns the switches off."

2.

The hours flow on to noon,
Get lost, and start again;
And the Operator soon
Begins to feel the pain.

He's heard the same old news
Again, once more, again;
He's heard the same old views,
And heard them with disdain.

He's heard the Woman's Ses-
sion lectures on the brain,
And how to make the dress
That can't be spoilt by rain.

He's watched the Announcer speak
Beyond the window pane,
Till watching made him weak,
And thus does he complain—

"My Mother told me not
To swear—
She's the only one I've got
Anywhere;
And so I exercise
Restraint;
But please don't think me wise—
'Cause I aint.
You see, I keep a store
Bottled up,
While I'm drinking more and more
From the Cup,
So please tell my Mamma,
If I burst,

1.

Early in the morning, when the
larks are singing,
And the milk carts clatter past,
with milk cans ringing,
The Control Operator dons his
britches,

Bolts his breakfast down,
Hurries into town,
Up to the Control Room, to turn
on the switches.

And then is begun 'the early
morning session,
And News and Talk and Music
pass in swift progression;
And, as the cheerful morning
hours are going,
Every little while,
Heaving out a smile,
The Control Operator stings in
accents flowing—

That I never once said 'Da—',
Never cursed!

And this to my Mamma will prove
I died to keep my Mamma's Love!"

3.

'Tis Eventide! The bats in the G.P.O. Belfry
Begin their Innings!
Artists—Lecturers, pianists, accompanists, and saxophonists,
Together with violinists, cornettists, comedians, and talkers on
Dietry!

And also Bassos, Sopranos, Tenors, Baritones, and Altos!
Begin their Innings!

But the Control Operator
Heeds them not.

He is, to all intents and purposes, in a deep
Sleep.

His jaws open and shut
Like those of a torpid Alligator!
In a coma, he sees the Switchboard—

A black mass of scintillating Squiddidddy,
And contemplates it with an air of astonished
stupidity.

With mechanised hands, and eyes set in pro-
truding rigidity

He Controls the microphone switches and
touches the Artists!

Until a dull bell rings—
The hour is drawing nigh
For Homegoing. With a sigh,
He sings—

"The long day's work is done,
We've finished our programme;
So goodnight, everyone,
I have to catch my tram.

Not once have I been rash—
No! Not once did I curse—
I almost once said 'Dash!'—
I could have said much worse.

I'll turn the switches off
When everyone is gone—

To-night I'll turn them off;
To-morrow I'll turn them
on.

Oh, pity my horrible fate!
Oh, dear! My aching
head!"
And so the Operat-
-or staggers home to
bed.

—DERIT.



MARJORIE PRITCHARD



MARJORIE PRITCHARD

BETWEEN YOU AND ME AND THE MICROPHONE

Now, the Mar-hic-ville

WE have known announcers to have colds; and we have sympathised with them, as sufferers of the greatest affliction that can befall the announcing race; but we were wrong! About the greatest affliction, we mean. We have seen and heard an announcer with HICCUPS! "I haven't had hiccups for over three-hic-years," he told us in the control room. "It's fu-hic-unny-hic-having hic-hiccups while you're ann-hic-ouncing." But the spasm died away in half an hour, and everything was well again in the-er-hic-studio.



The Old Brigade

DIGGERS at the Randwick Military Hospital wrote to thank 2BL for the Sparr-Mason broadcast from the Stadium. "It was great," they say, "and every earphone was in use. Your announcer was splendid. We understood every word, and followed him very closely." And this is praise from men who really understand fighting.

Topping Old Thing

AN English radio announcer handed out the following pearls of wisdom to his well-wishers on celebrating a birthday:—"Keep your accumulator 'topped up' and get rid of your H.T. battery as soon as possible. Use and enjoy health, youth, and money while you've got 'em. You never know what kick is in waiting. Be kind to everyone, and learn how to compromise. Look after teeth and valves as though they were diamonds."



Explanation, Please

MR. FITZGERALD, of Manly, suggests that half an hour should be set apart for "Answers to Correspondents" on anything save politics and religion, from one of the "A" class stations. A good idea. We have two questions straight away: What makes people curious, and why do people write letters?

Appointment Broken on Wheel of—

MR. OSWALD ANDERSON went out in his car on Sunday night to see Mr. Ray Allsop. Mr. Anderson's car is a good car; but unfortunately the wheel came off, and one is allowed to picture the manager of the New South Wales Broadcasting Company, Limited, walking over a mile through rain, mud, and slush to get assistance. We suggest that he should do it again as a new radio stunt; but we fear —

No Choice

CHOOSING A LOUD-SPEAKER—VALUABLE HINTS ON AN ARDUOUS TASK," runs the heading of an article in a New Zealand paper. But we are already married, thank you.

To Find Out

CANADA, too, has appointed its radio commission to find out "whether the Federal Government should take over broadcasting as a monopoly, leave it to the provinces, or allow commercial broadcasting as at present; but with some suitable Government control." It is all very amusing.

Han's Inhumanity to Woman

LETTER from Berkeley, California, to 2FC: "I picked up your station with loud-speaker volume sufficient for my wife, whom I awakened, to hear upstairs in her bedroom." This was at 3.58 a.m. We told our own dear wife about this letter, but she only smiled darkly, leaving many horrible things to our imagination.

Language

TWO entertainers in Montreal have a repertoire which includes dialogues in both French and English, in order to comply with the bi-lingualism of the Province of Quebec. Yet our own broadcasters speak English, probably because they are afraid of the Australian public's opinion of genuine dyed-in-the-wool Australian.

Critics of Quality

STATION 2FC installed two new loud-speakers in the control room; and there was nothing in the appearance of the one by which one would differentiate it from the other. In other words, and to the outward eye, the speakers were exactly similar. But Mr. Ewart Chapple said that the tone of one loud-speaker differed from the tone of the other loud-speaker inasmuch as the tone of the one loud-speaker was sharper than that of the other loud-speaker. And Mr. G. Vern Barnett said that the tone of the other loud-speaker, although, of course, he respected Mr. Chapple's judgment in the matter, differed from that of the one loud-speaker inasmuch as the tone of the other loud-speaker appealed to him more than that of the one loud-speaker. So the control room operator placed the speakers in the following position: The one loud-speaker on top of the other loud-speaker; and said, "Now, which do you prefer?" Then Mr. Chapple and Mr. G. Vern Barnett said severally and one by one, "Which did I prefer before?" But the control room operator said wickedly, "Tell me first which one you prefer now." Then there was much tribulation between the critics; and they chose at random—yea, even now preferring the one loud-speaker and again preferring the other loud-speaker. And lo! when each had decided which was and ever would be his favorite loud-speaker, the control room operator had forgotten which was which in the first place; and so it was decided that the trouble was probably caused through the different positions of the speakers in the first place; and that the speakers were in fact and without any shadow or semi-tone of doubt similar in all respects. Q.E.D.

Radio Will Find a Way

IT is reported that Mary Pickford can be the same little girl in a radio play as she is on the screen. We must insert, as she WAS on the screen; and add a rider thanking radio for small mercies.

Aerial for Birds

IN England a horse feeder was recently fined £5 for operating a wireless set without a license. He had his crystal set attached to a bed spring, and was that it therefore couldn't properly be called a wireless set. Another Englishman, fined for using an unlicensed set, contended that his set was not used, and in proof declared that pieces of fat for the birds were strung from the aerial. It was pointed out that at least he must have benefited by some bird songs.



Delicate Feat

DURING the New South Wales versus England match wickets were falling so frequently that Maurice Tate, at deep field, became bored. As each wicket fell he strolled over and spoke through the 2FC microphone to friends who were listening in. If his voice seemed a little faint to his audience it was because the microphone was on one side of the fence and Maurice Tate was on the other, prevented from coming very near by the amazing length of his feet.

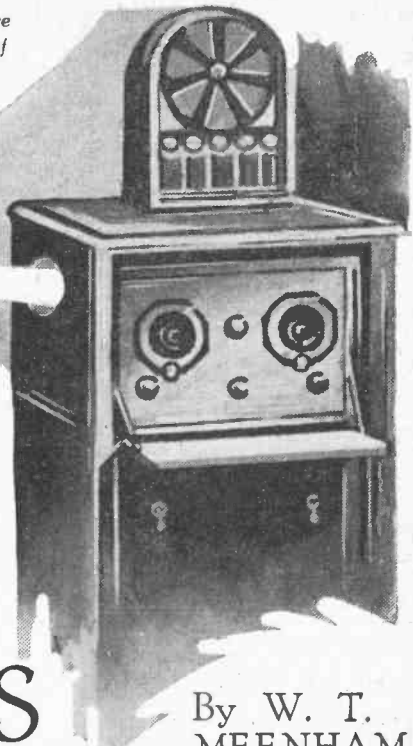
The Catch in the Voice

MR. JACK CANNOT arrived at 2BL on a wet night, and stood in the middle of the waiting-room, very still, very statuesque, very imposing. Someone said, "Good-night, Mr. Cannot"; and Mr. Cannot said, "Good-night," without moving from his fixed position; yea, without even turning his head. Was he the HE-MAN—the Strong, Silent Man—the Man-Whose-Ideals—Had—Been—Der-tragged—in—the-Dust? No. He was not. "Neuritis," he explained. "We went

out fishing yesterday in swimming togs, and were soaked through. Very foolhardy. I can't move my shoulder, and I can't turn my head. Don't know how I'm going to sing to-night." But, as everyone knows, Mr. Cannot sang as artistically as ever; although it is possible that the beautiful pathos of his rendering of "Sonny Boy" may have been caused by a particularly sharp twinge of the shoulder muscles. Marvellous how these little things help.



Ordinary radio transmission is now so commonplace as to cause little wonder, but here is a means of radio transmission which is new—ordinary radio waves superimposed on a beam of light.



Radio
Transmission
By

LIGHT WAVES

By W. T. MEENHAM

SOUND becomes visible and light is made audible by means of equipment developed by John Bellamy Taylor, consulting engineer of the General Electric Company of New York, at Schenectady, N.Y. A beam of light travels silently about the room, ready to break into music when it hits a mirror target. When the light leaves the source or when it is intercepted, the music is "broadcasting."

The equipment is a photophone built on old principles, but utilising the perfected photo-electric valve, electric pick-up, and newly developed amplifiers and sound reproducers. The idea of sending music over a beam of light was demonstrated by Alexander Graham Bell 50 years ago.

In demonstrating the photophone Mr. Taylor uses phonograph records with the sending apparatus. The energy is sent over the beam to the transforming and reproducing elements, mounted on a tripod some distance away. When he holds his hand in the path of the light beam the music stops; as he allows the light to filter between his fingers the sound begins and increases in volume. A cardboard disc with holes of various size, from a pin hole to one of an eighth of an inch in diameter, gives varying degrees of sound volume when it intercepts the light beam.

The light of a burning match can be changed into sound by the reproducer. When the match is struck there is a rattling, crackling sound, lasting during the combustion of the chemicals. The burning wood gives off a sound. Similarly, the varying light from a small dynamo-driven flashlight sounds like a siren.

A phonograph record or a speaker at a microphone can serve as the sound source, Mr. Taylor usually employing a phonograph with electric pick-up, by means of which the recorded music is transformed into electric current. This energy is led to a mirror, one-

thousandth of a square inch in area, delicately suspended in a magnetic field by means of wires. At one side is an ordinary automobile headlight incandescent lamp, the light from which is focused on the tiny mirror.

The mirror, quivering in tune with the electric current, focuses the light by a lens into a narrow beam, which, pulsating at the frequency determined by the music on the record, is projected through space to the light collecting mirror or lens of the receiving apparatus. At this point another transformation must take place; the light must be converted to sound. The mirror or lens condenses the light on the photo-electric tube, which responds instantaneously to every variation in light intensity. The photo-electric valve translates the light into electric energy, and this, after amplification, passes to a loud speaker, where the final transformation of the energy into sound occurs.

The difference between sending sound over a beam of light and by way of radio is simply one of degree. The physical transmission in both cases is the same, except that different transmitting and receiving devices are used. In the case of light, frequencies of several hundred trillion per second give wave lengths of the order of a fifty-thousandth of an inch. Broadcast waves are from 600 to 1500 feet in length. The long wave of comparatively low frequencies spreads out in all directions, but the beam of light is essentially a straight-line affair, and, with a suitable beam-forming lens or reflector, can be conserved and sent over distances without a substantial spread. Broadcast waves will bend around obstructions and pass through walls, but the light wave will not bend, since the wave is so short in comparison with the size of the obstruction. It will pass through only such solids as are transparent.

Uses for the photophone have not been indicated. Mr. Taylor has been able to pass a light beam during daylight across a street from one office to another. At night the

beam may be projected three or four miles, provided a sufficiently strong light source is used and a suitable lens or long focus mirror employed. War-time use of the light beam as a system of communication between fixed points, where radio or wire communication is impractical or impossible, also suggests itself.

Describing a visit to Mr. Taylor's laboratory, our correspondent writes:—

"We were ushered into a section of the engineering laboratory, where we noticed, at opposite ends of the room, two instruments mounted on tripods such as a surveyor uses. From one of these light was shining through a lens in the manner of the familiar stereopticon. Conspicuous also on the other instrument was a lens, but without light.

"The room was quiet. Mr. Taylor, whose development we had been invited to inspect, swung the beam of light emanating from the first-named instrument until it was brought upon the lens of the second instrument at the far end of the room. Immediately this was done there burst upon our ears the rousing music of a military band in such volume and accuracy of audible detail as would have convinced a blind man that the band was in our midst. Somebody stepped forward for a better view, and instantly the music stopped! He had intercepted the beam of light; but when he moved a step farther the concert continued in the same volume as before.

"Thrusting one's open hand with separated fingers into the beam so that some of, but not all, the rays were intercepted, had the effect of softening down the music. Swinging the ray to one side, which stopped the concert, Mr. Taylor took a hand mirror and with it reflected the beam back upon the receiving lens. This again brought out the sound in its normal volume. What we were witnessing was a pulsating beam of light acting as a medium of transmission.

"We are familiar with transmission by metallic conductors, and because a wire is something tangible, that we can see leading from

one place to another, it is not difficult to imagine it conveying energy, although probably we are unaware of the real mystery of the how and why. We are growing accustomed, moreover, to the thought of transmission through the air without conductors, an achievement which the layman accepts but does not understand. Transmission, however, by a beam of light is something that has not been made familiar, and the reason is that with all the other wonderful methods we already have available there has been no such evident need for it as would warrant its commercial exploitation.

"The photo-electric cell is the main element of the receiving apparatus. To illustrate its sensitivity, let us describe one of the experiments which Mr. Taylor showed us. Many no doubt are acquainted with a type of portable flashlight which, instead of a battery, is provided with a miniature generator that can be turned by pulling a cord. The cord is rewound by a spring within the case, and by repeatedly drawing it out the light is kept burning. This runs quietly enough, but if you direct its light at the receiving apparatus we are describing every pull of the cord produces a shrieking noise like that of a siren! This is because the lamp is fed by alternating current, and the lamp light, although appearing constant to the eye, is continually increasing and decreasing. The photo-electric

cell is conscious of these invisible light changes, and responds to every fluctuation, producing similar variations in the current which passes through it to the loud speaker. The weird shrieks that this little lighting plant gave forth when directed at the photo-electric cell, and its quiet running when pointed elsewhere, made a striking demonstration.

"The receiving apparatus, then, consists of a photo-electric cell, amplifiers, and loud speaker, and a collecting lens to catch the beam and guide it through an iris diaphragm into the window of the cell.

"Now as to the transmitter: What is required here is something that will produce a pulsating beam of light whose pulsations shall be in exact proportion to those produced by sound. When you speak into a telephone the sound waves create electric impulses which shake the diaphragm at the other end of the line. Similar electric impulses are used in the transmitting apparatus we are describing, but instead of shaking a diaphragm they shake a delicately suspended mirror of minute proportions. Light from a steadily burning lamp passes through a lens and strikes this mirror, by which it is reflected through another lens, emerging as a powerful beam capable of reaching the lens of the receiving apparatus. Before entering the final lens, the beam has been subdivided by passing through two gratings of vertical

bars, so that really the light is shining through a number of narrow slits and the movement of the mirror has only to be sufficient to sweep across a single opening. This small angular movement allows the mirror to respond in a very sensitive way to the smallest of electrical fluctuations. This part of the apparatus is essentially the vital element of an oscillograph.

"In the demonstration which has been described, a Victrola was used as the source of music. The ordinary reproducer had been removed so that no sound came forth, and in its place was an electric pick-up device which the vibrations of the needle shake an armature in an electric field, thus generating the electric impulses required.

"The various conversions from cause to effect in this demonstration are interesting. Coloring a little perhaps the actual scientific facts, there was first the making of the Victrola record, which we may call solidified sound. Next, the change of sound from the solid state into electric current. Then the transmutation of current into a pulsating beam of light, and its transmission through space. Then comes the conversion of light into electric energy, and, finally, the latter's change into mechanical motions that throw out upon the air a flow of music indistinguishable from that which at some unknown previous time and place had actually been rendered by human throats and human hands.

The Broadcasters' SOS Call Service

THE broadcasting of messages of urgency or, as the British Broadcasting Corporation terms it, the SOS service, beyond doubt, strikes the imagination more vividly and more poignantly than any other side of transmission, and this may justify some account of its methods and results.

Apart from those which are given out at irregular times, owing to exceptional urgency, these SOS messages are broadcast as a rule immediately after the news session. They fall mainly under four headings:—

- (1) Calls for relatives of persons who are dangerously ill.
- (2) Calls at the request of the police for missing persons.
- (3) Calls for immediate surgical or medical assistance for public hospitals.
- (4) Calls giving warnings of impending public disasters.

The New South Wales Broadcasting Company, Limited, has established very definite rules governing these types of messages. Under Section 1 the calls must be verified, either by a medical practitioner or the Police Department. Under section 2 they must be approved of by Police Headquarters. Under section 3, by the Medical Superintendent of the hospital, and, under the last section, by a Government or local government public officer.

Considerable response has attended the broadcasting of SOS calls. The average of successful messages last year which were notified to the stations was in the neighborhood of 40 per cent. In the case of dangerous illness the percentage of success was considerably higher. The police messages, however, naturally brought down the average, because in many cases the departmental machinery had failed before the help of the broadcasting station was enlisted. A few of the more important uses of these SOS calls may be indicated by the following cases:—

One of the large metropolitan hospitals

having run out of rain water, which is needed in connection with certain branches of surgery, a call was made on the air, and within half an hour of the transmission the hospital was notified that rain water was being despatched from outside the metro-

politan area on the north, south, west, and South Coast lines.

On another occasion, at the request of an officer of the Turon Shire Council, a call was put out, stating that a big bush fire was sweeping through the country lying between Bathurst and Orange, and here, again, the appeal for volunteers was successful, a large number arriving at the seat of danger within a short period after the announcement was made. Flood warnings have also been most successful, giving settlers an opportunity of moving livestock in advance of approaching danger.

The difficult problem of rules presented itself very forcibly at the outset of the SOS service. Were those controlling broadcasting in New South Wales to undertake, as in some parts, a combined service of the personal column of a newspaper and of a lost property office on grandiose scale; or were they to confine this to cases of the most stringent necessity? Consideration of the public interest soon compelled a decision in favor of the latter, confined, in the interpretation, to matters of life and death, requests from the police, the hospitals, and public warnings of impending disasters.

Many requests, covering purely personal matters, are received by the stations, but when it is explained that the objective of the New South Wales Broadcasting Company, Limited, is to confine these SOS messages only to matters of greater import, the inquirers invariably admit the wisdom of this policy.

The Old, Old Story

"If you don't receive this letter, please let me know," says a correspondent of the broadcasting company. We thought it funny till someone whistled "Tipperary." Then I took it to Mr. Charles Lawrence, but we don't think he will put it over.

Wireless Whimpers

(By WHISKER.)

"AMERICA DISSECTED."

*A brisk, expressive little man,
Dynamic in his make-up,
Determined to do all he can
Our civic health to shake up.
On neurons an authority;
From here to Londonderry,
Professor of anatomy
Is Richard J. A. Berry.*

*He rules his councils more and more,
This bold administrator,
And falls his students by the score—
A medical dictator.
He holds that we must fight disease
With forces concentrated,
And tells our health authorities
They're worse than antiquated.*

*He's just returned from visiting
The States, New York, Chicago,
The land of oil, the Wall Street ring,
The alcohol embargo.
The land of baseball, movie stars.
Of subways and sky-scrapers,
Of presidents and motor-cars,
And frantic daily papers.*

*He'll talk of its variety,
Its medical precautions,
Its traffic, its sobriety,
Its bargains and extortions;
He'll tell you all you wish to know—
From trains to fancy collars—
And paint for you, at \$10,
The Land of Lots of Dollars.*

The Whole Trouble with Announcers

An announcer either is a curious type of animal, or he is not. We are inclined to think he is.

Only for the time being, of course. The fact is, we have not yet grown used to our announcer. He is the stranger in our midst, breathing in to our domestic discussions on the price of eggs, or of Jim Smith's new car, or of John Robinson's latest affair, or of the perpetually TERRIBLE party at the M'Jones's the other night (they don't know any better, poor dears), with a weather or market report, "Miss Jones will now sing," spoken in a stentorian manner, which, and we shall not attempt to mince matters, is positively cold-blooded.

How did he get there? (See our Proving Radio articles.) Had he been there long? Good Heavens! What if he heard our remarks on Jennie Thompson's wedding? Well, we don't care. Everyone knew about it. As if THEY couldn't TELL! Nevertheless, we must exercise the greatest discrimination in allowing strangers to enter our homes. We must criticise them carefully, according to the highest acknowledged standards of taste and good sense.

Then we must write letters to the papers and to the wireless stations about them, because, as we said before, we have not yet grown used to the radio announcer. But these things will pass. No one ever writes to the papers about the moving pictures nowadays, except on regrettable occasions.



when kisses are too long or dresses too short; and these complaints, we feel certain, can never be made about radio announcers. No. It is a question of adapting ourselves to the announcers. In the words of Pope:—

Vice is a monster of so frightful mien,
As, to be hated, needs but to be seen;
But, seen too oft, familiar with her face,
We first endure, then pity, then embrace.

The words, properly applied, forecast most accurately the future absorption of the radio announcer into the everyday life of the community.

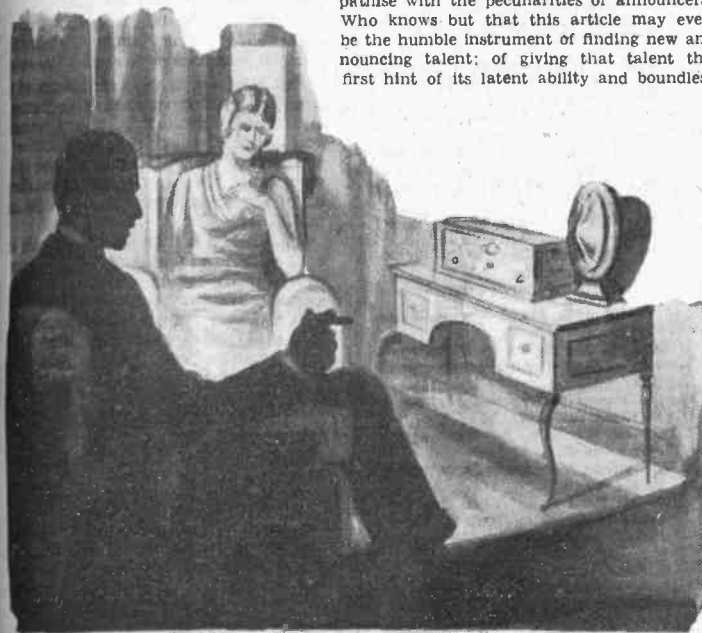
But we are not concerned in this article with the future of radio announcers. We have set out to explain "THE WHOLE TROUBLE WITH RADIO ANNOUNCERS." The announcers will be very eager to hear what we have to say, and the public, nicknamed the "long-suffering," will be extremely interested. Announcers, who are always OPEN to CONSTRUCTIVE criticism, will, no doubt, find this article helpful, and the public will be helped to understand and to sympathise with the peculiarities of announcers. Who knows but that this article may even be the humble instrument of finding new announcing talent; of giving that talent the first hint of its latent ability and boundless

natural resources, and of helping it on the way towards the glorious future which awaits it? Who knows?

The most important part of an announcer is his voice. One can imagine a radio announcer without a face. One can imagine a radio announcer without a body, or without arms, or legs. One can even imagine a radio announcer without a brain. But a radio announcer without a voice—never. It is the one indispensable thing. Not that the other parts can be done without altogether. For ourselves, we prefer our radio announcer with arms, legs, trunk, face, and brain intact; but of these things we shall speak more fully later on; our main objects just now being to show the absolute necessity for announcers with voices, and generally to describe and explain the exact nature of the announcing voice.

A radio announcer's voice, like the voice of a prima donna, or even the voice of our collector of empty bottles, must be especially suited to its task. It must be neither too high nor too low. It must have neither the fullness of the pre-war chorus girl, nor the scragginess of the nineteen-twenty-nine model. It must be cultured, with just that tinge of camaraderie, shall we say, or bonhomie might be better, or, perhaps, goodfellowship, which shall render it no less acceptable to the intelligent and well-educated classes than to us.

At least, where we have said "must," interpolate "should." For, as one listens in to the various stations of Australia, one is bound to concede every Australian announcer an excellent broadcasting voice; and to murmur despairingly the Wilde old saying—"Nothing succeeds like success." Of what benefit is it that we should take up valuable space in the "Wireless Weekly" enunciating eternal principles of correct announcing, when every Aus-



trallan announcer, singing, so to speak, his native woodnote wild, can satisfy the ardent longings of the multitude for correct speech and voice production? None at all, we should say, if we thought this to be the correct answer. It isn't.

It has been apparent since the inception of broadcasting, that the public has not been entirely satisfied with its announcers. There have always been some complaints; there has always been some trouble. And although nine hundred and twenty-nine letters out of a thousand may profess entire satisfaction with announcers' efforts, there have always been from fifty to two hundred letters saying exactly the opposite thing. Our plan is to eliminate all these complaining letters. We suggest a round-table brotherhood of announcers. Representative members of the community—men from the mines, the newspapers, the Stock Exchange, Parliament, the farming districts, etcetera, and one representative of the wireless station will be asked (when our scheme is taken up) to sit round a round table in the broadcasting studio.

When the time comes for the station to make an announcement or to read a news report, the members of the (proposed) Round Table Brotherhood of Announcers will rise, and, taking their time from the representative of the broadcasting station, will read together, and in unison, the news report, or announcement, as the case may be. It is not too much to say that the effect of such a scheme put into operation is almost unimaginable. Everyone will be absolutely satisfied, because everyone will hear just the type of voice he wishes to hear. And if anyone professes still to be dissatisfied with the announcing he will be voted a seat among the Round Table Brotherhood of Announcers, where, at last, he will know that announcing is being done as it should be done.

So, in this simple manner, will all difficulties of timbre, tone, volume, and inherent style be overcome in the future; but just because it looks simple don't think that we haven't spent much time in its elaboration. Not one of our contemporaries has even come near this solution. The only really interesting suggestion made about announcers' voices before this article was framed, appeared in the "Wireless Weekly" itself. "After careful consideration," it was said, "I have come to the conclusion that the timbre of announcers' voices has no real existence outside the brains of the announcers." We progress. We progress.

Although the English language has been in existence for some time, we must say, very regretfully, that there seems to be some uncertainty at the present day as to the exact pronunciation of various words. The English language, it would seem, has been allowed to take its own easy course, without regulation, and without any conscious desire on the part of English speakers to keep one invariable set of vowels and consonantal sounds for each noun, pronoun, verb, adjective, etcetera, as the case may be. The language, in short, lacks the one necessary characteristic of our business age—standardisation.

The lazy English people have been content to use words to make their meaning clear. They have been quite satisfied with their language when it has been understood by those to whom they expressed themselves. Such a state of affairs was bound to lead to trouble; and trouble came when the radio announcer began to speak to English-hear-

ing listeners—in in what he considered to be correct English idiom.

Immediately, letters arrived at the broadcasting stations, protesting strongly against their employment of Hoodlums, Whose Lack Of Savoir Faire Was Only To Be Equalled By Their Misconstructions Of The English Language. These letters were signed, "Grammarian," "Bulldog," "True Blue British," "Mother of Young English Howlers," and others such; and these letters created quite a stir throughout Australia, this fair land of ours.

But what could be done? People wrote letters in the paper. People wrote articles in the paper. They gave long lists of words; and detailed the correct pronunciation of each one. But what could be done? The people who gave the correct pronunciations in the newspapers weren't game to take jobs as announcers; because someone might have criticised them, and that would never have done. What could be done? Nothing. So the announcers just went on speaking so that everyone could understand them, and making

most dangerous errors both in grammar and pronunciation.

It is so to this very day. Look at the word "progress." Some announcers say "progrress." Other announcers say "progrress." A few even stretch probably so far as to say "progrress!" We once heard an announcer pronounce "scurilous" "scurilous," and we have quite grown used to the pronunciation of "advertisement" as "advertisement." These are simple words, and there should be no uncertainty over them. It is really too horrible.

Although we have a sneaking feeling that we are not sure ourselves how these words should be pronounced. We dislike admitting the fact, but we sometimes catch ourselves feeling quite satisfied merely to understand the announcer's meaning. We know that during these lapses into weakness we are forgetting our high and responsible duties both as citizens and as guardians of the English language. But we feel, now and then, that we should really like to understand what an announcer is saying, instead of criticising his manner of saying it. For these things we pray the public's mercy.

As to the pronunciation of foreign words, we feel that no announcer should be censured for saying them incorrectly. If a man can't speak his own language properly, he should not be rapped on the knuckles for saying "waltz triste" instead of "waltz trisle," or "cantabile" instead of "cantabile." Besides, we think no Australian worthy of the name of "Aussie" if he so much as attempts to understand or pronounce correctly words from a language which has dared to be different from the language of our great Empire.

Before we conclude these few remarks on pronunciation, we wish to get in a personal smack. When we were very young we had a master whose main desire was to teach the correct pronunciation of "Australia" to every pupil. He backed his desire, and his teachings, with a four-foot cane. And his teaching was that the word "Australia" should be pronounced "Orstralya." It WAS pronounced "Orstralya." But we just want to tell that schoolmaster (and we hope he will read this article) that we now take every takeable opportunity to pronounce the word "Australia" like this: Australia, Australia, Australia, Australia, AUSTRALIA. Oh, we DO HOPE that our old schoolmaster is reading this article!

Finally, there is the consideration of the enunciation of announcers. Should announcers speak distinctly. Should announcers speak clearly? Should announcers go to sleep and wake up in the morning with a large motto, "Perfect Distinctness and Clarity of Diction" glaring at them from the bed-post?

We think not. As we have already explained, and as countless writers to the newspapers and to the broadcasting stations have already explained, none of the announcers speaks perfect English. Therefore, we think it much better that they should simply mumble their news reports and announcements as the case may be. Then no one will know whether they are speaking correct English or not; and we shall not be forced to write such headachy articles in the "Wireless Weekly" about it.

(P.S.—We don't think the announcers will take our advice, so the next article will be concerned with Personality in Announcing; Is It Right? and various other considerations, together with our conclusions on the whole rotten business.)

SONG

THE RADIO ANNOUNCER.

Sadly and sweetly—e.g., dying duck.

The Radio Announcer's lot

Is very hard, you know; he's got

A terrible number of things to do

And he does them without any hulla-

haloo—

His voice must be always me-hell-o,

If it weren't there would be he-hell-o,

And he'd be done—his fe-hell-o—

Done down, Sir!

Done Brown, Sir,

Poor Radio Announcer.

And all throughout the night and day

He must be thinking what he'll say;

For horrid things happen to those who

swear.

If they happen to swear while they're

on the air;

So the poor Announcer, you will see,

Is between the D. and the deep blue

B:

And if he should swear, the mana-

geres

Will pounce, Sir,

And trounce, Sir,

The Radio Announcer.

He reads the news with a cheerful

smile,

But trembles in his socks the while,

Wondering whether he's going to say

General Nobile E or A;

And he tells all the children to love

their mamas,

And sends love and kisses to doting

papas—

Turns off the wrath of the angry

stars—

Profound, Sir,

No clown, Sir,

Is the Radio Announcer.

And pretty girls round him sing ten-

derlee

Of love and the pleasures of Arcades;

But e'en as they sing his sad eyes grow

dim;

For he knows they're not singing or

thinking for him;

And all the time he must speak,

Speak, speak,

With words, words, words, ev'ry day

of the week,

Till his head rolls round and he's

ready to shriek

Or drown, Sir,

Yes, drown, Sir,

Poor Radio Announcer!



Practical hints on constructional matters from the workshop. Detecting faults in newly-built receivers.

By DON B. KNOCK (Associate Technical Editor)

IN the course of constructing and testing wireless apparatus, with its allied accessories, the man who spends most of his spare time in his "den" or workshop often stumbles across practical ideas, which he retains in his mind, and does not have to refer to text-books to put those ideas into practice throughout his work.

It is intensely annoying to the man who has, to all intents and purposes, a perfectly good receiver, which is a replica of one built by a friend from a description in a technical journal, which in performance is anything but satisfactory. To the man who has built this set it is a replica in his own estimation, excepting that he has not got quite the same value of fixed condenser here, and the set did not seem to oscillate well at first, so he made a larger reaction coil . . . etc. . . . ad lib.

There are countless cases like this, and it is for this very reason, with, of course, others, that our Radio Information Service is so necessary. As I have pointed out so often, "if only readers would really stick to instructions," but what is the use of talking? Man is of an inventive nature, and we should all be very dull indeed if we did not try to do better than the next man. Fortunately, the radio engineer is of a sympathetic nature, and nothing touches his heart more deeply than to see a man who means well, floundering in the mud of ignorance.

The expert can always find a host of faults with the average amateur's set, for the reason that it is a thing of joy and beauty to the amateur when he has built his first set,

even though it may be capable of a really insulting performance. That is only natural, and I remember well how proud I was of my own first valve receiver, and what a lot of harm I did to the fascinating science of wireless reception by the unearthly noise my home-made exponential horn speaker made around the neighborhood.

Where ignorance was bliss 'twas folly to be wise in those embryo days, and it was really no use trying to be wise, for the valves and components available, together with the limited knowledge experts had (excluding men like Captain Round and De Forest), offered a real excuse. In these days there is practically no excuse, for wireless journals the world over have since 1920 been imparting a wealth of technical knowledge of the highest order. At the same time, the great host of unseen listeners has grown steadily, and is still growing, so that we will always have with us those who will welcome with open arms any information of a comparatively elementary nature.

There are such a lot of things one can talk about in connection with workshop hints that it is difficult to know just where to start, and so I will take various subjects as they present themselves to my mind. Let us suppose that you have just finished the assembly and wiring of a receiver, and, upon testing it out, the results are really good with regard to volume, selectivity, and distance-getting capabilities. After a while it dawns on you that the noise level, or "background," is not so silent as it might be.

This becomes more noticeable when look-

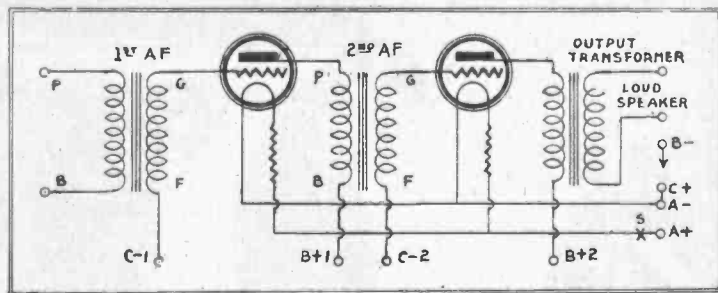
ing for a distant station. Although the R.F. amplifier is working perfectly, and the carrier wave is of a good strength, when oscillation is backed off the modulation is accompanied by a distressing hiss, which gives the impression that static is worse than it really is. You know that the audio amplifiers are working well, that the transformers are of unimpeachable quality, and that the valves are operating with the correct grid bias. Yet that hiss is ever present the moment you put the receiver circuits in a sensitive condition for distant reception.

There are a few sources of this noise, but one component that is often guilty is the grid-leak. Fortunately, we now have on the market grid-leaks which have a definite value of resistance, which remains constant, but, also, there are still a great number of unreliable grid-leaks among the old stocks, which have the habit of changing their resistance at a low frequency, thus causing the hissing noise.

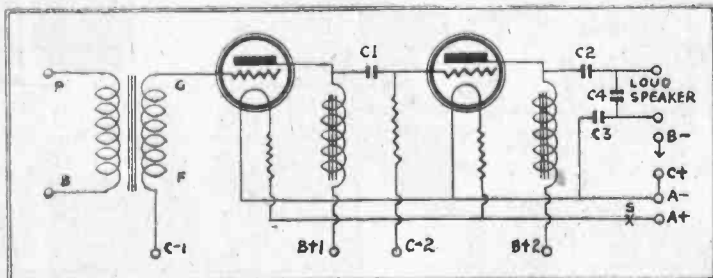
There is always the chance of meeting with a faulty sample, and when an otherwise good receiver produces hissing noises it is always well to check up on this component by the simple process of elimination. It is easy enough to change a grid-leak for another, and if a spare is not available, to short out the old one with a piece of wire, thus ascertaining definitely the cause of the trouble.

In dealing with the detector circuit, I am led on to a vital point, which calls for comment immediately. This is the question of reaction or oscillation control. In nine cases

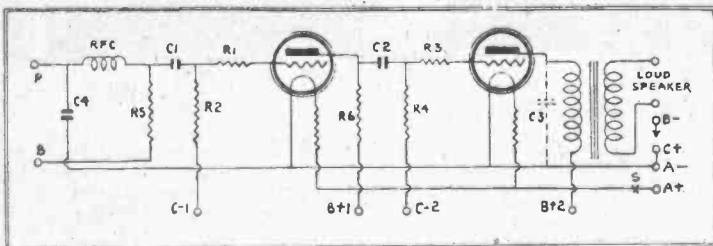
OBTAINING THE BEST REPRODUCTION WITH AUDIO AMPLIFIERS



A normal transformer-coupled amplifier.



Transformer and choke coupling.



Resistance-coupled amplifier.

out of ten the one great fault met with in an amateur receiver is the lack of smooth oscillation control. Nothing is worse than this, and to have to put up with what is correctly termed "backlash" is worse than no reaction at all.

If the reader is not clear on what is meant by this expression, the best explanation is that the receiver should start oscillating and cease oscillation at the same setting or point of the dial controlling reaction. The effect of "backlash" is that when the reaction control is advanced slightly the receiver bursts suddenly into oscillation, and the oscillation continues even when the control is turned back several degrees past the setting where oscillation commenced.

A receiver which suffers from this malady is practically useless, and the user should start immediately to find where his trouble lies and correct it. If the values in the circuit are chosen correctly, and all potentials are right, perfectly smooth oscillation should be the result; but if you have inadvertently strayed from the specifications, you may cor-

rect the trouble easily without making any drastic changes in value of inductance or grid condenser. This is done by bringing the grid leak to an intermediate voltage point on the C battery, instead of to either the positive or negative filament, as shown in Fig. 1.

Now let us look over the R.F. amplifier. What a great number of sets there are in use where at least one R.F. valve is just a passenger, burning away a good valve for nothing! The valve is probably oscillating more than amplifying, and making the set erratic and unstable. An ordinary R.F. stage (excluding screen-grid valves) only requires a little care to obtain an amplification factor of about 35, and when it is considered that the sensitivity may be increased by the judicious use of reaction, the total amplification may be more than 40.

Always remember, in the ordinary type of receiver, such as the Marco Four or Brown-Drake, to keep the aerial (or R.F.) and detector circuit inductances at right angles to each other, and well separated. In-

sufficient screening where screen-grid valves are concerned will upset the R.F. amplifier, but this is mostly a mechanical matter.

The astatic type of coil, as used in the 1928 Solodyne, will always assure the constructor of stability in an R.F. amplifier. Now I am going right to the other end of the set—to the output, where so many amateurs have the habit of making an output filter to the loud-speaker by using a damaged transformer, with one good winding as a choke. Sometimes this works out fairly well, provided the load on the set light, but there is a reason why it is apt to fail.

It is almost invariably the primary of an audio transformer which fails, and if the transformer has a primary of 40 Henries and a 3 to 1 ratio, the secondary inductance will be round about 360 Henries. The current to be passed through the windings must of necessity be very small to obtain this value of inductance, so that if it is used as a choke it is actually useless in any circuit where the current flow exceeds 1 milliamperes. If it is used as an output filter choke, the current passing will be several milliamperes, and this overload will break down the wire before long. It is better to use one of the many chokes marketed for the purpose.

This discussion takes us on to the question of testing various circuits for a breakdown of inductance or capacity. No wireless constructor's workshop should be without a milliammeter. It only costs a few shillings, and by its aid any of the ordinary faults which occur in a valve receiving set may be traced with a minimum of time. The milliammeter measures current flowing in thousandths parts of an ampere, and is naturally a delicate instrument, calling for respect in handling.

For trouble-tracking, the type of meter generally employed has a scale reading from 0 to 20 milliamperes. If it is used as an indicator of current consumed as a total by a receiver, it should be always connected in the B negative lead. It may be used in many ways for testing a complete set for faults, but will be more useful to the average constructor for testing components, such as audio transformers, audio chokes, resistances, telephones, or loud-speakers.

For testing audio transformer primaries or audio chokes, use a 4½-volt C battery. Connect one terminal of the component to be tested to the positive terminal of the milliammeter, and from the other terminal of the component take a lead to the positive terminal of the C battery.

Next connect the negative of the battery to the negative terminal of the milliammeter. If the windings are intact, there should be an indication of current flowing. If you wish to test high resistance loud-speakers or the primaries of large-power transformers, you may need to increase the battery voltage slightly to 6 volts or more, and when high resistances are to be tested a B battery will be needed for the actuating voltage. The voltage required must be found by increasing until a reading of one or two milliamperes is indicated. As a guide, remember that to pass 1 milliamperes through a resistance of 50,000 ohms, 50 volts will be needed, the vol-

TESTING CIRCUITS FOR BREAK-DOWN OF INDUCTANCE

increasing with the resistance proportionately.

R.F. transformers, coils, R.F. chokes, etc., cannot be tested in the same way, owing to the resistance of the windings being so low. An excessive amount of current would be passed, with only a very low voltage, so that it is necessary to introduce extra resistance to the circuit, and thus cut the current down to reasonable limits. Use the primary of a good audio transformer for this purpose, as shown in the diagram.

It is not an easy matter for the inexperienced amateur to tell when a fixed condenser is suffering from a breakdown, but here again is where the milliammeter comes to the rescue. In this case the two windings of the audio transformer are used as shown in the diagram. If the condenser is intact, it will pass alternating current, and we can produce these alternations by making use of an audio transformer in the following way:—

Connect one of the battery terminals to a primary terminal of the transformer, and, holding the other lead from the battery in the hand, brush it against the other primary terminal, thus making and breaking contact. As the contact is made, there is an impulse of current through the secondary in one direction, with a reverse flow in the other direction as the contact is broken. If the condenser is in good order, a series of kicks will be shown by the milliammeter needle as the contact is made. The circuit diagram is self-explanatory.

Amplification is an all-absorbing subject, dear to the hearts of all technically interested in good reproduction, so now I will continue this chat from the wireless "den" dealing with audio amplifiers. There are various combinations of coupling devices, which may be used to obtain the best possible in tone and quality, and with the accompanying diagrams and explanations perhaps I may be able to clear up a few doubts.

The most common form of coupling is by means of the inter-valve transformer, of which never more than two are used for general work. In the diagram, showing a two-stage transformer coupled amplifier, I have included an output transformer. The use of an output transformer is really of vital importance, so that when a super-power valve is used in the second stage the armature windings of the loud-speaker are independent of the direct current, and a low resistance winding may be used to supply the current to the last valve.

The D.C. resistance of many loud-speaker windings may be as high as the internal resistance of a super-power valve (round about one or three thousand ohms), and the result is that this resistance is sufficient to cause a large voltage drop, thus robbing the

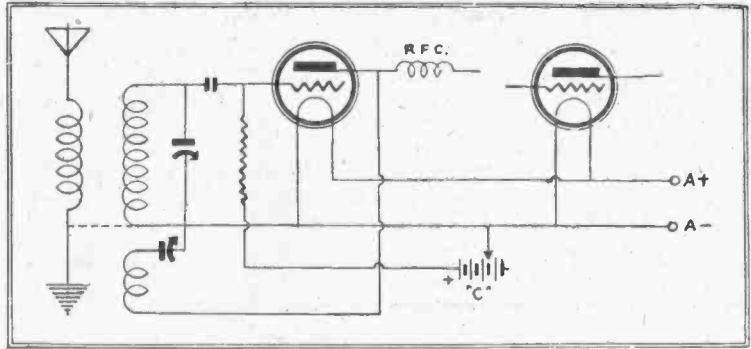
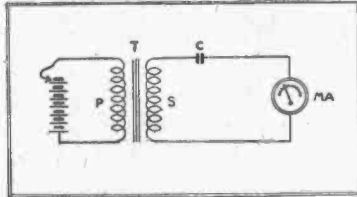
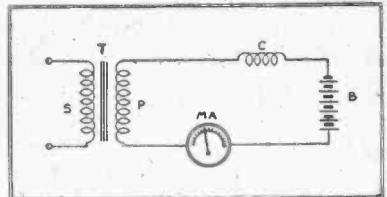


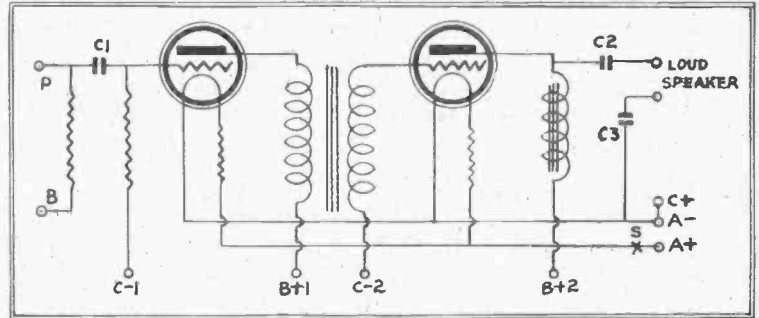
Fig. 1: Elimination of backlash.



Milliammeter test for condenser.



Milliammeter test for coil.



Resistance and transformer coupled amplifier.

valve of its necessary voltage. By using a suitably-designed output transformer we are able to make the voltage on the plate of the last valve much higher than if we were to feed it direct through the loud-speaker windings. An amplifier such as this will be excellent for use behind a crystal receiver, but it is advisable to use a high ratio transformer in the first stage in this case.

Many are the cases where the builder of an amplifier is distracted by audio howling, yet the components may be well spaced, and all connections correct. Often a reversal of the primary windings of the second transformer will cure the trouble, or the connection of a quarter megohm grid leak across the secondary winding of the second transformer.

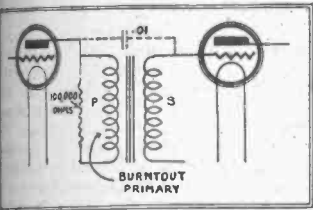
Next we have a diagram of a two-valve amplifier, in which a resistance coupling is used to link up the detector valve with the first audio valve. After this is a transformer for the other coupling. Instead of using an output transformer, a filter choke and two coupling condensers are provided. These two coupling condensers should be of the T.C.C. or Ferranti type, and should have a capacity of not less than 1 mfd. each. This type of

amplifier should never be used for a crystal receiver, but with a valve receiver for best results. If required, an output transformer may be used instead of the filter circuit.

The next circuit diagram illustrates a two-stage resistance coupled amplifier. This is generally recognised as productive of the very best in quality, and it will be noted that in this circuit there are special precautions to prevent radio frequency from getting into the amplifier. First, an R.F. choke is included in the input, and there is an additional resistance in series with the grids of the valves. The fixed condenser, C4, should be no larger in capacity than .0001 mfd. The resistances in series with the grids of the valves may be a quarter of a megohm each, ordinary grid-leaks serving the purpose.

Although one may naturally think that special R.C. valves may be suitable in both stages of this amplifier, yet it is better to use one of the "Detector and H.F." type in the first stage if reaction is used on the detector preceding it.

The remaining type of amplifier is shown in the circuit, illustrating a transformer



Temporary arrangement to continue use of burnt-out transformer.

PEOPLE in the PROGRAMMES

Alexander Sverjensky

MR. ALEXANDER SVERJENSKY left Soviet Russia in 1921. (Don't you think that was a good beginning?) Between then and 1922 he concertised in the Far East, and in 1922 he joined Lydia Lypkowska, a soprano not without merit, we believe, in a concert tour through China and Japan. They passed on to Manila, and in the year 1923, which should be marked loudly with a cross, they arrived in Australia. During the tour Mr. Sverjensky was accompanist and solo pianist; and it was during this tour that Mr. Sverjensky met his present wife and became engaged.

So that when, in 1924, Mr. Sverjensky left Australia for Europe, he had strong reasons for wishing to return here and settle down. He toured through India, Egypt, Greece, Turkey, Rumania, Poland, Germany, Latvia, and Lithuania. Then he gave up accompanying, said good-bye to Lydia Lypkowska, and came back to our own fair land, just as we said he would a few sentences ago. This was in 1925.

All these things were told to us by Mr. Sverjensky, as he sat in his studio and refreshed his mind from press clippings in all kinds of horrible languages. Since 1925 he has given yearly recitals, formed a Students' Club, which gives three monthly recitals from Paling's concert hall, organised an instrumental ensemble for the performance of chamber music, and been married.

He has been broadcasting for twenty months, during which time he has played ninety-eight items.

"Big and small items," said Mr. Sverjensky. "There was a prejudice against playing big items, because it was said that they did not broadcast well. But with a careful study of microphone and acoustical conditions, you can play anything on the wireless. I have found that, by emphasising the melodic line and reducing the bass and treble a little, clarity of reception is maintained. It is not a question of using the pedal sparingly. You see, if you fill up your programme with short 'encores' pieces, you detract from its educational value. I think that the 2FC classical programmes are doing much for the musical education of Australians, and I hope they will be continued."

Of studios Mr. Sverjensky said, "I don't find it easy to accommodate myself to studio conditions. For one thing, you have used up just the right time; and, although you know you will be able to do it, you feel a little uncomfortable. "Then there is the deadly silence at the end of an item. It would even be a relief to hear some hissing. The fact is that any artist with any degree of experience must play to other people. He knows his music so well that it becomes boring to himself. His enjoyment of his playing is the measure of the enjoyment of his audience. "However, I get over this difficulty by



Alexander Sverjensky.



MISS MARIE BREMNER, in private life Mrs. Ewart Chapple.

imagining an interested audience." He continued: "Wireless is of more educational value than the gramophone. Gramophone records, heard two or three times, become dead. You know just what is going to happen. But no one can play the same music twice in the same manner. Wireless art is living art."

Mr. Sverjensky likes Sydney. "I can't help admiring many things in Australia," he said, "and I would certainly live nowhere but in an English-speaking community. In other countries one is quite safe so long as one is not against the Government; but no Australian can appreciate the meaning of his freedom until he travels."

Miss Marie Bremner

ONE of the most talented of our young Australian vocalists, Miss Marie Bremner, already known to listeners on account of her stage and broadcasting work, will again be heard over the air from 3LO, and has selected a sheaf of operatic numbers and classical melodies from her extensive repertoire.

"I cannot remember the time when I was not devoted to music," she said, "and my feet seemed firmly set upon the ladder that leads to success when I won the Melba Scholarship, which entitled me to three years' training at the Melba Conservatorium, during which time I studied under Anne Williams and Mary Campbell, with occasional lessons from Dame Nellie herself. Naturally, with every advantage on either hand, one could not help putting one's best effort forward, and I shall never forget the impetus derived from a personal lesson from Dame Nellie. She has wonderful ideas on phrasing and interpretation, and has the knack of getting you to see things from her point of view, without the least difficulty.

"When I left the Con. I was engaged for

the chorus of the grand opera season, and it was here that my natural love of language stood me in good stead, for I lost no time speaking to my fellow choristers, and they, seeing my keen enthusiasm, lost no opportunity of helping me.

"After the Royal opera season I joined the Comic Opera Company, and, with Gladys Moncrieff in 'The Street Singer' I had my first part, a very small part, it is true, but nevertheless, a part. Then I went into the most delightful of all plays, 'Lilac Time,' where I understudied Miss Harriet Bennett, and towards the end of the run played Villi, and during the matinees took Miss Bennett's part. This was followed by a further understudy in 'Rose Marie,' where I had the opportunity of playing the part about fourteen times, and, after a comparatively short understudy in 'The Desert Song,' I find myself once again filling the shoes of the heroine.

"It is one of my dreams that I shall go to Europe and make a study of folk-songs of all countries, and then present my little scena, with costume and songs, in their native centres, throughout Europe, America, and Australia. However, that is a long way ahead yet, and the future, to a great extent, is in the lap of the gods."

The Man of the Fast Few Moments

AMAN wrote in to 2FC from the country "I got my set on Saturday," he confided, "and I listened in to your man telling about the races. He gave the first second, and third horses; and when I saw the Monday paper I was surprised to see that in every case his tips were right. Now I want to know if you will get him to give this over the air on Friday, so that I can get a few bets with the neighbors. I'm the only one with a set up here."

Of course, 2FC could not comply because their man who had been giving the "tips" was, in fact, giving the results of the races as they were run. This may detract a little from the "2FC Man's" reputation as a sorcerer, but don't let it blind you to the fact that Mr. M. A. Ferry is a very great man. His audience is comprised of hundreds of thousands of near and far Australians, and his correspondents, during the past three years have passed the two-thousandth post.

Mr. Ferry was born in Albury. He went on the land during his early years, playing a game called mixed farming, in the Wagga district. He was associated with racing clubs there for some time and then drifted over to West Australia, where for many years he started and handicapped at the big meetings. He was mixed up with the Kalgoolie and Coolgardie Racing Clubs in their golden days.

In 1911 he took the first, last, and only team of Australian buckjumpers to England for the opening of the Crystal Palace with nine of Australia's best roughriders. Some reader may wish to remember Billy Waite.

(CONTINUED ON PAGE 27.)



Mr. M. A. Ferry.

A Song of Praise for the Humble

TECHNICIAN

No one is better qualified to write about the humble control operator than Mr. Allsop, who has passed through every stage of the radio game on the way to becoming an expert.



By
**Ray
Allsop**

(Associate
Technical
Editor)

FEW songs of praise have been offered to the radio technician, the engineer, or to the broadcast operator. The unassuming young chap at the switch-board, or even the modest monitor, like the scene-shifters behind the wings, are necessary pieces of machinery, and upon them depends much of the success of the presentation. And unless one of them gets electrocuted or faints across the controls the public never hears of them, ignoring completely their hidden existence.

In a way, we owe all to the technician. After he has built the station he must keep it running, hour after hour, day in and day out, for years. And this requires more skill than turning on an electric set, tuning in to the favorite station, and letting things happen!

This debut to the technician spreads over many fields. We might go so far as to say that the progress of the various industries is limited only by the speed with which the expert can blaze the way. A typical example of this is the moving picture. It advanced no more rapidly, in spite of excellent dramatic direction, than the development and perfecting of the camera and the projection machine would allow. First, for instance, there were outdoor scenes only, worked into cowboy and Indian scenarios that have long since gone by the board. Studio photography and indoor "shots" had to await the perfecting of camera, film, and lighting, which all came in time.

As soon as these instruments were at hand picture directors learned a new technique of photoplay production. Tricks were introduced, the fade-out, the close-up, double exposure, the slow "movies," and lately, very lately, photographing at night, and keeping the constant focus for moving scenes photography away from the camera.

All of these innovations were the suggestions of the camera man or the laboratorian. At least, it is logical that he should have proposed them, since he learned the possibilities of his equipment through constant use and study.

What has the radio expert given radio broadcasting beyond the idea or principle of the device itself? To begin with, it was an engineer who first tried the remote control idea—that is, broadcasting a programme taking place somewhere outside the studio. This was the first great broadcasting innovation and the oldest, for it began a few months after broadcasting itself started.

Of course, this brought about new possibilities, new ranges in programme presentations. As an outcome of the remote broadcasting, many other tricks were tried, such as broadcasting across landlines for retransmission in other States, rebroadcasting from an airplane or an automobile, or even a yacht through a ground station. These were only "stunts," however, but useful at a time when every station manager was searching for new ways of gaining the public's attention.

There have been other ideas introduced, but too few of them, we fear. The mixing panel, the fading-out of

programme, an idea borrowed, probably, from the moving picture operators — and lately only, the musical background during announcements of the programmes. And we hesitate to say that this last was a technical development, coming, as it probably did, from the presentation department.

These contributions to broadcasting during the last few years will no doubt be permanent. It took a long time to evolve them, and in some cases their realisation was a matter of deep technical study.

There are more innovations that could be worked out which would materially improve broadcasting, or at least the technical presentation of a programme. One situation immediately comes to mind. That is the awkward breaking into the programme by the announcer to tell his listeners to "stand by for station announcement." We know the difficulties that lie in the path of the man who will solve this one flaw in smooth broadcasting. And it is our guess that some engineer or expert will find the solution.

Another problem which is a keen one in many stations with limited equipment and personnel is the monitoring of programmes. So much depends upon the alertness and personal judgment of the monitor during the transmission of the programme that his value and necessity can hardly be overlooked.

In spite of his important post he is many times provided with inefficient apparatus, and the monotony of the work may make him careless, if not forgetful. We have known some monitors to go to sleep at the switch from sheer nervous exertion after hours of monitoring a complete opera!

There will be automatic monitoring soon. At least we believe that some young monitor operator will grow tired of watching his meters and turning the control knobs, and devise an automatic way of doing this work.

Perhaps the technician has been backward in presenting new ideas to the production department, or perhaps he has felt that the production department has gone so far ahead of him in mastering the possibilities of the equipment that he is no longer wanted. It would be very valuable, we think, for station managers to invite their technical staffs to close co-operation with the production and programme departments. In this way only will it be possible for the producer to visualise the transmission and its difficulties, and for the operator to fully appreciate the work of the programme manager. The technician has been a most important factor in the progress of broadcasting. He has not yet passed his usefulness. Many improvements remain to be made, and they must be solved by him. Broadcasting will grow no faster than these improvements are made.

The Microphone Presents—

New Band

THE CASTLE PALAIS BAND, a fine combination of musicians, who were successful in the recent Radio Elsteddfod, held by the New South Wales Broadcasting Company, are to appear at 2FC on the evening of March 8. Friday night is always looked on as a night for the lighter type of entertainment, and the appearance



Annie Croft and Gus Bluett, who will be heard on Friday night, March 8, when "Hit the Deck," is broadcast from 2BL.

of the band on this occasion will be welcomed by many 2FC listeners who make a point of arranging small private dances to radio music.

Music of Modern Masters

A PROGRAMME of modern music will be given from 3LO on March 4, when excerpts from the works of Suppe, Saint-Saens, Landon Ronald, Dvorak, Kreisler, will be given. Vocal honors will be shared by Marcelle Berardi and John Hobbs, instrumental items will be given by The Imperial Russian Trio, and orchestral selections rendered by the Station Orchestra.

Hospital Aid

ON SATURDAY, March 9, the 2FC hospital concert party is visiting Camden, where an entertainment will be given in the Empire Theatre, in aid of the Camden District Hospital. The party will include



Ad Cree and Margaret Grimshaw, who are members of the 2FC Hospital Concert Party, broadcasting from Camden on March 9.

Ad Cree, Margaret Grimshaw, John Warren, Arthur Prince, Peggy Dunbar, and last, but not least, Charles Lawrence, without whose presence the party would, of course, not be complete.

Edith Harry

EDITH HARRY, who in private life is Mrs. Beck Daly, is again in Sydney, and played at 2FC listeners recently. Gifted as singer, pianist, and composer, it is difficult to

emphasise particularly any single aspect of her art. She studied piano, singing, chamber music, ensemble playing, harmony, composition, and opera at the Guildhall School of Music, and has made many successful tours in the Homeland.

She has written both words and music for four books of children's songs. They are built up on the little happenings in every-day life, and owe their conception to the bedtime song-hour which she holds each evening for her two small daughters. Miss Harry is an accomplished linguist.

New Feature—"The Thief"

THIS is the H. W. Varna Company's next production to be given on the afternoon of March 13 through 2BL. Marise Chelford, wife of a young, rising business man, is remarkable for her excellent taste in dress and display of magnificent frocking, which only too apparently is beyond her husband's means. She creates much comment and speculation, till finally



Miss Muriel Connor, a member of the H. W. Varna Company.

she finds she has been stealing to gratify her passion for extravagant dress. He accuses her, but she turns the accusation aside, and cleverly brings about a happy reunion. H. W. Varna takes the character of the husband; Meg Service the part of Marise.

Colin Crane at 3AR

COLIN CRANE, whose fine, resonant voice has made him a great favorite in the broadcasting world, will be heard from 3AR on Sunday, March 3 in a group of negro spirituals. From a vocal standpoint, there are very few positions that Mr. Crane has not filled, from the Demon King in pantomime to principal artist in oratorio, in connection with the Sidney Philharmonic Society at the Sydney Town Hall. He is also an actor of considerable ability, and his clear diction, well produced voice, and expressive interpretation combine to make his rendering of the difficult "spirituals" most impressive.



Colin Crane broadcasting from 3AR on March 3.

English Baritone at 3LO

JOHN HOBBS, the popular English baritone, is an ever-welcome visitor to the broadcasting studio, and will be on the air from 3LO on March 4. Before coming to Australia Mr. Hobbs was well and favorably known throughout England as a concert artist, and secured many engagements to sing in Oratorio at the great English choral festivals. Since his arrival he has continued his studies under Harold Browning (a pupil of the famous English vocalist, Plunkett Greene), and his work always maintains a consistently high standard.

Programme of Sea Chanties

IN response to many requests, another programme of sea chanties will be given from 3LO on March 5 by that popular band of vocalists who are known to listeners as "Sons of the Sea." Captain Strickland, a retired



Graham Burgin and Bernard Manning who will broadcast some of the Sea Chanties from 3LO on March 5.

deep-sea pilot, who knows all about chanties that there is to be known, has arranged the programme, which includes the familiar "Blow the Man Down" and "Bound for Rio Grande." Graham Burgin and Bernard Manning, two artists who are well known in the radio world, will contribute appropriate musical numbers, and will also be heard in the two favorite duets, "Larboard Watch" and "Watchman, What of the Night?"

"The Desert Song" From 3AR

LISTENERS will no longer need to complain that it is impossible for them to hear the musical shows that are produced in Melbourne, for once again, in response to numerous requests, the first act of "The Desert Song" will be broadcast from 3AR on March 6. On these occasions the transmission is usually excellent, the principals, Lance Fairfax, Marle Bremner, Herbert Browne, Herbert Mundin, and Renee Murphy, all seem to be in particularly good form, to say nothing of the excellent chorus, whose work is such an outstanding feature of this very popular and successful production.

Dudley Produces Galsworthy

THE one-act play for production by 3LO on March 4 is "The First and the Last," described as a drama in three scenes by John Galsworthy, which will be produced by Maurice Dudley, who will be assisted by Mrs. Dudley and Mr. H. W. Hill.



Herbert Browne and Lance Fairfax, who will be heard when "The Desert Song" is broadcast from 3AR on March 6.

League of Nations to Arrange Special Broadcasts PCL to AUSTRALIA

Tune in to Geneva Studio This Month for Tests

THE Secretariat of the League of Nations announces that it intends to resume the short-wave broadcast trials which took place in Geneva in May and June last year. The special purpose of this second series will be to examine the possibility of transmitting speeches from Geneva to the Americas, Japan, Australia, New Zealand, and Oceania.

The trials will take place in the same technical conditions as those held last year. A studio in the League Secretariat in Geneva will be connected by ordinary telephone cable with the Dutch station of Kootwijk, call letters PCL, put at the disposal of the League by the Dutch Post Office authorities.

Speeches will be broadcast in English, French, Spanish, and Japanese. As the best conditions of transmission vary with regard to the three regions of the world mentioned above, and as the languages to be used are not the same for all the countries concerned, it has been decided to organise the trials according to the schedule printed on this page.

The League Secretariat solicits reports on the transmissions mentioned, which should be addressed to Geneva.

It will be recalled that during the past May and June the Secretariat of the League of Nations made six experiments in radio broadcasting on short-wave lengths, for the purpose of examining the possibility of communicating by radio from Geneva to countries outside Europe. These trials were made with the helpful co-operation of the management of the Dutch station PTT, which placed its short-wave length receiving station at Kootwijk at the disposal of the Secretariat, and of the telephone companies of Switzerland and Germany, which permitted the use of their lines between Geneva and Holland. In this way an office of the Secretariat, fitted up as a studio, was able to make direct connections with the station at Kootwijk, which, in turn, broadcast automatically the speeches made at Geneva.

This station is usually announced by the letters PCL. Its wave length is 18.4 metres, and its voltage 25 K.V.

Since it was a question of making an experiment merely for the purpose of examining the possibilities of broadcasting, the broadcast speeches were of a purely technical nature. The speeches were made, in turn, in English, French, German, Italian, Spanish, Japanese, and Dutch. At the end of each a request was made that all who had received should notify Geneva. As a result, 92 reports were received at Geneva. These came from the following districts:—

The European Continent and the British Isles	7 reports
The Mediterranean Basin, Northern Africa, Asia Minor, and Arabia	11 reports
South Africa, East Africa, and the Southern Indian Ocean	16 reports
British India	9 reports

The Dutch Indies	32 reports
Japan and Annam	2 reports
Australia and New Zealand	2 reports
United States and Canada	10 reports
Latin America	3 reports

To classify the quality of reception the following scale was adopted:—

- Bad: Practically unintelligible.
- Fair: Sufficiently clear to catch the general meaning with head-phones.
- Good: Sufficiently clear to catch the general sense from loud speakers.

Excellent: Except for occasional "fading," which is almost inevitable at the present stage of development in very short wave lengths, every word intelligible with the loud speaker.

According to this scale, the quality of reception can be classified as follows:—

- In 7 cases, bad.
- In 18 cases, fair.
- In 29 cases, good.
- In 38 cases, excellent.

While appreciating the fact that these results present a favorable picture, the Secretariat does not feel that it is in a position to draw more definite conclusions from its experiment, especially with respect to re-

ception in certain regions. For some reasons, which are not yet fully understood, the same broadcasting has sometimes been received clearly in one region and badly in another. It happens sometimes, too, that in the same region an emission has been received clearly by some listeners and badly by others. For the moment the most that can be said is that reception seems to have been particularly good in two regions, i.e., the Dutch East Indies and in the region formed by South Africa, East Africa, and the Southern Indian Ocean. In this latter region, on St. Maurice Island, the local broadcasting station has often been able to relay speeches sent out from Geneva on three different days.

In view of the generally favorable nature of these results, and with the purpose of investigating further the conditions affecting the quality of radio reception in the different regions, the Secretariat has decided to continue its experiments. For these new trials no general broadcasting will be attempted. On the contrary, the attempt this time will be to broadcast to certain specified regions under conditions which seem most favorable for each of these regions. In this way an attempt will be made to reach especially the American continent (North and South), Japan, Australia, and New Zealand.



AFRAID OF THE MICROPHONE? "N-n-not m-m-much," declares Glara Bow, red-haired film star, after addressing a vast audience from Paramount's Hollywood Studios Radio Station, KNX. She will face the "mikes" every day for several weeks when she makes her first all-talking picture, "The Wild Party," on the Paramount sound stages.

Wireless Weekly

Incorporating "Radio in Australia and New Zealand."

FRIDAY, MARCH 1, 1929.

Need for D.F. Stations

ALTHOUGH the Marine Inquiry into the wreck of the Kanowna will probably reveal much that is not now known, the accident draws attention to the backwardness of certain phases of navigation in Australian waters. Until the finding of the Inquiry, all speculations as to the cause of the wreck must remain sub-judice, but this does not preclude the observation that the responsibility for the accident must concern the Navigation Department as much as anyone else.

The Kanowna, like the Riverina, which grounded in Victorian waters a little less than two years ago, did not carry wireless direction-finding apparatus, for the very good reason that there are no direction-sending stations on our coast.

The wireless direction-finder enables a vessel to obtain its exact bearings at any time, regardless of weather conditions. The apparatus is simple, but the main requirement is the establishment of direction-sending stations along the coast. This is the business of the Commonwealth Government through its Navigation Department. But it is unfortunately a business of the Government which has been neglected, despite frequent urgings since the Riverina disaster.

The Australian coast between Jervis Bay and Port Phillip is probably as treacherous as any in the world. Similar coastlines in Spanish waters, in the English Channel, the Irish Sea, the North Sea, and the Atlantic and Pacific seaboard of America, are dotted with radio beacon stations, which transmit continuously automatic signals, which enable ships to obtain their bearings in the worst weather.

Why have not similar stations been erected in Australian waters? The old excuse that the expense is not warranted deserves no more consideration than it did when the installation of ordinary wireless transmitters was mooted before the war.

When it means the safeguarding of life, as it may have meant in the case of the Kanowna, there should be no question of expense. Radio beacon stations should have been established on the Australian coast long before this. Had this been done, it is fairly safe to say that the chance of a fine ship like the Kanowna running ashore would have been negligible.

Which is Better — Fine or Fee?

IS it worth while listening to the broadcasting stations without having the requisite listening fee? That question must occur forcibly to some people who overlook the obligation of paying a visit to the Post Office and paying 2/- for a listener's license. The oversight must be a matter for serious concern when the police magistrate inflicts a fine of so many pounds. It may be so many shillings, but the effect is the same. Many people would prefer to pay the fine twice over than obtain the very wide and undesirable publicity of law court proceedings.

One assumes there must be a very large percentage of the persons punished by the courts who are not guilty of an intentional "crime." We are all familiar with the art of procrastination—we put off till to-morrow some important or unimportant matter, with the result that the intention is not carried out at all. With the broadcasting services we know there are many such cases. There are also many instances of full and clear intention to send for the license after the set; has demonstrated its justification for spending money on its purchase. People, not unnaturally, consider that there is nothing wrong in giving the listening gear a try-out before buying it, and when the trial period is over it is time enough to get the license.

Unfortunately under the Government laws and regulations which cover the case the requirement to pay for a broadcast listener's license is almost inflexible. Many people have realised that it is no use saying, or thinking, that they will be allowed time to

try out the set before paying the 2/- for a license. No liberty in that direction is permitted, and the justices of the peace do not appear to be much impressed with such excuses. The fine is inflicted just the same. It seems a severe law, but we are all compelled to obey it if we want to tune in.

The Government Departments work quietly and incessantly in rounding up the license dodgers, the forgetful, the indolent, or another class into which the person falls when he appears before the magistrate, charged with listening to the broadcasting stations with no license. What the organisation is and where it extends to we have not been told; all listeners know is the occasional warning from the broadcasting station that we will be caught if we don't watch out.

In a recent New Zealand paper there appears a statement of the activities of the postal people over there in their search for unpaid licenses. Apparently a very complete organisation exists for recording the receiving sets in use and the licenses paid, and inspectors are constantly on the warpath.

Something similar presumably is carried out in Australia, as the periodical court proceedings testify. Those proceedings and the broadcasting of the results are a constant and sensible warning to get a license quickly.

104 Years S.G.S.

H.J.B. (Newtown), writing to the Radio Information Service, offers very generously "to supply readers with copies of 'Wireless Weekly,' dating back to 1825. If they are of use you are welcome," he adds; "It's a pity to destroy them." Now bring out your INFANT radios!

Domestic Interference - - No. 1



THE SAFETY VALVE



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

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

Dinkum Programme

Dear Sir,—This particular wayback in the wheel never expected at any time to be one of the blinking cusses that worries the B.C. stations with memos, but this one can't be helped.

They are putting over one of the absolutely-lutely best programmes I have ever listened-in to. The Manly Band shot across a beautifully balanced lot, every one a gem, splendidly rendered.

Your contralto was a joy, and while I may not be able to pronounce the name of the chap on the violin he is a dinkum catgut artist. If I ever meet him I'll shout a cold bottle and a small bird (or is it a small bottle and a cold bird?). However—More Sunday nights like this one, brother, and it will be worth while. Here's luck and kookin' at you.

Yours etc.,
V. S. HURLEY.

Gilgandra.

Mr. Gunn Again Replies

Dear Sir.—Mr. V. Shane O'G., who once more has criticised some remarks of mine in your paper, progresses. His early training, and, perhaps, my last letter, have brought him to a recognition of the necessity for good manners in discussion, even in "Wireless Weekly."

But there is yet plenty of room for improvement. Grunts of the naughty old O'G. are still audible in Mr. V. Shane O'G.'s personalities. You see, from the beginning I have taken a good deal of interest in the O'G.'s literary careerings through your columns, and I believe that in time Mr. V. Shane O'G. will be able to write quite an excellent correspondence column letter. But Mr. V. Shane O'G. must learn his little lessons; and he must learn this lesson in particular—that it is a most objectionable thing to provoke arguments or to shout out arguments in public—or privately. A certain reticence must be observed in these things—a certain constraint. We must not let the numerous readers of the "Wireless Weekly" in foreign countries see us in our writings as the louts and hooligans we are. And, indeed, as I re-read certain of my own writings I began to think that it was, perhaps, ill-advised of me to speak so much of the truth concerning the Australian public to the Australian public and to the world in general. For instance, when I say that Australian listeners are fundamentally low-minded and depraved, I am, perhaps, hurting the feelings of some Australian listeners who think they are NOT fundamentally low-minded and depraved. When I say they lack all sense of artistic balance and proportion I am perhaps demanding too high a standard from a people whose main idea of form is associated with horseracing; and whose only sense of balance is derived from its lodgers. (And what commentaries are our Commonwealth loans on our sense of balance). And when I say that Australians

are intemperate livers, I am possibly encroaching into the sphere of the doctors and wearying the public ear with a plain statement of facts which the doctors have been repeating in various disguises for the past twenty or thirty years. Yes; when I consider how very few people are qualified to talk on these matters freely and without bias I begin to think myself a little hasty in writing about them for the information and amusement of the very people whom they most concern. Besides, I may be detracting from the high reputation of Australia among the nations of the world. But one must act, according to one's lights.

Now I notice that Mr. O'G. is not content, like other 'OGS, to take his food uncomplainingly when I throw in into your swirl-toughs. He wants to know the reason why so your readers will perhaps excuse me while I explain. In my first few remarks in your paper I said that the ignorant and uneducated Australian public didn't know what it wanted and never would know what it wanted. In my next letter, and in response to the 'OG's assertion that the Australian public DID know what it wanted, I said that perhaps I was wrong; and that, if the Australian public DID know what it wanted, then the broadcasting programmes, being the things it wanted, showed that it was essentially low-minded and depraved, lacking in sense of balance and proportion, and was living intemperately. And in this present letter I have said that the Australian public IS, in fact, lacking in sense of balance and proportion, low-minded, and depraved, and is living intemperately. And I suggest that this is the very reason why the programmes show the characteristics to which I have referred. You see, we talk in circles. But your readers must please understand that I do not censure them for having these characteristics. Life with these characteristics and habits of mind may be really interesting.

No, I simply say these things in passing, as it were, and absolutely without prejudice.

Yours, etc.,
A. L. GUNN.
Preston, Victoria.

For Children Only

Dear Sir,—In "Wireless Weekly," of 19/10/28, appeared a letter from W. Young about the Children's Session. I have been a regular listener of the Children's Session for the past four or five years, and I think what "Daisy of Yardina" said in her letter of 23/11/28, is quite right.

I am 18 years old, and I enjoy the Children's Session just as well as I do any other part of the programmes. Hoping that in future W. Young will mind his own business, and not interfere with the Children's Session, as it belongs to the children, and not to the adults.

Yours etc.,
C.R.M.
Cronulla.

Poor Announcers--Poor Announcing

Dear Sir,—Isn't it humorous to think of the poor "Uncles" who endeavor to be as amusing and "Uncle-like" as possible during the Children's Session? Judging by their oft-repeated remarks regarding the "thousands of little ones listening in," they are quite of the opinion that this is so. Do I spoil a wonderful illusion by pointing out that now the novelty of wireless reception no longer remains, children do not eagerly rush the receiver at the appointed time in order to hear the asthmatical wheeze of Uncle Bas or the Hello Man's mirthless cackle. Those days have long ceased to be. The fact that only those children expecting birthday calls listen in has been borne upon me by keen observation.

Visiting a hospital recently where radio had been installed in the children's ward, I questioned many of the kiddies regarding wireless. It was then that I received my first awakening regarding children's lack of appreciation for wireless. "Ah, gee, no!" said one little fellow. "That's no good. What's the good of listening to a lot of kids being called on their birthdays? I'd sooner play with my soldiers." So that is how they take it. My surprise led me to make further inquiries, and my definite conclusion is that the Uncles are wasting their time talking to imaginary listeners. But who can blame the children? Most of the Children's Hour is taken up answering letters, and naturally only those expecting calls are interested.

Now there is no necessity for readers to deluge the poor unfortunate Editor with congratulatory letters on my endeavors to improve the tone of announcing generally. My efforts are on behalf of the children only, and if this much abused hour is thoroughly overhauled and rectified this will be sufficient reward for

Yours, etc.,
"DISILLUSIONED."

Annandale.

Extra Coil Gets Long Waves

Dear Sir,—I wish to congratulate you on your wonderful "Go-Getter" short-wave set. I made an extra coil to tune in on the broadcast band, and was quite surprised when in came 3LO on the loud-speaker, also 4QG loud-speaker, and 5CL loud phones, all Sydney stations—2FC, 2BL, 2CB, 2UW, 2KY.

I was listening-in on Saturday night and Sunday morning, when I tuned in a foreign station on 15 to 16 metres, also on 20 metres, as though working duplex telephony. I would like to know if you could let me have the call sign, if possible—times received, 12.30 a.m. Sunday, to 1.30 a.m. No call sign. I am situated about 200 yards from Lymont power-house, and I want to know if this is very good for this set.

Yours etc.,
E. BEHRMANN.
Pymont.

HITTING BELOW THE BROADCAST BELT

Short-wave and Amateur Notes by VK2NO

ALTHOUGH the short-wave bands have been fairly lively, both for international broadcast and amateur work, the sultry weather and high humidity prevailing over Sydney for the last few days have brought the usual static crashing through.

The new German station, DHP, is giving a good account of itself, and Mr. Russell Crane has been carrying out observations on this European station. His log reads as follows:—

"NAUEN, Germany, call sign DHP, wavelength about 25 metres. 2ME, Sydney, was testing music and duplex telephony with Nauen, DHP. Very good head-phone strength, free from fading. Speaking of England and comparing the weather with Sydney and Germany. The English was evidently a little hard for the German, and the pronunciation a little difficult to catch at times, but the strength was very good and even, with good modulation. Last time I heard Germany the call was AGE2 on a slightly higher wave-length, and they then referred to tests in February. Mr. Farmer was speaking at the Sydney end, and evidently getting over well. The German asked if anyone at the Sydney end could speak German as well, as they were finding it a little difficult there in Germany, not speaking English too fluently. They reported no fading on 2ME at the time, and went on reading from a book. I could copy about 80 per cent. of this, although there was a good deal of surging. It was suggested that French be spoken, instead, and this was then done. A lady then spoke, but soon said, 'I cannot understand a word he says.' Then she spoke in French, saying that she did not understand German. DHP at this time (5.45 p.m.) was very strong and clear, and I could copy 100 per cent. Next I heard, 'We have had some very cold weather in Germany—20 degrees—did you say you are situated about 20 miles from the city of Sydney?' A little Morse interference here. The German station then asked to be put on to a subscriber to the telephone service in Sydney—at this time he was working the loud-speaker nicely. Sydney replied that they are very sorry they cannot do that to-night. It is now just as easy to tune the German station in as 2ME, and they are very clear, in spite of the increase in static as the sun goes down—also a slight background of Morse. Germany lost touch with Sydney for a little while at 6.5 p.m. Advised Mr. Farmer that a nice German lady would now speak to him. The lady spoke English with a very refined voice, but could not hear the replies. She said several times, 'I am sorry I cannot hear you; it is very noisy.' The German announcer then spoke. 'Schedule for Monday morning at 9 o'clock Berlin time.

Good-bye, Sydney.' Nauen closed down with Sydney at 6.20 p.m., but the carrier was on the air until 6.35 p.m. I heard some

announcement in German, and then they went off the air. Just after this I heard our old friend in Russia on 75 metres, but static on this band was fierce and killed reception."

The receiver Mr. Russell Crane is using with such success is the original midget short-wave screen-grid four described in "WIRELESS WEEKLY," November 23, 1928.

Some good 20-metre work is being done by the Australian experimental transmitters just now. Mr. St. John, of Rockdale, N.S.W., VK2RK, hauled in a good bag with his two UX 210's the other evening. Between 10 p.m. and midnight on Sunday he heard a great host of Europeans. In "ham" language, he writes to me, and says:—"The pests are belting in F.B. once more, but don't know how the good thing will last. Better hop in at the touts. Heard G5BY, G5BZ, G5WK, G5YX, G5QB, and G6HP... also a varied assortment of the great unwashed.—AR8UFM, SU1CV, SU8AN, OH2NM, PK4AZ, F8CT, AI5VX, and a noise that sounded like SY1IAC and now... at them, boys, etc."

Ray Carter, VK2HC, is back with us after the Germans treated his station unkindly. He worked with our old friend, Sainio, of Finnish 3NM, on 20 metres on February 9. Sainio reported Ray's signals as R7 (QSA5) PDC. The Finlanders are apparently using OH for their new prefix. VK2HC's 32-metre 'phone was heard in the cathedral city of York, in England, just before the end of last year. N.T.B. for 80 watts input, Ray!

Those who have worked friend Rodman, AI2KT and G2FN will be surprised that the two calls belong to him. AI2KT is an Indian Army officer, and when home on leave pushes a key as G2FN. I have an interesting letter from him, as follows:—

"As you predicted, I have had but little time to devote to amateur work while in England. I tried to make contact with old friends in Australia during September and October, 1928, but I fancy my low-power signals were swamped by my high-power brethren. Most of my spare time has been devoted to 28m.c. (10-metre) work, with a fair degree of success, considering my 10-watt input, my best efforts being two QSO's with the American 6th district, using an 8-watt input. I have consistently listened on Saturday and Sunday mornings (GMT) for Australian 28m.c. signals, but I am sorry to say I have heard nothing which imagination could suggest was an Australian amateur, let alone a readable signal. I hope to re-open in India on 14 and 28 metres early in February, with the following hours of working. Sunday: 0430 to 0830 G.M.T. and 0830 to 1200 G.M.T. on 28 metres, and 1200 to 1400 on 14 metres. Week-days: 1200 to 1400 G.M.T. on 28-metre wave.

I hope to forward monthly notes, which may be of interest to Australian transmitters

from March, 1929.—Yours etc., F. Rodman (2KT, India, G2FN)."

Mr. Rodman's reference to no Australian 10-metre signals being heard in England is interesting, as I see in the T. and R. bulletin that an Australian was logged on 10 metres at the latter end of October, signing OA-2AZ. The station actually on the air at the time stated was Mr. Atkinson, OA-2RZ so it seems fairly certain that the call was misread. If this is confirmed, then VK2RZ is entitled to a gentle pat on the back from N.S.W.

Newcomers to the key should listen to VK2AW when he is busy chasing the DX. Mr. Dye is a comparative tyro on the key, having only been on the air a month or two; but already he is an accomplished operator, and can read men like our high-speed friend VK7DX, with ease. VK2AW has done what most beginners overlook—paid attention to spacing, and sent slowly until more proficient.

WE arrived at the 2BL concert in Hyde

Park during its second spasm, when it had begun to rain. There were still between five hundred and a thousand people grouped round the rotunda, listening to the noise amplified by four or five large public address speakers. Although there had been very little advertising three or four thousand people had been listening before the rain came on. It was a cheerful little party—Mr. Charles Lawrence produced, as usual; and Mr. Jack CANNOT, Mr. Carlton Fay, Miss Amy Ostinga, Miss Rae Foster, Miss Maggie Foster, and the Studio Dance Band helped each other, in and out of turn, to give a very, very charming programme. In fact, it was so good that one could wish to have park concerts as regular features of broadcasting programmes. Certainly the attendance would make them worth while; and it is a peculiar thing that open-air programmes seem to go over the air quite as well as those of the studio. Besides, the inanities of Mr. Charles Lawrence between items give a kind of unity to these events, which cannot possibly be attained in studios.

The chairs used by the band happened to be 2FC chairs; and they would not pack compactly into 2BL's van at the end of the performance, so we had the peculiar experience of standing beside Mr. Eric Bessemer at the stern of the van, with one arm over the opened door and one hand grasping the roof, buttressing the chairs in. In this coachmanlike attitude we were driven to 2FC's doorway, and we feel that many people we passed were most impressed and interested.

Eight in Every Hundred Victorians Listen-in

A remarkable table, issued by the P.M.G.'s Department, shows that Victoria possesses more listeners in proportion to the population than any other country in the world.

(By Our Victorian Correspondent)

3 LO is listened to by more people per quota to population than any other broadcasting station in the world. This extraordinary fact has been stated many times by the directors of 3LO, but now it has received official confirmation by the Postmaster-General, who has issued a statement showing that as a result of his investigations, the quota of licenses to population in the various countries is as follows:—

Country.	Licenses in Force.	Percentage to Population.
England and Wales (to 31/10/28)	2,375,342	5.79
Scotland (to 31/10/28)	178,000	3.50
Northern Ireland (to 31/10/28)	27,000	2.16
Irish Free State (to 30/9/28)	25,020	0.83
Union of South Africa (to 30/9/28)	16,855	1.00
New Zealand (to 30/9/28)	40,620	2.78
India (to 30/9/28)	5,843	0.08
Australia (to 31/1/29)	289,155	4.50
Victoria	141,279	8.08

White population only in South Africa.

It is estimated that in the United States of America 6.59 of the population have wireless receiving sets, and in Germany 4.85.

There can be only one reason for this extraordinary position in Victoria, and that is the excellence of the services of 3LO, which have dominated the air ever since the commencement of wireless broadcasting in Australia.

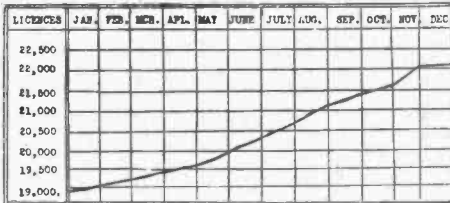
Certainly there has at times been criticism of parts of the programmes, but that is only to be expected, because it is not in human nature to please every listener at any one time. If one section of the programmes succeeds in pleasing one section of the listening public, then naturally it will displease the other section. The obvious thing to do, therefore, is to please as many as possible, as often as possible, having in view all the time the obligation to the minority, and the necessity of their inclusion in the majority as often as possible. This difficulty is not limited to Victoria, but is world-wide.

It has been said that the "B" Stations in Victoria are responsible for a large portion of the licenses, but this is disproved by the fact that the "B" Class Stations in Sydney and Adelaide, which are quite as good as those in Melbourne, have not had the effect of increasing, to any extent, the number of licenses in South Australia and New South Wales.

There is a reason for the supremacy of Victoria in the wireless world, and the dominating position of 3LO. It is the result of vision and enterprise on the part of the directors of that station in supplying at all times the best and most comprehensive services possible. The above official figures indicate beyond doubt the overwhelming verdict of the public.

SUCCESS OF CO-ORDINATION.

Following upon the co-ordination of the broadcasting services as directed by the Postmaster-General, the increase in the issue of licenses became very marked, and



particularly in South Australia and Tasmania.

Immediately 3LO assumed control of 5CL Adelaide, and 7ZL Hobart, in May, 1928, the programmes underwent a complete change, and the transfer of artists from one station to another was greatly appreciated by listeners. The issue of licenses increased rapidly, and, in spite of the inconveniences and difficulties caused by the disastrous fire which completely destroyed the studio, control room, and offices of 5CL, Adelaide, the quota of licenses to population in South Australia soon became second only to that in Victoria, which has the largest quota to population in the world.

This is more extraordinary when it is considered that the conditions under which the programmes at 5CL were produced for five months after the fire were unique in the history of broadcasting. A large motor garage with an unlined galvanised iron roof was secured to carry on the services until a permanent studio was built, and for many weeks the office, studio, and control staff, and artists worked together in a large, barn-like room—which served as a studio—without any dividing partitions. This means of course, that the highest efficiency of the services and particularly the proper monitoring of the transmissions, were an impossibility, and entailed continual worry and anxiety. Yet, withal, there was such a marked improvement in the programmes that 5CL soon became, and still is, the second most popular station in Australia, according to the quota of licenses to population.

The graph on this page shows the rapid increase in the issue of licenses in South Australia as the result of the co-ordination of the services. A similar increase in proportion to the population took place in Tasmania. Both these States are now rapidly developing radio.

Songs of the Sea

AN excellent programme of choral music will be broadcast from 3LO on March 4, when the Royal Victorian Liedertafel will be heard in Sir Charles Villiers Stanford's familiar cycle, "Songs of the Sea." The work of the Liedertafel, one of the oldest musical societies in Victoria, is too well known to need further comment in these pages, but it might be mentioned that the Liedertafel sprang from the Royal Victorian Quartette, that was formed over fifty years ago. It is also of interest to hear that one member, at least, has been connected with the society since its earliest days, and had not missed a single rehearsal. On this occasion the assisting vocalist will be that very fine bass-baritone, Alexander Raff, who is recognised as one of the leading lights of musical Melbourne.

Radio Revellers Popular

IN following the Radi-o-Aces, the Radio Revellers have a difficult task before them to adequately fill the places of such a popular band of musicians; but, after their first performance, there was no question of their "making good." Under the direction of Mr. Ernest Hall, who has had a great deal of experience in the conductorship of dance bands, they are broadcasting some excellent programmes and their items are pleasingly free from those distracting saxophone "effects" which frequently mar the performance of otherwise excellent bands.



The Imperial Russian Trio, who have signed an extended contract with 3LO.

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1 do. do. .0001		1/6
1 Doz Sq. Buswire		1/10

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The LOUD-SPEAKER

An article on the theoretical principle of radio reproduction through loudspeakers, without which knowledge no radio constructor should start work.

THE function of the loud-speaker in reproducing radio signals is to convert the current oscillations in the anode circuit of the last stage valve of a receiver into audible sounds.

These converted oscillations induced in the loud-speaker must be absolutely faithful reproductions of the last stage valve anode current oscillations, and, if the amplification is true, the broadcast will be an exact counterpart of the transmission.

Sound is caused by vibrations of the air of varying frequencies, and in the first place these vibrations are caused by the vibrations of an object, hence, by a mechanical movement. The rapid vibration of an object will induce sympathetic vibrations of the surrounding air. The string of a piano is set oscillating by the influence of a mechanical force, e.g., by a hammer actuated by a key. The resultant oscillation has a certain frequency which is dependent on the length, thickness, and make of the string. The surrounding air is set oscillating by the vibration of the string, and these air vibrations, in their turn, affect our ear drums, thus giving the impression of sound.

If the string is vibrated more vigorously, the resultant vibrations of the surrounding air will have effect over a larger area. The frequency, however, will remain the same, so that our ear hears the same tone but much louder.

As an ear-drum has a certain inertia, it cannot follow all vibrations, so that those heard by a normal ear are confined to fre-

quencies of 16-15 000 periods per second.

The most practical way of converting electrical alternating currents into mechanical oscillations is by means of a magnetic field. An electrical current creates a magnetic field round its conductor, and the density of this field is dependent on the current intensity. Consequently, this density faithfully follows and is in sympathy with the current variation in this conductor.

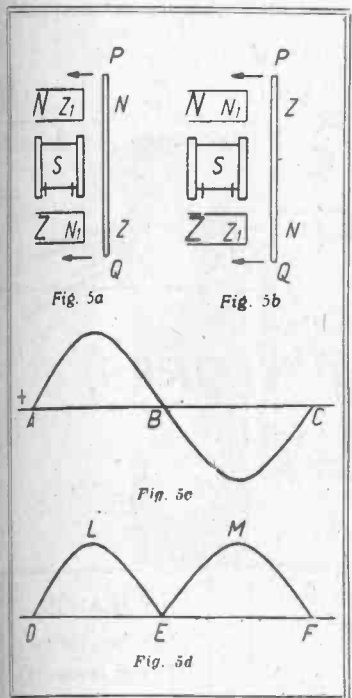
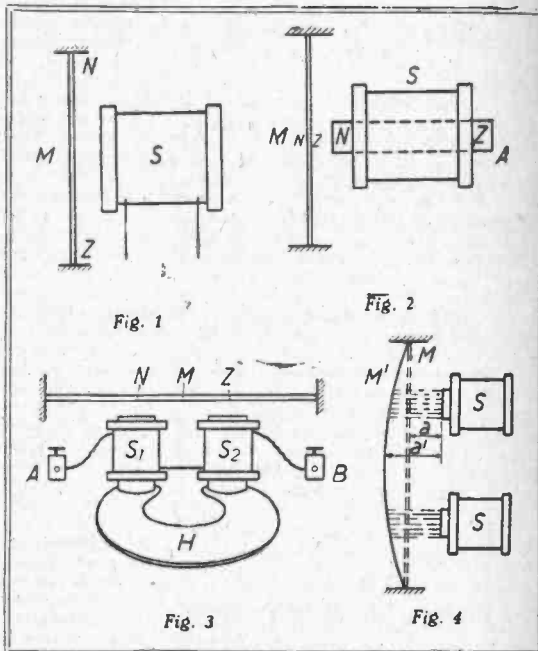
Now comes the most difficult part of the task of the loud-speaker, where most loud-speakers on the market fail, viz., the conversion of this varying magnetic field into a correspondingly varying mechanical force. This can be effected by the varying magnetic field acting on a diaphragm under the influence of a permanent magnet. When a coil S is inserted behind the diaphragm M in Fig. 1, and passes the anode currents of the last stage valve, the diaphragm is actuated by the magnetic field of the coil. When there are variations in the anode currents this actuation will also vary, but not sufficiently to set the diaphragm vibrating.

Any such vibrations would have double the frequency of the original and the music would be an octave too high.

If, however, a permanent magnet A is provided behind the diaphragm, as indicated in Fig. 2, it will keep its balance when there is no current in coil S, which is dependent on the force of the permanent magnet. If a current passes through the windings of S the magnetic current in the diaphragm will change and the balance of the magnets M and A will be lost. In order to remedy this the lighter magnet, M, must move, and therefore, diaphragm M moves and the more powerful the permanent magnet the more pronounced is this movement.

With headphones this effect has been obtained by the provision of a horseshoe magnet of great permeability in the coils of the anode circuit, so that the magnetic field is greatly amplified. Conversion of the variations of the magnetic field into a varying mechanical force is then obtained by a metal diaphragm in the magnetic field which attracts it to a greater or lesser degree, depending on the force of the varying field.

This is indicated in Fig. 3, where H represents the permanent magnet, over the poles of which (N and Z) the small coils, S1 and S2, are put through the windings of which the anode current flows. These windings are connected to terminals A and B



(A is positive). Above the poles, N and Z, and supported at the edge is the diaphragm M, a thin, round plate, which follows the variations of the magnetic field and, in turn, produces air vibrations.

A diaphragm, however, has many drawbacks. One is that the sound vibrations induced are not faithful reproductions of those as rendered in the transmitting studio. The diaphragm is in very close proximity to the electro-magnet, in order to obtain highest efficiency and, consequently, a powerful magnetic current, which may cause saturation, passes through it. If, however, the diaphragm is locally saturated by the magnet current, it will become sensitive to the density variations of the magnetic field. This will, of course, influence the diaphragmatic vibrations of the membrane, as it will no longer follow properly these variations. Further distortion will occur as the density of the magnetic field greatly decreases, in accordance with the distance. Consequently the forces which affect the diaphragm while it is vibrating are very much weaker than the forces which would affect it were the diaphragm at rest.

This is indicated in Fig. 4; the lines of force of the magnetic field nearly all pass through the diaphragm. When the latter is moved from the position M to M1, the way of the lines of force is lengthened, and so the field, which is formed by them in the diaphragm, is weakened by the losses in the lengthened airgaps (a1). The diaphragm in position, M1, being less magnetic than in position M, so the force acting upon the diaphragm in position M1 will be less than in position M by the same current.

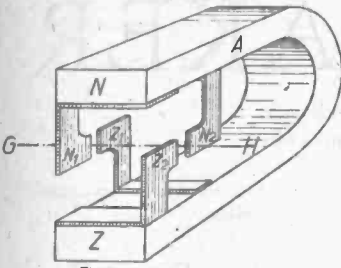


Fig. 6

By the large decrease of the magnetic field over a small distance an important difference in sound reproduction is produced.

Finally, there are oscillations—not present in the original—which are caused by the mutual influence of the diaphragm on the permanent magnet. The induction of these oscillations is shown in Fig. 5a, 5b, 5c, and 5d. In Fig. 5a the current direction is positive as during the time AB in Fig. 5c. In this case pole P of the anchor forms a north pole and Q a south pole. If a piece of iron is brought opposite the north pole of a magnet, a south pole will be induced on the side of the object, therefore the north pole P will induce a south pole on the opposite magnet and conversely. Apart from the working of the permanent magnet on the anchor, the latter will be attracted by the poles induced on the permanent magnet with a force indicated in Fig. 5d, as DLE.

In Fig. 5b is shown where the current has changed its direction to the half period BC in Fig. 5c. In this case a south pole will be induced in P and a north pole in Q. The south pole in P will induce a north pole on the opposite pole of the electro-magnet and conversely the north pole in Q will induce a south pole on the opposite pole. Apart from the working of the permanent magnet on the anchor it will again be attracted by the working of the poles, as induced on the electro-magnet. This force is indicated in Fig. 5d as EMF.

In Fig. 5d, DLE represents the force working on the anchor (induced by the poles) during the first half period AB (Fig. 5c) and EMF the same force during the second half period.

During a whole period the attractive force of the poles induced on the anchor obtains a positive maximum twice.

The attractive force, however, which the permanent magnet induces on the anchor is the same as indicated in the curve in Fig. 5c, and, therefore, only obtains one positive maximum during one period. The vibrations of the diaphragm caused by the reciprocal influence of the anchor and the permanent magnet therefore have a frequency twice as large as the oscillations caused by the anode currents and the diaphragm produces tones which are replicas of the original.

In order to prevent such octave-working the permanent magnet must be very strong, as the induced poles are very feeble with regard to the permanent ones, and the effect, therefore, is much weaker. With a powerful magnet, however, there is the risk that the thin diaphragm will soon be saturated.

Although the drawbacks mentioned above are not so prominent where headphones are used, owing to the feeble reproduction, they are very much in evidence on a loud-speaker. When applying the principle governing headphones to the loud-speaker, very strong magnets and large diaphragms are necessary,

and thus the faults mentioned above are amplified.

For this reason a method other than the mechanical transmission of sounds is required, and the Phillips Works, realising the unsuitability of other methods, have succeeded in evolving a principle which is absolutely faultless in this respect (Figs. 6 and 7).

This principle is based on the use of a double set of magnets, which together cause a resulting field which is absolutely uniform and outbalanced. This system is shown in Fig. 6. It consists of a horseshoe magnet A, to which the poles N1, Z1, and N2 and Z2 are connected, so that they are amplified by this magnet. In this way two fields are formed—N1-Z1 and N2-Z2.

The poles N1 and Z1, as well as N2 and Z2, together form a horseshoe magnet, so that the two sets of magnets are opposite each other, as indicated in Figs. 9 and 10. This shows that these two magnets form a completely closed magnetic circuit. By means of an anchor inserted between these magnets no current can pass from the anchor in a longitudinal direction. In a Phillips loud-speaker this anchor represents the diaphragm which must produce the sound vibrations. As no magnetic current passes through the anchor, it may be of a very light construction, with resultant improvement of reproduction.

Anchor K is inserted between the magnet shoes, in accordance with the line G-H in Fig. 6. In Fig. 7 the method of connection is shown separately. Over another anchor K is a coil S, which is fixed to the chassis of the loud-speaker, and through which pass the anode currents of the last-stage valve. Anchor K can oscillate freely in the cylindrical, concave space in the centre of the coils, and is connected at both ends to the flat springs, V1 and V2. The ends of these strips are fixed to strips P and Q by nuts, and these strips, in turn, are fixed to the magnet A. This is shown in Fig. 8. The working of this magnet system on the anchor can be seen in Fig. 9 and 10. If the

and interchanging of the weak iron anchor does not constitute a drawback.

The magnetic field between the magnets is not constant throughout, but is strongest in the region of the poles. When the anchor is moving towards the poles it

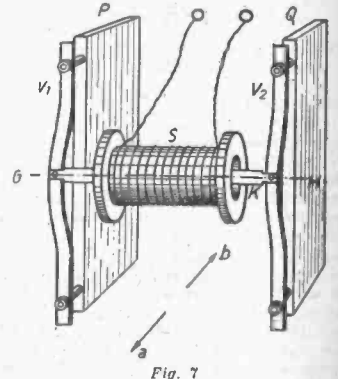


Fig. 7

moves in a magnetic field, which becomes gradually stronger. In order to eliminate strain on the anchor, the springs V1 and V2 are of material whose elasticity increases when bending, so that the bad influence of an increase of the field density round the anchor is eliminated when this moves towards the poles.

Connection of the springs V1 and V2 to the copper strips P and Q has also been effected carefully. The connecting nuts are as indicated in Fig. 11. The interior is concave, with a large lower rim. Thus the spring is kept in its position at both ends over a larger distance when bending, which is effected as indicated in Fig. 11, and not as in Fig. 11a, where fixing of the ends is effected at one point. With the latter connection only a single inflection of the spring

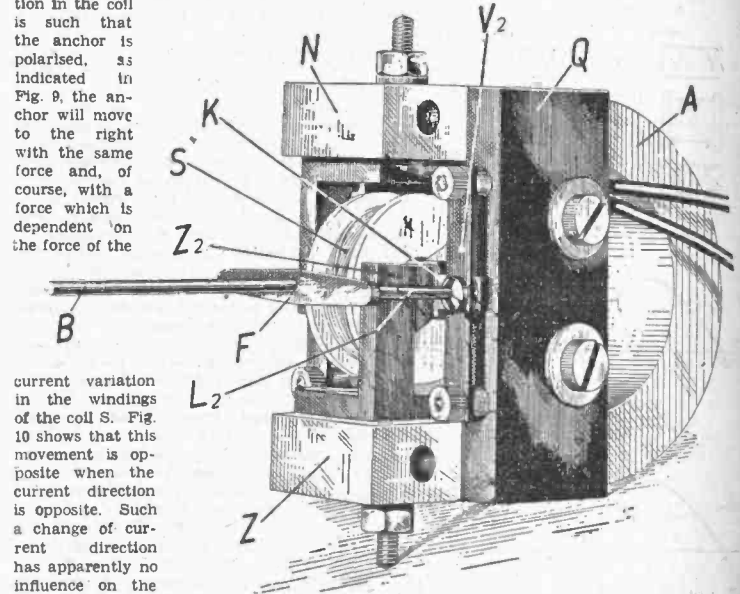


Fig. 8

current variation in the coil is such that the anchor is polarised, as indicated in Fig. 9, the anchor will move to the right with the same force and, of course, with a force which is dependent on the force of the

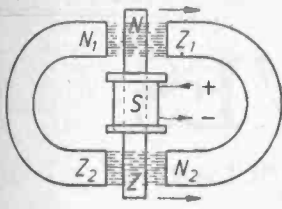


Fig. 9

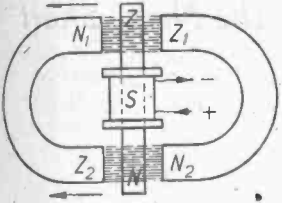


Fig. 10

occurs; but when fixing after Fig. 11, however, there is not only inflection, but also lengthening. In this case both loads will execute an elastic pressure on the spring. The elasticity of the springs connected as indicated in Fig. 9 has, therefore, increased, in accordance with the longitudinal elasticity of the springs, and by this method of fixing the spring elasticity is considerably enlarged.

This way of connection has the following advantage.

When the anchor is drawn to one of the two pairs of poles, in the beginning the attractive force will slowly increase at a very small deviation; at larger deviations the attractive force gradually increases, however. The elasticity must always be able to overcome this force, and otherwise the anchor would strike against the poles, and not return to its balance. In the beginning rather a small elasticity is sufficient at small deviations, but this elasticity must rapidly increase if the bending increases. This quality is incorporated in a pinched spring; a small bending will meet with little resistance. For a larger bending, when longitudinal stretching also plays a part, a rapidly increasing force must be applied.

If the same result had to be obtained by a spring loaded on bending elasticity only the elasticity necessary at small bendings, so that even at larger deviations of the anchor elasticity might be sufficient, would be much higher than required.

Moreover, such a spring would certainly have a larger mass.

The movements of the springs V1 and V2



Fig. 11

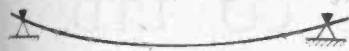


Fig. 11a

are transmitted to the fork F by means of the bars L1 and L2, as indicated in Fig. 12. This fork is connected in the centre

of the springs in the same point as anchor K. The shaft B of this fork is connected to a conical diaphragm to which are transmitted vibrations which, in turn, affect the surrounding air. Upon the construction of this diaphragm depends good reproduction. If the cone is very large the high notes will be transmitted properly. The oscillations start from point A in Fig. 12, and are transmitted over the conical surface towards the rim. This transmission, of course, takes time, and, with the higher audible frequencies this time is too long for large cones as before the oscillation has been transmitted to the rim, the movement in point A has already changed its direction, and in this case the movement of the centre of the diaphragm has another direction than that at the rim. One half of the cone then oscillates in one direction, and the other half in the opposite direction, so that the result will be that no tone at all or, at the utmost, a very feeble note is produced.

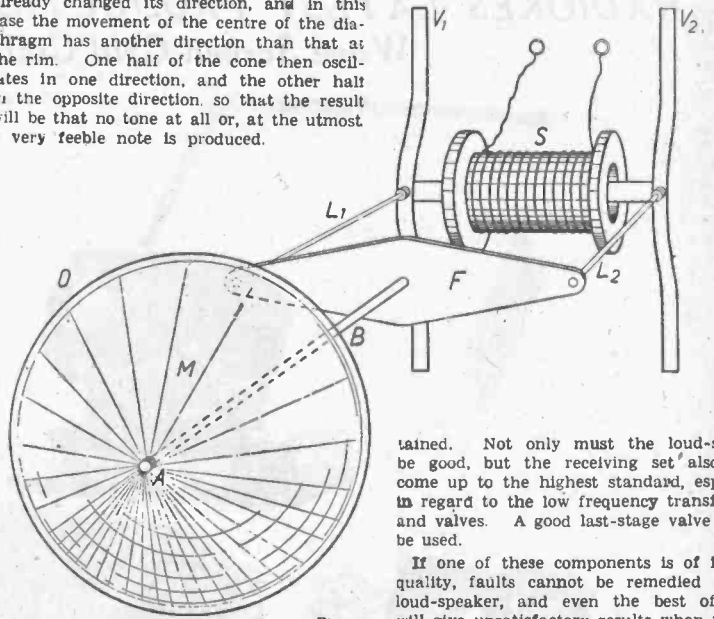


Fig. 12

Small conical diaphragms produce the vibrations of low frequencies too feebly. This is due to the phenomenon indicated in Fig. 13.

If diaphragm M is moved in the direction of the arrow, that is to say, to the right, this movement will cause a rarefaction of air at the outer surface; but on the inner surface, however, there will be an over-pressure of air. This over-pressure will try and eliminate the under-pressure, and so there will be a current of air passing from the inner side of the diaphragm via the rim to the outer surface, which will act against its movement. This takes time, however, and it is too long where tones of high frequency are concerned to have any influence on the diaphragm. To rectify this a larger cone must be used, but this is not consistent with good reproduction of high frequency tones. With low frequency tones the influence of this air current, especially with small cones, can be easily observed.

In a Philips loud-speaker the problem of r.f. tones has been solved by the construction indicated in Fig. 14. For good reproduction a small diaphragm M has been produced. In order to meet the demand for good reproduction of low frequency notes a ring-shaped scale J is provided round the diaphragm, and is connected to it by a ring O made of elastic material. This ring does not allow any air to pass, and, further, per-

mits free vibration of diaphragm M. By this means good reproduction of the high and low frequency notes is assured. Scale R is provided for guarding against damage to the diaphragm.

For good reproduction it is necessary that all moving parts of the loud-speaker have an inertia which is as low as possible and also lowest possible weight. With a Philips loud-speaker the weight of moving parts is only 10gr. Only when a loud-speaker has been built after the above-mentioned principles, a pure-tone reproduction will be ob-

tained. Not only must the loud-speaker be good, but the receiving set also must come up to the highest standard, especially in regard to the low frequency transformers and valves. A good last-stage valve should be used.

If one of these components is of inferior quality, faults cannot be remedied by the loud-speaker, and even the best of them will give unsatisfactory results when the receiving set is badly designed or operated.

With the last-stage valve care should be taken that the exact auxiliary grid bias is applied.

When using a B443 and B405 as a last-stage valve, Philips loud-speakers give a pure reproduction, provided these valves have a grid bias of about 15 and 18 volts, respectively. When this is not applied, a whistling noise will be heard in the loud-speaker. This noise should not be attributed to the loud-speaker, but to incorrect design of the receiving set.

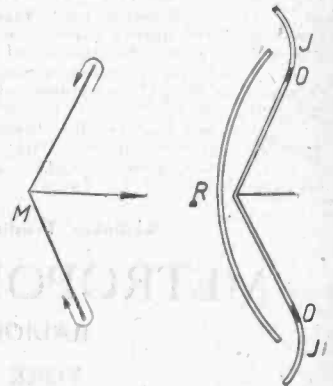


Fig. 13

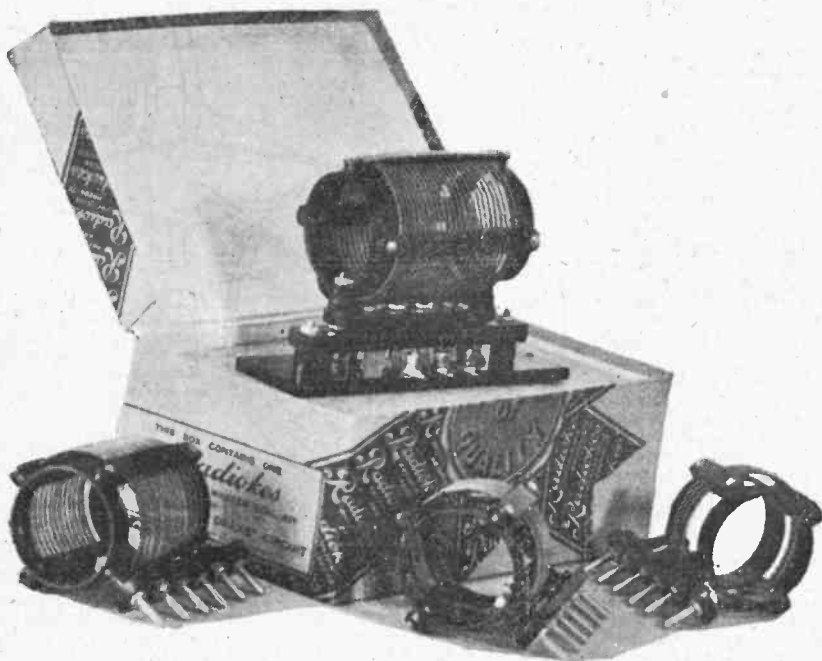
Fig. 14

SHORT WAVES

ARE BECOMING INCREASINGLY POPULAR

Television is Broadcast on Short Waves

RADIOKES LATEST PRODUCTION is the New Short Wave Screen Grid Coil Kit



This Coil Kit is, without question, the finest Kit ever offered to the Radio Public of this or any other country.

The workmanship is excellent, and the finish is the best that present-day manufacturing can produce.

The design is electrically most efficient, and represents the very latest developments in short-wave practice. Specially arranged to bring out the best that is in the latest Radio Wonder, that is, the Screen-grid Tubes. The efficiency is high because the losses are low. Radiokes' unique construction, which utilises a super efficient winding, supported upon a skeleton framework of highest grade Bakelite, makes for the lowest possible losses, as by this means least solid dielectric is included in coil field.

The use of highest grade Bakelite assists in the maintenance of mechanical rigidity and RADIOKES' method of riveted construction guarantees a reliable strong coil form, which, on account of its very strength, retains the coil calibrations as originally designed in Radiokes' laboratory, and fabricated in the Radiokes' factory.

A new type six-contact mounting base, equipped with a special silver spring system, makes the interchange of coils a pleasure, and the smooth, but positive, velvety action of the contacts will assure that the robust little coils may be interchanged almost indefinitely without damage to themselves or mounting base.

This new Radiokes' Kit consists of four interchangeable R.F. Transformers, as illustrated, a six-contact horizontal type mounting base, and a special antenna coupling choke, and lists for £3/12/6 per kit.

A Broadcast coil is available at a cost of 15/-, to cover the waveband of from 245 metres to 555 metres, using the recommended .00014 m.f. Tuning Condenser.

Radiokes' Products are obtainable from the High-class Dealers, or direct from

METROPOLITAN ELECTRIC CO. LTD.,

RADIOKES HOUSE, 126-130 Sussex Street, SYDNEY,

OR

YORK HOUSE, Little Collins Street, MELBOURNE.

PROVING RADIO!

No. 10 To prove the existence of earth currents and electro-magnetic currents, we are told how to listen-in to them. We discuss wavelength, cycles, and kilocycles, and finish by proving that earth has both conductivity and resistance.

In electricity there are two kinds of current, i.e., Direct Current (D.C.), and alternating Current (A.C.). Their names describe them perfectly, for D.C. flows in one direction, whilst, on the other hand, A.C. flows first in one direction, then in another.

In the ordinary house wiring A.C. is generally supplied. Except in a few localities this is 60 cycle A.C. The term, "60 cycle," simply means that either terminal of the supply goes from a potential of zero to maximum positive, through zero to maximum negative, and back to zero again, sixty times every second. See Fig. 1.

For all general purposes, such as electric lighting, this changing of current is so rapid that the eye does not notice it.

However, when it is desired to use A.C. as the source of supply in a receiving or transmitting set, one runs into complications. First D.C. is required for the plate circuits. The plate circuits are those which are in any way connected directly or indirectly with a receiving or transmitting valve. Therefore we proceed to rectify the current, that is, change it from A.C. to D.C. A method of rectifying Alternating Current was discussed in Part 4. This is the method usually favored by amateurs, and is called "Chemical Rectification," because chemicals are used as an electrolyte.

All such rectifiers that use a liquid electrolyte are known as "wet" rectifiers. "Dry" rectifiers, which will be discussed in a later issue, consist chiefly of various types of apparatus with which a valve is used.

At present it will suffice to say that in effect we cut off half of the wave, and get a current as indicated in Fig. 2. Thus, you see, we have a current which, though direct, is not constant and uniform. It still pulsates 60 times per second. By means of certain components called condensers and choke coils, we are able to smooth out the ripples, in a way which will be described when we reach battery eliminators in these series.

Now we understand that current may alternate many times a second, and it will not surprise us to learn that in many cases it may alternate many thousand times per second. When it is alternating this rapidly we stop talking of cycles, and refer to kilocycles, which simply means a thousand cy-

cles. Thus 5000 cycles would be five kilocycles, and 50,000 kilocycles would be 50,000,000 cycles. When we say that a station is broadcasting on 860 kilocycles (at present metres are used, but later kilocycles will come into force) we simply mean that the current radiated from its aerial is alternating at the rate of 860,000 cycles per second. When we say that its wave length is 348.6 metres, we mean that the tops of the current waves are 348.6 metres apart. See Fig. 3.

Alternating current is in greater use commercially because it can be handled more economically than D.C., and A.C. is far more easier to handle. By this is meant that if a 240 volt line D.C. enters your house, and you

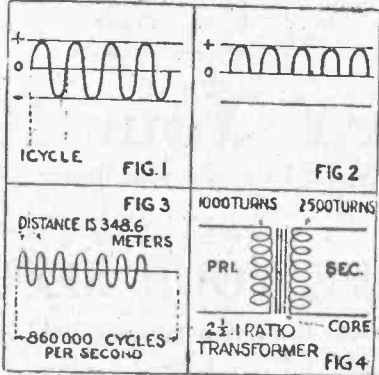
either as 2½ has to 1, in the first case, or as 5 has to 1 in the second case. Thus, if there are 1000 turns of wire in the primary and 2500 turns in the secondary, the transformer is said to have a ratio of 2½ to 1. Transformers will only operate when the current fed into the primary is alternating, or is a very rapidly and markedly pulsating D.C. (Fig. 4).

If you wish to prove that your alternating mains actually do alter their direction of flow sixty times per second, the simplest way to do this is to hold a bread-knife beneath a lamp that is lit by A.C., then rapidly wave the knife to and fro. If the mains are A.C. you will see a series of knives, the effect caused by the pulsating current, but if the knife appears to be one wide smear then your mains are D.C.

There are other types of current, too. Current is sent out in waves. Those that are sent through the air are termed "Electro-magnetic," or aether waves. Aether is anything (except matter) that has weight, size, or space. Then there are ground waves. Would you like to hear Aether waves and ground waves? It is quite simple done. Prove for yourself that these waves actually exist.

To listen for electro-magnetic waves, connect up a wire (any length will do, but the longer wire will give better results) as high as possible, and insulate it at both ends, that is, make sure the wire itself is not making contact with anything earthed. An ordinary wireless receiving aerial will give good results. Connect the lead-in wire to one side of a pair of telephones, and the other telephone tip to a water tap, or the earth terminal of a receiving set. If you put the telephones on, you will hear a queer hum and whistle, which you will find is not steady.

Just as magnetic lines of force flow through the earth all the time, so electric currents flow through the earth, and these are called earth currents. If, now, you take two pieces of wire, each about fifteen feet long, and solder one end of each length to a pipe, and drive the latter into the earth at a distance apart of about 25 feet, and, finally, if you will connect up a pair of telephones to the



FIGURES 1, 2, 3, 4.

wish to use a higher voltage for any purpose (say a transmitter) you must either use batteries, which may be charged from the D.C. line, or you must use a motor and a generator. On the other hand, A.C. can be stepped up or down to almost any desired voltage by means of a transformer (this was done in Part 4), the primary of which is fed by the 240 volt A.C. line.

While we are not yet ready to take up audio amplification, a few words about transformers will not be amiss. Basically a transformer consists of two coils of wire around a core of iron or some other metal which becomes a magnet when current flows through the wire around it, but loses its magnetism when the current ceases to flow.

When the number of turns in the primary winding of the transformer is less than the number of turns in the secondary winding, the voltage taken at the secondary winding will be greater than the voltage applied at the terminals of the primary, but the amperage will be less. When the primary contains more turns than the secondary, voltage will be decreased and amperage increased. The transformers used in the audio sections of transmitters and receivers are "step-up" transformers, i.e., they increase the voltage.

You will often hear transformers referred to as 2½ to 1 ratio, or 5-1 ratio, etc. This simply means that the number of turns on the secondary have the same relation to each

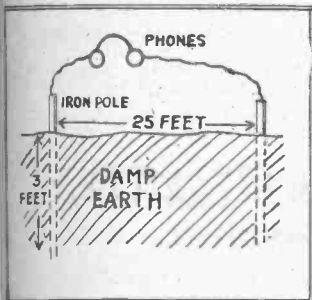


FIGURE 5.

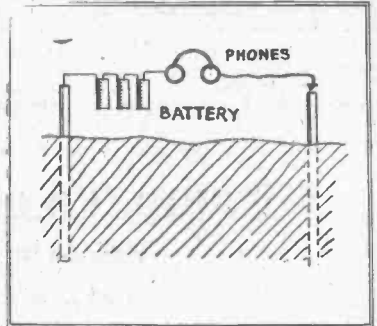


FIGURE 6.

THE ABERDONIAN THREE

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

Below is a List of Suitable Parts for Building

“The Aberdonian Three Valve Receiver”

	s	d		s	d
3 DEL410 Valves, each	12	6	1 3in. Former, Cardboard		6
3 Valve Sockets, Buffalo, each	1	3	or Do. Bakelite, 5in. long	3	4
or 3 Emmco. 2/6 ea.; Pilot, 3/3; A.W.A., 3/- each.			2 Angle Brackets, Meccano		8
1 Doz. Bus Bar Wire	10		3 100,000 Ohm Resistances	10	6
.006 Igranite Condensers, each	2	6	1 Grid Leak, 1 Meg.	1	3
.0005 S.L.F. Condensers, Pilot, each	13	6	1 " " ½ Meg.	1	3
or Emmco, each 12/6.			1 " " ¼ Meg.	3	6
8 Oz. 24 D.S.C.	3	7	1 Battery Strip	2	9
1 Carborundum Detector	8	6	3 Brachstats	14	3

ELECTRIFY Your RECEIVER

Let us show you how cheaply you can electrify your Receiver—Parts for complete conversion to A.C. Operation from £11/-/-

IMPROVE YOUR RECEPTION

90% of Bad Reception is due to Faulty Batteries or Speaker. Eliminate these troubles, and you will have good reception always.

	Cash Price.				
	£	s.	d.		
Colmovox "A" Battery Charger	5	10	0	Deposit, 11/-	19 Weekly Payments of 5/6
Colmovox "A" and "B" Charger	6	10	0	Deposit, 13/-	19 Weekly Payments of 6/6
Emmco Trickle Charger	3	10	0	Deposit, 7/-	19 Weekly Payments of 3/6
Philips Trickle Charger	3	10	0	Deposit, 7/-	19 Weekly Payments of 3/6
Rectox Trickle Charger	5	10	0	Deposit, 11/-	19 Weekly Payments of 5/6
Philco Rechargeable Wet Battery	8	15	0	Deposit, 17/6	19 Weekly Payments of 8/9
Oldham Rechargeable Wet Battery	6	0	0	Deposit, 10/-	19 Weekly Payments of 5/-
Philips 372 Eliminator	7	15	0	Deposit, 15/6	19 Weekly Payments of 7/9
Amplion AC7 Speaker	7	15	0	Deposit, 15/6	19 Weekly Payments of 7/9
Philips, PCJJ	6	10	0	Deposit, 13/-	19 Weekly Payments of 6/6
Philips, Junior	5	5	0	Deposit, 10/6	19 Weekly Payments of 5/3
Philips, 3002 Eliminator	9	15	0	Deposit, £1/4/6	52 Weekly Payments of 3/8
Philips, 3003 Eliminator, B and C	11	15	0	Deposit, £1/9/6	52 Weekly Payments of 4/5
Emmco Eliminator	8	10	0	Deposit, £1/1/3	52 Weekly Payments of 3/-
Emmco Super Eliminator	12	15	0	Deposit, £1/11/6	52 Weekly Payments of 4/8
R.C.A. Speaker, Model 100A	8	10	0	Deposit, £1/1/3	52 Weekly Payments of 3/-
Amplion, A.C.9	9	9	0	Deposit, £1/5/-	52 Weekly Payments of 3/7

Country Districts---5/- in the Pound Deposit, and Balance in 5 Monthly Payments

COLVILLE-MOORE WIRELESS SUPPLIES LIMITED,

10 Rowe Street (Next Hotel Australia), SYDNEY

Phone: B2261.

Phone: B2261.

free ends of the wire as shown in Fig. 5 and listen-in, you will hear the earth currents as they flow through the earth.

Let us now prove that the earth is a conductor. Leaving your two pipes still in the ground, connect the positive terminal of your battery to one of the poles, then connect the negative terminal of the battery to one side of the phones. Now, as you touch the remaining phone terminal on the other pipe (Fig. 6), you will hear a very loud click, proving that the earth is a conductor. If a voltmeter or galvanometer be used in place of the telephones, a reading will be shown. You will be able to prove that the earth has also the properties of resistance by using a 42 volt battery and increasing and decreasing alternately the distance between the two poles. When the poles are near each other, the reading will be fairly high, showing that there is not much resistance. When the poles are moved farther apart, the resistance of the earth will cause a drop in voltage.

Man of the Fast Few Moments

(Continued from page 12.)

Billy Jones, Ned Lloyd, Billy Lee, and Thorpe McConville.

"And, in between times, and all the time," said Mr. Ferry, "I have been dealing in bloodstock."

In Easter, 1925, 2FC installed a microphone at the Sydney Showground. The announcer, possibly growing a little weary of giving lifeless results of the various events, tried his voice at the actual description of a pony jumping event.

Mr. Ferry was listening-in on his little crystal set, and his mind became at once most forcibly smitten with the idea of transmitting the horrible details of each and every big race as it was run. The next day he blew in on 2FC, although he didn't know a soul in that establishment—didn't even know if it had one—and told Mr. Williams and Mr. Anderson all about it.

So, in the language of our breathless contemporaries, originated humbly in Sydney a shout that was to awake the echoes for the first time in the history of the radio-civilised world; the noble, the happy, the hopeful, the tragic shout—"They're off!"

And to Mr. M. A. Ferry, typical generous-hearted Australian, fell the honor of shouting. In the early days description was very limited; but in a short time an elaborate system was built up. The first broadcasts were from Randwick. Then a network was spread to cover Rosehill, Moorefield, Canterbury, and Warwick Farm. The idea was copied in other States, and stations in England and America became interested. With the result that racing is becoming a great sporting feature of radio. The only country where listeners are denied race reports is New Zealand.

Mr. Racing Commissioner Ferry has instituted a very elaborate daily routine. In the morning, before the dawning, when you and we, gentle reader, are only yawning, Mr. Ferry attends at Randwick to watch the training. He collaborates with several other interested gentlemen; and there are sometimes as many as twelve watchers watching.

Later in the day he gives the results of his investigations from the studio. There are four hundred odd horses training at Randwick and Mr. Ferry knows "pretty well all

New Apparatus Tested & Approved



THE SWORD SWALLOWER has an easy time compared to the man who has to publicly eat his hat, or swallow his own words. I must choose the latter course, because, in September Radio (article "Errors Made by the Amateur Constructor"), I said: "Whilst it is remembered that the trend of modern radio is in the improvement of design, neatness, and compactness, it must also be remembered that efficiency must not be sacrificed because of these points. One cannot have every good point predominant."

However, a certain firm has literally made me eat my own words by letting me test one of their receivers. This set has six valves. It is beautifully constructed, each component being thoroughly shielded. No connecting wires can be seen. Each component and shield is of gold color, and is thus fit for the very best of sitting-rooms. Being of modern design, provision is made for the radio phonograph, and the set is "single control." The audio stages are resistance coupled, thus assuring quality of tone.

Between you and me, I expected only fair results with this set, because it is made so compact as to warrant (in the mind of a technical man) interaction. Also, I expected that it would be insective.

The first opportunity I had of testing this set was the night of the terrific thunderstorm. I had already shut off my three valve Reinartz in disgust, for static was very bad indeed. On one occasion 2BL faded right out for about ten seconds.

Then I hooked up the Astor Shielded Six to my batteries, and pulled over the switch. As I expected, interference from static, I screwed the volume control full on. A turn of the dial brought in 2BL at terrific volume, and it became necessary to turn down the volume control. As a result, the station came through with wonderful clarity, with static making only a slight background.

I then connected up another bank of batteries to my Reinartz, in order to compare results. Woe was me! Static absolutely drowned 2FC and 2BL. 2UE, 2UW, 2KY, and 2GB were much better. Thinking there might be a loose connection in my set, I tried out an Old Reliable Three, but the noise was there just the same. I disconnected the aerial of my three valve set, consequently reducing the noise, and proving that the trouble was actually static. Then I turned my attention again to the six valve receiver, which, during the whole time had been giving excellent reproduction practically unmarred by static.

One after another 2FC, 2BL, 2KY, 2GB, 2UW and 2UE were tuned in. Then, unmercifully, I tried for Inter-State. At first I could get no results—but found later that the volume control had to be screwed right up.

Tuning again, I ran over a host of exceedingly loud carrier waves, and until I had counted them I expected them to be local stations. When, however, I had counted eighteen carrier waves, I came to my senses, and resolved a loud carrier I found near

of them." He also knows a thing or two about correct weights, because he can announce the "correct weight" flag before the people on the stand see it. And the crowing rooster, which is such a feature of Canterbury Park broadcasts, and which has been heard throughout Australia, belongs to Mrs. Syd. Gore, from whose backyard all the Canterbury Park events are announced.

2BL's wave-length. 3LO came through at terrific volume. It was necessary to turn the volume control down a little, because the volume was so great on this station. There was (of course) a little more static on this and other Inter-State stations, but this was only to be expected under the conditions.

3AR, 4QG, 5GL, 7ZL, and 5KA were all tuned in, in the order given. Later some other carrier waves were struck, and these, I think, would be Japanese stations, though static was too bad to understand a word of what was being said.

Under normal conditions the Astor Shielded Six should give excellent results. As there was plenty of reserve volume, I could have used a counterpoise, instead of an earth, in order to reduce static.

The only phonograph pick-up on hand was one of a very cheap type, but results were remarkable. The volume was quite great enough to have filled the Town Hall, and though this pick-up gives slightly distorted volume on my own receiver, the Astor machine gave life-like reproduction of the records. As an instance, a catchy tune I have has always puzzled me. In one particular part of the record a few words are rather indistinct. The reproduction obtained from the Astor enabled me to hear the words with ease.

Now that I have swallowed my words (and decided to purchase an Astor Six), perhaps I might be allowed to depart in peace.

8000 Speakers a Week

LATEST advice from Graham Amplion's new works at Slough shows an enormous increase in the production of Amplion speakers. During peak periods the output now reaches 8000 per week. It is anticipated that over 300,000 Amplions will leave the works during 1929.

Jottings from the Radio Shack

(CONTINUED FROM PAGE 11.)

coupling for the input, choke coupling between the two amplifying valves, and again a choke output. Either a choke or transformer may be used with any of these amplifier circuits. You will notice that in this case there is a fixed condenser across the choke output. This is marked C4, and is very useful in improving the tone of some loud-speakers. The value must be found experimentally, but it will vary between .0005 mfd. and .005 mfd. The choke in the plate circuit of the last valve should have an inductance value of 50 Henries, but that in the plate circuit of the first valve will need to be of a higher inductance value for best operation.

A final hint in connection with transformer coupled amplifiers. If ever you are troubled by a burnt-out transformer primary, and you have no spare transformer on hand, it is a simple matter to keep the receiver working temporarily, though the quality must suffer a little with a drop in volume. The remedy is to bridge the ends of the primary and secondary by a .01 or even .003 fixed condenser, and connect a 100,000 resistance across the burnt-out primary, as shown. In this way the set is allowed to carry on with a resistance-choke coupling between the valves.



PHILIPS
MINIWATT

50 i_a (mA)

$V_F = 4.0 V$
 $i_f = 0.15 A$
 $V_a = 50-150 V$
 $i_s = 50 mA$
 $'g = 100$
 $S = 18 mA$



IT'S THE SLOPE THAT MAKES THEM BETTER

THE STEEPER THE SLOPE THE BETTER THE VALVE

The curves of Philips 'Miniwatts' SOAR up—they're higher—they're steeper.

The slope of a valve tells you much—for the steeper it is the greater the change in the plate current—grid voltage ratio, higher efficiency, and of course the louder and clearer your music.

[You can pick out the INDIVIDUAL INSTRUMENTS with a Philips Loudspeaker.]

-50 -40

PHILIPS

"MINIWATTS"

Write for this Booklet

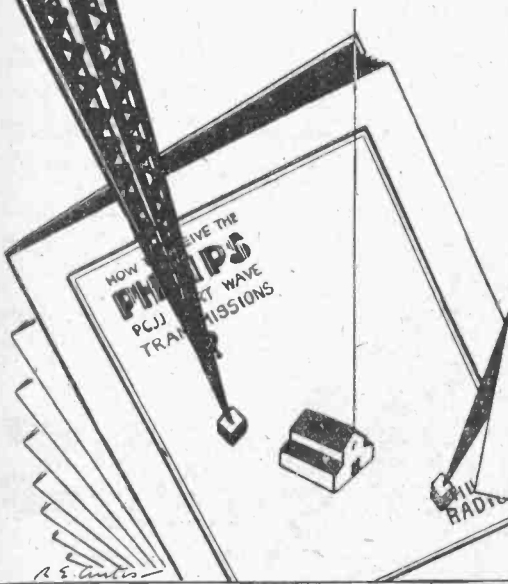
"HOW TO RECEIVE THE PHILIPS SHORT-WAVE STATION PCJJ"

* PCJJ! Who does not know this call—the call of a short wave station designed and maintained by Philips Engineers.

And now these same engineers have compiled an attractive booklet, telling you in simple language how you may improve your reception of PCJ.

Just mail the coupon below, to Philips Radio, and your copy will arrive by return post.

** PCJJ, in accordance with the Washington Conference is now known as PCJ.*



PHILIPS

Please mail me PCJJ brochure by return post.

Name _____

Address _____

9R4

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

AUSTRALIA		Metres Watts		Metres Watts		Metres Watts	
New South Wales		Queensland		FOREIGN		JAPAN	
2FC—N.S.W. Broadcasting Co. Ltd., Market St., Sydney, 0700-2330	443	6000	4QR—Queensland Govt. Radio Service, Brisbane, 0800-2200	385	5000	2103—Silent Tues.	504
2BL—N.S.W. Broadcasting Co. Ltd., Market St., Sydney, 0800-2330	563	5000	4GR—Gold Radio Service, Margaret St., Townsville	294	100	4YA—Radio Broadcasting Co. of New Zealand, Dunedin, 1700-2300	463
1GB—T. Theosophical Broadcasting Station, 19 Bligh St., Sydney, 1000-2200	313	3000	South Australia			and Thurs	750
1KY—Trades and Labour Council, Goulburn St., Sydney, 0800-2200	280	1500	5CL—Central Broadcasters, Ltd., 59 Franklin St., Adelaide, 1100-2310	409	5000	GRKAT BRITAIN	
1UW—Radio Broadcasting Ltd., Palings Building, Ash St., Sydney, 1230-2230	267	600	5DN—SDN Pty. Ltd., 24 Montpelier St., Parkside, 313	600		2LO—British Broadcasting Co., Savoy Hill, London, 1900-0850	361.4
1UE—Electrical Utilit. Co. Ltd., 419 George St., Sydney, 0730-2330	293	250	5KA—Sport Radio, Ltd., 51 Kentmore Av., Prospect, 250	1000		3XX—British Broadcasting Co., Davenport, 1900-0850	1664.3
1MK—Mackler Bros. Ltd., Hawker St., Bathurst, 275	250		5VF—Commonwealth Government Broadcasting Station, Perth, 1230-2230	1250	5000	UNITED STATES	
1HD—H. A. Douglas, King St., Newcastle, 288	100		Tasmania			KDKA—Westinghouse Electric and Manufacturing Co., Pittsburgh, Pa.	316.5
1RE—Rurkin Electric Co., 340 Kent St., Sydney, as present off the air	314	100	1ZL—Tasmanian Broadcasters Pty., 95 Elizabeth St., Hobart, 1130-2200	535	3000	KFI—Earle C. Anthony Inc., 1000 So. Hope St., Los Angeles, California	462.5
1LO—Dominions Broadcasting Co., 120A Russell St., Melbourne, 0715-2340	371	6000	NEW ZEALAND			KGO—General Electric Co., Ltd., Oakland, California	384.4
1AR—Dominions Broadcasting Co., 120A Russell St., Melbourne, 1000-2300	484	5000	1YA—Radio Broadcasting Co. of New Zealand, 419 Queen St., Auckland, 1500-2200	333	500	KOA—General Electric Co., Ltd., 1370 Krameria St., Denver, Colorado	225.8
1UZ—J. J. Miller and Co., Bourke St., Melbourne	319	100	1YA—Radio Broadcasting Co. of New Zealand, Christchurch, 1500-			WEAF—National Broadcasting Co., 1950 Broadway, New York	491.5
1DB—Danish Radio						WGY—General Electric Co., So. Scenecady, N.Y.	378.5

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

AUSTRALIA		Metres		Metres		Metres	
Great Britain		INDO-CHINA		NORWAY		FINLAND	
1XF—A W A (Syd.), relays 2FC, times irregular, usually Mon. from 0430-0600	39.15		2400 Sat., 0100-0400 Sun., 21	2300 Mon., 0820-0700 Wed., 0900-0950, Sun. Picture transmissions, 1900-1100 Thurs and Sat	47.15		
2YG—Haw. Alltop (Syd.), relays 2HL times various	32.5		PCP—Kootwijk, Wed. and Fri., 0300-0800; Sat., 0900-2400; Sun., 0100-0100				
3BS—A W A (Melb.) relays 3LO, times various. Usually heard about 0430-0630	32		PCU—The Hague, 0500-0600 Wed. and Fri.; 0800-2400 Sat.; 0100-0400 Sun.	49			
4AG—W R Coxon (Perth), relays 6WF, Times various. Usually 2130-0200 daily	32.9		UNION OF SOVIET SOCIALIST REPUBLICS				
5FT—Marconi Radio, Poldhu Times various 25, 32	32		RFN—USSR, Moscow 19-40, 50				
6NM—Gerald Marzuce, Caterham, Surrey, 1700-0400-0800 (Sun), 1000, Thurs, and Sat	32.5		RFM—USSR, Siberia 40-50				
6LW—Beam Station, all times (Dorchester)	15.7		ITALY				
6LQ—Beam Station, all times throughout day (Onkar)	34.5		ISI—Milan 45				
6BH—Beam Station, Grimsby (Beam Station) All times	25.3		IDO—Italy 33.5				
UNITED STATES			IAI—Rome 6700 Sun.; 0800-0830 Mon.	34.5			
1XAD—G E C., Schenectady Relays WGT, 0830-1300 Mon., 0400-0600 Tues and Fri., 0800-1300 Thurs and Sat	21.9		SOUTH AFRICA				
1XZR—Ben. Francisco, 1000, daily	33		JB—Johannesburg 20; 25				
1XLI—Boardbrook, Relays WJZ	59.9		JAPAN				
1XII—Council Bluffs, Relays Columbian Broadcasting stations	61.06		JRR—Hiroshima, nightly	37.5			
1XBA—Newark, Relays WAAM, 1000-1600 Wed. Fri., and Sun.	65.10		JIP—Tokyo 20				
1XV—Cleveland, daily from 1500	66.04		JIAA—Iwatsuki 79				
1XAI—Inglewood, daily			JKZB—Tokyo 20				
			GERMANY				
			AGJ—Nauen Daily, 0.500	56.7			
			POX—Nauen Press and news reports to ships 13	24.4			
			AGN—Nauen Press and news daily	95.3			
			AGC—Nauen, Throughout day	17.2			
			AFK—Doerflitz, Tues., Thurs., Sat., 0500-0600 (Call sounds like "Ar-En-Car")	37.65, 67.65			
			HOLLAND				
			LCN—Bergen, 0500, Irregular	30, 31, 28			
			KLN—Stavanger, News bulletins 0400	12.14			
			DENMARK				
			TKK—Copenhagen, Irregular	33.2, 33.8			
			TRL—Copenhagen	42.12			
			MTAL—Motala Tests irregularly after midnight	41			
			RDTR—Copenhagen, -2130-				

Local Programmes, Friday, March 1

2FC

EARLY MORNING SESSION

Announcer: A. S. Cochrane.

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

MORNING SESSION

Announcer: A. S. Cochrane.

9.0: "Big Ben" and announcements. 10.3: Pianoforte reproduction. 10.10: "Sydney Morning Herald" news service. 10.25: Studio music. 10.45: A talk on home cooking and recipes by Miss Ruth Furst. 11.0: "Big Ben", A.P.A. and Reuter's cable services. 11.5: Close down.

MIDDAY SESSION

Announcer: A. S. Cochrane.

12.0: "Big Ben" and announcements. 12.2: Stock Exchange, first call. 12.3: Official weather forecast; rainfall. 12.5: Musical item. 12.10: Summary of news, "Sydney Morning Herald". 12.15: Rugby wireless news. 12.18: A reading. 12.30: Studio music. 1.0: "Big Ben"; weather intelligence. 1.3: "Evening News" midday news service; Producers' Distributing Society's market report. 1.20: Studio music. 1.28: Stock Exchange, second call. 1.30: Studio music. 1.55: Cricket scores. 1.57: studio music. 2.0: "Big Ben"; close down.

AFTERNOON SESSION

Announcer: Laurence Halbert.

Accompanist: Ewart Chapple.

1.50: Programme announcements. 2.32: Recreational session for the schools; a short musical recital; a reading. 3.0: "Big Ben"; pianoforte reproduction. 3.10: Progress scores of the cricket match, England v. Victoria, played at Melbourne. 3.12: Record special. 3.30: Doris Orr, soprano—(a) "Mare My Girl" (Altken), (b) "Waiaata Poi" (Hill). 3.38: Pianoforte reproduction. 3.50: Freda Sternberg will give a talk on "Why Australian Singing Students should think twice before they go to Europe." 4.5: Popular music. 4.25: Doris Orr, soprano—(a) "In the Garden of My Heart" (Ball), (b) "The Willow" (Thomas). 4.30: Progress scores, England v. Victoria, played at Melbourne. 4.35: Studio music. 4.45: Stock Exchange, third call. 4.47: Pianoforte reproduction. 5.0: "Big Ben"; close down.

EARLY EVENING SESSION

Announcer: A. S. Cochrane.

6.40: The Chimes of 2FC. 5.45: The children's session, conducted by the "Hello Man"; letters and stories; music and entertainment. 6.10: "The Farmyard Five," from Kookaburra Gully. 6.30: Dalgety's market reports (wool, wheat, and stock). 6.40: Fruit and vegetable markets. 6.43: Stock Exchange information. 6.45: Weather and shipping news. 6.48: Rugby wireless news. 6.50: Late sporting news. 7.0: "Big Ben"; late news service. 7.10: Recital of specially selected dinner music.

EVENING SESSION

Announcer: Laurence Halbert.

Accompanist: Ewart Chapple.

7.40: Pianoforte reproduction. 7.45: Programme announcements. 7.48: Popular music. 8.0: A transmission will be taken from one of Sydney's leading theatres, by courtesy of J. C. Williamson, Ltd. 9.0: "Big Ben"; from the studio, late weather forecast. 9.1: Gwladys Fimister, soprano. 9.8: The Light Music Four—(a) "Ma Mie Rosette" (Lacome and Caryl), (b) "Rambler Roses" (Wheeler). 9.20: Joe Cahill, entertainer—(a) "Mister Dooley on Dress" (Donne), (b) "The Heathen's Prayer" (Whitman). 9.28: Carlos Fakoia, novelty pianist. 9.36: Gwladys Fimister, soprano.

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9.44: The Light Music Four—
 (a) "Prologue ti Pagliacci" (Leoncavallo).
 (b) "A Shepherd's Idyll" (Haines).
 (c) "The Land of Joy" (Valverde).
 10.0: Joe Cahill, entertainer—
 (a) "Horn-rimmed Specs."
 (b) "Second Fiddle."
 10.10: Carlos Fakoia, novelty pianist.
 10.18: The Light Music Four—
 A collection of Italian Folk Songs (Langley).
 10.28: To-morrow's programme and announcements, and weather.
 10.30: National Anthem.
 Close down.

2BL

MORNING SESSION

Announcer: A. C. C. Stevens.

8.9: G.P.O. clock and chimes; metropolitan weather report. 8.1: State weather report. 8.2: Studio music. 8.15 G.P.O. chimes; news from the "Daily Telegraph Pictorial." 8.30: G.P.O. chimes; news service continued. 8.40: Information, mails, shipping, arrivals, departures, and sailings. 8.45: Studio music. 9.15: Half an hour with silent friends. 9.45: Studio music. 10.0: G.P.O. chimes; close down.

MIDDAY SESSION

Announcer: A. C. C. Stevens.

11.0: G.P.O. chimes; 2BL Women's Sports-Association session, conducted by Miss Gwen Varley. 11.30: Advertising hints. 11.40: Women's session, conducted by Mrs. Craufield. 12.0: G.P.O. chimes; special ocean forecast and weather report. 12.3: Studio music. 12.30: Shipping and mails. 12.35: Market reports. 12.48: "Sun" midday news service. 1.0: Studio music. 1.30: Talk to children and special entertainment for children in hospital. 2.0: G.P.O. chimes; close down.

AFTERNOON SESSION

Announcer: A. C. C. Stevens.

Accompanist: Kathleen Roe.

3.45: Programme announcements. 3.47: Progress scores of the cricket match, England v. Victoria, played at Melbourne. 3.49: Pianoforte reproduction. 4.0: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 4.10: From the studio, studio music. 4.20: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 4.30: From the studio—Captain Stevens will continue his series of talks, "East of Suez." 4.45: Progress scores of the cricket match, England v. Victoria, played at Melbourne. 4.47: G.P.O. chimes; James Pedal, novelty pianist. 4.55: Ethel Brittain, mezzo-soprano—(a) "In a Strange Land" (Taubert), (b) "The Wild Rose" (Schubert). 5.0: Our serial story. 5.10: James Pedal, novelty pianist. 5.20: Ethel Brittain, mezzo-soprano—(a) "Slow Horses, Slow" (Mallinson), (b) "The Ash

Grove" (Welsh), (c) "Come, While the Twilight Closes" (Gluck). 5.28: Studio music. 5.33: Producers' Distributing Society's poultry report. 5.37: Features of the evening's programme.

EARLY EVENING SESSION

Announcer: Basil Kirke.

5.40: Children's session; music and entertainment; letters and stories. 6.30: "Sun" news and late sporting. 6.40: Special dinner music. 7.7: Australian Mercantile Land and Finance Co.'s report; weather report and forecast, by courtesy of Government Meteorologist; Producers' Distributing Society's fruit and vegetable market report; grain and fodder report ("Sun"); dairy produce report ("Sun"). 7.25: Mr. Pim and Miss Pam in advertising talks and nonsense. 7.55: Programme and other announcements.

EVENING SESSION

Announcer: Basil Kirke.

Accompanist: G. Vern Barnett.

8.0: G.P.O. chimes. Browning Mummery, Australian tenor, principal of the late J. C. Williamson-Melba Opera Company. 8.10: From the Arcadia Theatre, Chatswood—Nicholas Robins at the Wurlitzer organ. 8.30: From the studio—Charles Lawrence and Billie Creswell, popular duets. 8.40: Trumpet solo by Livingstone Gill. 8.48: The Savoyans Dance Band. 9.0: G.P.O. chimes. Weather report and forecast. 9.1: Browning Mummery, Australian tenor. 9.15: The Savoyans Dance Band. 9.25: Last-minute sporting information by O. N. Dexter. 9.40: The Savoyans Dance Band. 9.50: Charles Lawrence and Billie Creswell, popular duets. 10.0: From the Arcadia Theatre, Chatswood—Nicholas Robins at the Wurlitzer organ.

10.20: From the studio—late weather report and announcements. 10.25: The Savoyans Dance Band. 10.35: Announcements. 10.40: The Savoyans Dance Band. 10.50: Resume of following days programme. 10.52: The Savoyans Dance Band. 11.30: National Anthem. Close down.

2GB

10.0: Music. 10.10: Happiness talk, by A. E. Bennett. 10.20: Music. 10.30: Women's session by Miss Helen J. Begging. 11.30: Close down. 2.0: Music. 2.5: Women's radio service, by Mrs. Dorothy Jordan. 2.50: Music. 3.15: Close down. 5.30: Children's session, by Uncle George. 7.0: Stock and market reports by New Zealand Loan and Mercantile Agency, Ltd. 7.15: Music. 7.30: Feature story. 8.0: Violin solos by Mr. Gregory Valentine. 8.10: Songs by Miss Heather Kinnaird. 8.20: Piano solos by Miss Ada Brook. 8.30: Songs by Mr. Robert Scott. 8.40: Mr. Jack Win and Mr. Heath Burdock, humorous interlude. 8.45: Instrumental music. 8.50: Miss Heather Kinnaird, contralto. 9.0: Weather report. 9.3: Address. 9.15: Songs by Miss Gwen Selva. 9.35: Mr. Gregory Valentine, violinist. 9.45: Mr. Jack Win and Mr. Heath Burdock, humorous interlude. 9.50: Songs by Mr. Robert Scott. 10.0: Dance Music. 10.30: Close down.

2UW

MIDDAY SESSION.

12.30: Music. 1.0: G.P.O. clock and chimes. Music. 2.30: Close down. 4.30: Musical programme.

EVENING SESSION.

5.30: Children's hour, conducted by Uncle Jack. 6.30: Close down. 7.0: G.P.O. clock and chimes. Music. 8.0: To-day's anniversary. Music. 9.0: G.P.O. clock and chimes. Comments on foreign affairs, by Mr. J. M. Frenchie. 9.10: Music and request numbers. 10.0: Close down.

6WF

7:30: Tune-in. 12.35: Markets, news, etc. 1.0: Signal. 1.1: Weather bulletin supplied by the Meteorological Bureau of Western Australia. 1.2: News by the studio trio. 2.0: Close down. 2.30: Tune-in. 3.35: Afternoon tea music, relieved by the studio trio. 4.30: Close down. 5.45: 5.48: Bedtime stories for the kiddies by the studio trio. 7.5: Light music by the studio trio. 1.30: Commercial and general information. 1.45: Racing anticipations by the sporting news of the "Truth" Newspaper Co., Ltd. 8.0: Signal. 11: Weather bulletin supplied by the Meteorological Bureau of Western Australia. 8.3: Tune-in by the Melody Quartette Party. 9.0: Late news items by courtesy of the "Daily News" Newspaper Co. Station announcements. Late weather bulletin. 9.15: Programme continued from the studio. 10.30: Close down. 10.45: Metre Transmission: Simultaneous transmission on 104.5 metres of programme given on 6WF commencing at 8.45 p.m.

7ZL

MID-DAY SESSION.

11.24: Selections. 11.34: Midlands weather forecast. 11.35: Selections. 11.55: Tasmanian Station's weather report. 12.0: G.P.O. clock chimes. 12.1: Shipping information. Ships within 200 miles range. Mail notices. Housewives' guide. Commercial news. Railway auction produce sales. 12.11: British official wireless news. 12.23: Selections. 12.29: Announcements. 12.33: Selections. 11.55: "Mercury" news service. Railway produce sales, held at Railway. 1.10: 1.30: Close down.

AFTERNOON SESSION.

1.30: G.P.O. clock chimes the hour. 3.1: Selections. 3.4: Weather information. 3.5: Selections. A popular and classical programme, by Miss Herbert Dawson, organ solo. 3.22: John McCormack, tenor. 3.29: Mische Elman, violin solo. 3.30: John McCormack, tenor. 3.43: Paul Whiteman and his Orchestra. 3.50: Kirby Lunn, contralto. 3.55: Chernavsky trio. 4.4: Elsie Barker, contralto. 4.10: Paul Whiteman and his Orchestra. 4.15: An interesting talk on "Rabbit skins, glues, and gelatin." 4.30: Close down. During the afternoon programme scores will be given of the cricket match, New South Wales v. South Australia, at Sydney; and England v. Victoria, at Melbourne O.G.

EARLY EVENING SESSION.

6.45: AD sporting results to hand. 6.15: "The Story Lady" will tell a story to the wee folk. 6.25: Musical readings, by Uncle David and the Story Lady. 7.0: Selections. 7.0: Answers to letters and musical readings by Uncle David. 7.5: Selections.

EVENING SESSION.

7.5: M. O'Leary will speak on "Cricket Accounts." 7.30: A studio concert by 7ZL artists and the Columbia. Lella Read, piano solo, selected. 7.45: Gwen Davidson, soprano. "Oh, that I were so!" "Big Lady Moon" (Taylor). 7.42: Ed. Brooker, tenor solo. "Oh! Doris, Where Do You Live?" 7.46: Gertrude Shedd, soprano. "Rothesay Rag" (Gully). "Jessie, the Flower of 'Dumbane'" (Gully). 7.53: Jas. Compton, cornet solo. "At Home" (Code). "At Dawn" (Code). 8.0: Jack Broadbent, baritone. "Vale—Farewell" (Sanderson). "When I Love" 8.7: Ed. Brooker, tenor solo. "The Old Cradle Song" (Morel). 8.12: Gwen Davidson, soprano. "A Birthday" (Woodman). "By the Waters of Babylon" (Leuraunce). 8.19: Ed. Brooker, tenor solo. "The Gipsies" 8.24: Gertrude Shedd, soprano. "My Mother Taught Me" (Dvorak). "The Garden of Spring" (Clark). 8.31: Reginald Goss Cusack, organ solo. "Solemn Melody" (Davies). "Interludes" (Bain). 8.38: Jack Broadbent, baritone. "The Old Sweet Song" (Molloy). "King Charles." 8.45: On March 1, 1809, Chopin was born. A Chopin concert arranged by J. M. Counsel, L.A.B. 9.45: 10.0: G.P.O. clock chimes the hour. etc.

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Ladies Prefer!
THE WORKINGS of the feminine mind are difficult to follow. It is hardly to be wondered at if the broadcasting companies, on open revolt, arranged their programmes with an eye to the approval of the mere woman. A fair listener wrote to 2BL's announcer, in appreciation of the early morning session. "I love listening to your reading and your musical sessions," she said. "Isn't it strange? I find myself trying to visualise if your hair IS dark!"

The President's Picture
M. DOUMERGUE of France, an enthusiastic radio listener, opened the annual wireless exhibition in Paris. The exhibition was distinguished by the artistic appearance of the products of the radio manufacturers, and the French President was impressed by a picture broadcast demonstration. He stood by the receiving set as his photograph came through.

Local Programmes, Saturday, March 2

2FC

EARLY MORNING SESSION.

Announcer: A. S. Cochrane.

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

MORNING SESSION.

Announcer: Eric Bessimer.

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

MIDDAY SESSION.

Announcers: Laurence Halbert, Ewart Chapple.

11.30: From the Sydney Cricket Ground, description of the cricket match, South Australia v. New South Wales. 12.0: From the studio. "Big Ben." "Sydney Morning Herald" news service. 12.5: Rugby wireless news. 12.10: From the Sydney Cricket Ground, description of the cricket match, South Australia v. New South Wales. 1.15: From the studio. Weather intelligence. "The Evening News" midday news service. 1.25: Studio music. 1.55: Progress scores of the cricket match, England v. Victoria, played at Melbourne. 1.57: Studio music. 2.0: "Big Ben." Close.

AFTERNOON SESSION.

Announcer: Laurence Halbert.

3.0: Programme announcements. Races. Race results from Hawkesbury and Ascot will be transmitted throughout the evening. Cricket: Progress scores of the cricket match, England v. Victoria, played at Melbourne, will be transmitted at 3.10, 4.30, 4.15: From the Sydney Cricket Ground, description of the match, South Australia v. New South Wales. 5.40: Close down.

EARLY EVENING SESSION.

Announcer: A. S. Cochrane.

5.41: The Chimes of 2FC. 5.45: The children's session, conducted by the "Hello Man." Letters and stories. 6.30: Music and entertainment. 6.40: Weather intelligence, shipping, Stock Exchange. 6.45: Rugby wireless news. 6.50: Sporting news; late news; and studio music. 7.10: The 2FC Dinner Quartette, conducted by Horace Keats. (a) "Peacock Alley" (Hay). (b) "Chiquita" (Wayne). (c) "A Song Remembered" (Coates). (d) "The Circle" (Monckton). (e) "Mother, I Still Have You" (Jolson). (f) "I Just Roll Along" (de Rose).

EVENING SESSION.

Announcer: Laurence Halbert. Accompanist: Ewart Chapple.

7.40: Pianoforte reproduction. 7.45: Programme announcements. 7.48: Cricket scores, South Australia v. New South Wales. Popular music. 8.0: "Big Ben." Browning Mummery, Australian tenor, principal of the late J. C. Williamson-Melba opera company. 8.10: Kathleen Roe (pianist). 8.18: Florence Page, songs at the Piano—(a) "Aren't Men Funny?" (Hilda Bertram). (b) "Don't be What You Ain't" (Silvio Heln).

8.26: From the Speedway Royal—Descriptions of the races. 8.36: From the studio—Jack Cannon (popular baritone). 8.44: Kathleen Roe (pianist). 8.53: Browning Mummery (Australian tenor). 9.5: Late weather report and forecast. 9.6: From the Speedway Royal—Description of the races. 9.16: From the Studio—The Studio Dance Band, conducted by Cec Morrison. 9.26: Florence Page (songs at the piano)—(a) "The Grass is Always Greener" (Egan). (b) "And Yet I Don't Know" (Weston and Lee). 9.4: Banjo solos by Arthur Wright. 9.42: Jack Cannon (popular baritone). 9.50: Studio Dance Band. 10.0: From the Speedway Royal—Description of the races. 10.10: From the studio—Studio Dance Band, conducted by Cec Morrison. 10.25: Late weather report and announcements. 10.30: Studio Dance Band, conducted by Cec Morrison. 10.57: To-morrow's programme and announcements. 11.0: Studio Dance Band, conducted by Cec Morrison. 11.30: National Anthem.

2BL

MORNING SESSION

Announcer: A. C. C. Stevens.

8.0: G.P.O. chimes; metropolitan weather report. 8.1: State weather report. 8.2: Studio music. 8.15: G.P.O. chimes; news from the "Daily Telegraph Pictorial." 8.30: G.P.O. chimes; news service continued. 8.40: Information, mails, shipping, arrivals, departures, and sailings. 8.45: Studio music. 9.15: Half an hour with silent friends. 9.45: Studio music. 10.0: G.P.O. chimes; close down.

MIDDAY SESSION.

Announcer: A. C. C. Stevens.

Note: Race results from Hawkesbury and Ascot will be transmitted as received. 11.0: G.P.O. chimes; 2BL Women's Sports Association session, conducted by Miss Gwen Varley. 11.30: Advertising hints. 11.40: Women's session, conducted by Mrs. Cranfield. 12.0: G.P.O. chimes; special ocean forecast

and weather report. 12.3: Studio music. 12.30: Shipping and mails. 12.35: Mail reports. 12.48: "Sun" midday news service. 1.0: Studio music. 1.30: Talk to children and special entertainment for children's hospital. 2.0: G.P.O. chimes. From the Sydney Cricket Ground—description of the match, South Australia v. New South Wales. 4.0: From the studio, popular records. Cricket scores, England v. Victoria, at Melbourne. 4.10: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. From the studio—Hilda Grace (novelty pianist). (a) "Broken Buttons" (Baumbach). (b) "Bloody Blues" (Phillips). 4.50: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 4.40: Popular records. 4.50: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 5.0: Studio news service. 5.10: Hilda Grace (novelty pianist)—(a) "Flora" (Wheeler). (b) "Eric" (Robinson). 5.20: Complete sports and racing resume. 5.30: Studio music. Features of the evening's programme.

EARLY EVENING SESSION.

Announcer: Basil Kirke.

5.40: From the Sydney Cricket Ground, description of the play in the match, South Australia v. New South Wales until midday. 6.0: Children's session—music and entertainment; letters and stories. "Sun" news and late sporting. 6.40: Dinner Quartette. (a) "Valse Parisienne" (Roberts). (b) "The Geisha" (Jones). "Love Comes Stealing" (Rapee), (d) "Relululu" (Youmans). (e) "Deep Blue" (Fisher). 7.7: Australian Mercantile Bank and Finance Co.'s report; weather report; forecast by courtesy of Govt. Meteorological Producers' Distributing Society's fruit and vegetable market report; grain and food report "Sun"; dairy produce report "Sun". 7.25: Mr. Pim and Miss Pam in advertising talks and nonsense. 7.55: Programme and other announcements.

EVENING SESSION.

Announcer: Jack Barnett.

Accompanist: Jack Barnett.

8.0: G.P.O. chimes. Phil Mountain (comedian)—(a) "There's a little baby up in the Moon" (Wright). (b) "My Blackbirds are Bluebirds Now." 8.8: Heye's Banjo Band—(a) "Southern Favorites" (Foden). (b) "Seague Eve" (Lange). 8.18: Billie Creswell (popular vocalist). 8.28: Phil Mountain (comedian)—(a) "Virginia My Paradise" (Turnbull and Valentine). (b) "Beautiful Dixieland" (Sutton). 8.36: Heye's Banjo Band—(a) "American Beauty" (Bacon). (b) "Pussum Billy" (Bitting). 8.46: Popular programme. 9.30: Romano's Dance Band, conducted by Bennie Abrahams. 9.40: From the Studio—Terrence Nugent (tenor). 9.48: Romano's Dance Band, conducted by Bennie Abrahams. 10.0: G.P.O. chimes. From the Studio—Billie Creswell (popular vocalist). 10.8: Romano's Dance Band, conducted by Bennie Abrahams. 10.20: From the Studio—Terrence Nugent (tenor). 10.28: Romano's Dance Band, conducted by Bennie Abrahams. 10.38: From the Studio—Resume of following day's programme. 10.40: Romano's Dance Band, conducted by Bennie Abrahams. 11.30: National Anthem; close down.

2GB

5.30: Children's session by Uncle George. 7.0: Dance music from studio. 8.0: Popular evening. 9.0: Crown-up ballade songs. 10.0: Close down.

2UW

5.30: Children's hour, conducted by Uncle George. 6.30: Close down. 7.0: musical programme. 10.0: Close down.

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Interstate Programmes, Saturday, March 2

3LO

EARLY MORNING SESSION.

7.15 to 8.15: See Friday.

MORNING SESSION.

Announcer: Maurice Dudley. 11.0: The Strat Trio (Geel Parkes Violin May Broderick piano, Frank Johnstone cello) "Trio Op. 15 in F Major" (Rubinstein), Con Moto Moderato. Moderato. Finale. 11.18: Eric Welch will speak on to-day's V.R.O. races at Flemington. 11.30: Description of cricket match, England v. Victoria, at M.C.C., by Rod McGregor. 12.58: Description of Pines Hurdle Race, two miles, V.R.C. races at Flemington, by Eric Welch. 1.5: Description of cricket. 1.15: Stock Exchange information. Meteorological information. Weather forecast for Victoria, New South Wales, South Australia, and Tasmania. Metal prices received by the Australian Mines and Metals Association from the London Stock Exchange this day. 1.15: Sonora. 1.58: Description of St. Leger Stakes, 1 1/4 miles, V.R.C. races at Flemington, by Eric Welch. 1.45: Close down.

AFTERNOON SESSION.

2.0: Description of cricket match, England v. Victoria, at M.C.C., by Rod McGregor. 2.38: Description of Essendon Stakes, 1 1/4 mile, V.R.C. races at Flemington. 2.45: Description of cricket match, England v. Victoria, at M.C.C. 3.28: Description of the Newmarket Handicap, six furlongs, V.R.C. races at Flemington. 3.45: Description of cricket match, England v. Victoria, at M.C.C. 4.0: Sonora recital from the studio. 4.18: Description of Sires Produce Stakes, seven furlongs, V.R.C. races, at Flemington. 4.25: Description of cricket match, England v. Victoria, at M.C.C. 4.58: Description of the Brunswick Stakes, 1 1/4 mile, V.R.C. races, at Flemington. 5.5 "Herald" news service. During the afternoon progress scores of the Sheffield Shield cricket match, New South Wales c. South Australia, will be broadcast as they come to hand. 5.15: Description of the cricket match, England v. Victoria, at M.C.C. 6.0: Stumps scores.

EVENING SESSION.

6.5: Sporting results. 6.15: Answers to letters and birthday greetings by "Little Miss Kookaburra." 6.40: Musical interlude. 6.45: "Little Miss Kookaburra" will tell more about Nellie and Billy in Moonland.—Billy leads an expeditionary force across Moonland to Starland. Extraordinary conversation

between the Prince and the enchanted cat, Blinker, who sends the Prince into a magic sleep.

NIGHT SESSION.

Announcer: Frank Hatherley. Accompanist: Agnes Fortune. 7.5: Stock Exchange. 7.15: Market reports. 7.30: News session. Stumps scores, England v. Victoria, at M.C.C., and N.S.W. v. South Australia. 7.45: Out of the Past. 7.46: Dr. J. A. Leach will speak on "Scrub Robins." 8.0: A Maker of History. Program announcements and 3LO's Transmanian letter from the "Courier," Launceston. 8.5: The Station Orchestra: Overture, "Zampa" (Herold). 8.15: Thomas George, bass: "Brian of Glenan" (Herbert). "Route March" (Stoed). 8.22: The Station Orchestra: Suite, "At Grenia Green" (Pletcher). 8.30: French Bros., banjoists: "Up-to-the-minute Melodies." 8.37: Syd. Hollister will present a little sketch, entitled "A Backyard Episode." Characters: Mrs. Olmes. Mrs. Entwistle. 8.54: The Record Feature of the Week. 8.57: Eric Welch will describe to-night's events at the Stadium. 9.15: "The Station Orchestra: Suite, "Hawatha" (Coleridge-Taylor). 9.25: "The Sundowners" Radio Revue Company will present, "Mr. Aerial's Surprise Party." A novel sketch of music, song, and story, specially written for Radio by J. Harcourt Bailey. Characters: Mr. Harcourt Aerial, J. Harcourt Bailey; Mr. Herbert Condenser, Herbert Sanderson; Mr. Robert Loudspeaker, Robert Gillard; Mr. Bob Amplifier, Robert Allen; Mr. Tom Talker, Tom Aerial, who is a bachelor, is discovered in his flat at Wavelength Avenue, Crystalville. During the sketch, the following items will be rendered: The Quartette, "Many Happy Returns of the Day." Humorous Duet, "By Jove" (Black). The Quartette, "Souvenirs" (Nichols). "There's Everything Nice About You" (Cooch). Alto solo, "Aussie Song." A Burlesque lecture, "Australia" (Harcourt Finley). Quartette, "Kitty's Disaster" (Woolle). "Of in the Silly Night" (Old Irish). And the sketch is brought to a novel conclusion. 9.55: The Station Orchestra: "Serenata" (Reiser). 10.0: Eric Welch will describe the night's events at the Stadium. 10.15: Thomas B. George, bass: "The Knight's Song" (Shaw). "Borden Ballads" (Donaldson). "There's a Rickety Rickety Shack" (Turk). "That's What You Mean to Me" (Davis). "Lazy Feet—Plano Solo" (Masmann). "Just Like a Melody, Out of the Stars" (Donaldson). "Beloved" (Kahn). "Because of the Baby Don't Mean Maybe Now" (Donaldson). "I Love to Dunk a Hunk of Sponge Cake" (Castill). "Mexican Serenade." 11.30: God Save the King.

NIGHT SESSION

8.0: All sporting results. 8.30: Brunswick Band, overture, "Overturiano" (Somers). Hugh Huxham's Serenade, quartette, "In the Land"; Renn Millar, bass, "Mending Roadways"; Interlude, solo by a member of the Brunswick Band; humorous songs, quartette, "The Road by the Gay Beside"; duet, Elsie and Edith sing, "Are You a Girl?"; Interlude; solo by a member of the Brunswick City Band; quartette, "Love's a Fool"; 8.50: Brunswick City Band, selection, "Scotland" (Round). 9.10: Milton Chik, trio, "Land Song of the West Country" (Bryce). 9.15: Bilton (Squire). 9.17: The Imperial Russian Arved Noril, violin, "Danse Espagnole" (Scriabin). "La Sereñata" (Toselli); trio, "Inverness" (Rezkoff); trio, "Le Dernier Rendezvous" (Rezkoff). 9.35: A Dickensian recital. P. J. Dear, "Utah" (Hume). Brunswick City Band, march, "To the Home" (Humen). "Rosebud" (Humen). "The Chick, baritone. "Canterbury Bell" (Hume). "Trues" (Rasbachi). 10.0: Organ recital by C. Montesil, P. R. C. O., transmission from St. Andrew's Church, Eastern Hill. "Fantasia in G Minor" (Handel). "Evening Prayer" from Handel and Greta (Handel), duet, savant from "Oho" (Handel). "The Hummel" (Hollister). "Friedrich" (Shryber). (Reichmannoff). 10.20: News service, exclusive 3AR. Announcements. 10.30: "God Save the King."

4QG

EARLY MORNING SESSION.

7.45: Time signal. 7.45: News service. 8.0: electric records. 8.15: News service. 8.30: Close down.

AFTERNOON SESSION.

The race meeting will be described direct from Albion Park. 3.45: News service. 4.0: Start of the first race. Between races orchestral music will be relayed from the studio. 4.30: Close down.

EARLY EVENING SESSION.

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

NIGHT SESSION.

8.0: A radio comedy, "The Dead-broke-a Cafe." Cast: Ardup Arry, Harry Humphrey, Under Aigy, Harry Collins; The Lady Fred, Hugh Huxham; 10.0: Chorus, "The Orpheans." Studio Orpheans. The Orpheans: Octette, "Sunce" (Buck); Ernest Harper (baritone), "Gondola" (Clarke); George Williams, and P. Cornwell (bass), vocal duet, "Two Roving Minstrels" (Farry); Tom Mauer (tenor), "Father O'Flynn" (Stamford); The Orpheans: Octette, "Parks" (Franchi); Octette, "Just Like a Melody Out of the Sky" (accompanied by the Orpheans); Ray Brue (bass), "Jack and Jill" (Stamford); Franchi (tenor), monologue, "The Chimney Sweep" (Ray); The Orpheans, octette, "Believe Me, Those Endearing Young Charms" (Moore); C. Hear (tenor), "I Hear a Thrust at Eye" (Fred Crane (baritone) and The Orpheans from Somerset" (Sanderson); The Orpheans, octette, "A Good Night" (Williamson (tenor), "Star of My Soul" (Francis Lane (soubrette), selected; J. P. Cooch (bass), "Thinker Tom" (Buchanan); The Orpheans, vocal chorus, "Speedway" (between suitable times, descriptions of the main race will be relayed from the Speedway. 10.0: "The M.W." news; weather news. Close down.

5CL

MORNING SESSION.

12.0: G.P.O. chimes. 12.1: Last minute selection for Flemington races, by Mr. Eric Welch. 12.15: Melbourne. 12.3: Probable riders and starters Strathalbyn races. 12.23: 5CL's sporting selection. 12.25: 5CL's general news. Result of the day's news. Flemington's race results. 12.45: From Strathalbyn racecourse: Positions, riders, and description of the race. 1.0: From Strathalbyn racecourse, by Mr. Arnold Treloar. 1.5: Close down.

AFTERNOON SESSION.

1.30: Flemington races: Result of St. Leger. 1.31: Positions, riders, and description of the Strathalbyn Race (weight-for-age), from Strathalbyn relayed by Mr. Arnold Treloar. 1.46: Sonora. 2.0: News service. 2.15: From Strathalbyn racecourse: Handicap from the Strathalbyn racecourse, by Arnold Treloar. 2.25: From the studio: Resume of previous race results. 2.30: Sonora. 2.48: Positions and riders for the Handicap. 2.58: Description of the Newmarket Handicap, by Mr. Eric Welch. 3.0: From Strathalbyn racecourse: Handicap from the Strathalbyn racecourse, by Arnold Treloar. 3.8: Sonora. 3.10: Description and description of the first division of the Handicap Trial Stakes, by Mr. Arnold Treloar. 3.45: Sonora. 3.53: Resume of previous race results. 3.54: Sonora. 4.0: Resume of previous race results. 4.15: Positions, riders, and description of second division of the Handicap Trial Stakes. 4.25: Sonora. 4.31: Resume of previous race results. 4.34: Sonora. 4.40: International cricket scores, England and South Australia. Scores of Sheffield Shield match, South v. West, Australia, at Sydney. 4.45: Resume of sporting. 4.50: From the studio: The Ladies' Bracket Handicap. 5.5: Sonora. 5.15: Final race results and close down.

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3AR

MORNING NEWS SESSION

10.0 to 10.59: See Friday.

MORNING MUSICAL SESSION

11.0: The Radio Revellers (conductor, Ernie Hall). "The Riff Song" (Romberg). "The Dance of the Blue Danube" (Fisher). "A Lonesome Boy's Rosary" (Tobias). "High Up on a Hill Top" (No. 26). Beautiful ballads. 11.25: The Radio Revellers, "Tell Me Again" (Clarke). "I Can't Do Without You" (Rubens). "Up and Down" (Clarke). "Mississippi Mud" (Harris). 11.45: Beautiful ballads. 11.45: The Radio Revellers, "The Pan Parade" (Whitney). "Lolita" (Sonteham), request items. 12.10: British Official Wireless; rates of exchange, as supplied by Messrs. Thos. Cook and Son.

MIDDAY SESSION

12.20: The Station Orchestra, overture, "Pierabraz" (Schubert). 12.30: Bernard Manning, bass-baritone, "O Let the Night Ground" (Somervell). "Birds in the High Hall Garden" (Somervell). 12.37: Hugh Huxham's Serenades, quartette, "The Shimmy (The Wobblers' Ball"; Romil, solo, "The Sea Road"; Interlude by the Station Orchestra, selected, quartette, "My Inspiration is You"; quartette, "Franchi"; Interlude by the Station Orchestra, selected; quartette from the Bohemian Trio, "Trio in D Minor" (Mendelssohn). Allegro molto, Scherzo vivace: trio "Auf Fluegeln des Gesanges" (O. Miller, solo, "The Serenade" (Sonteham). 1.16: The Station Orchestra, "L'Arlesienne" (Bizet) selected. 1.30: Syd. Hollister, comedian, a little light entertainment. 1.37: The Station Orchestra, "Three Dream Dances" (Coleridge-Taylor). 1.45: Close down.

AFTERNOON SESSION

3.0: Prahran City Band (conductor, Percy Code), march, "Children of the Regiment" (Glick) selected "Boccaccio" (Suppe). 3.15: Beautiful ballads. 3.25: Prahran City Band, waltz, "Casino Tante" (Gungl). 3.32: Beautiful ballads. 3.38: Prahran City Band march (Milde). 3.45: Beautiful ballads. 3.48: Beautiful ballads. 3.56: Announcements. 3.58: Prahran City Band, selection, "The Desert Song" (Romberg). 4.0: Beautiful ballads. 4.13: Beautiful ballads. 4.23: Prahran City Band, march "Sleddest and True" (Zehle). "You're a Real Sweetheart" (Donaldson). 4.31: Beautiful ballads. 4.38: Prahran City Band, humoresque "The Merry Men" (Rimmer), march, "Heroes of Liberty" (Rimmer) selected. 4.58: Announcements. 5.0: Close down.

EVENING SESSION

6.0: A bravura of beautiful ballads. 7.10: News. 7.20: Ballads; news service, exclusive to 3AR.

EVENING SESSION

11.45 G.P.O. chimes. 6.1: Resume of late sporting. 6.5: Birthday greetings, correspondence, songs, and stories by "The Wattle Lady." 6.30: Captain Donald Maclean will tell sensational stories of bold sea buccannery. 6.45: Sonora. 7.0: G.P.O. chimes. 7.5: C. Ward and Co.'s Stock Exchange Information. 7.8: International cricket scores, England v. Victoria at Melbourne. Scores of Sheffield Shield match New South Wales v. South Australia, at Sydney. 7.10: Rev. G. E. Hale, B.A., will give an interesting talk on "The Value of Books." 7.25: "Willow" A resume on South Australian cricket. 7.35: C. G. Riley, talk on "Items of Interest." 7.45: Musical sporting service, including Strathalbyn and Flemington race results.

NIGHT SESSION.

11.45 G.P.O. chimes. 8.1: Holden's Silver Band conductor, Mr. O. Summerton): Selection, "Faust" (Grieg); Dance, "Hanky Panky" (Roberts) 8.12: Miss Jackson soprano: "Morning" (Spenks). "Finnish Song" (Korsakov). 8.19: One-act play, "The Awakening." The Lady, Beryl Alford; Marie, her maid, Gwen Pretty, a little old lady, Doris Black; the other woman, Elsie Dohnt; the Two Adorables, Dora Smee and Eulalie Benson. 8.31: Holden's Silver Band: Selection, "Lilac Time" (Schubert). 8.44: Young and Burgess, entertainers, in monologues, monologues, and ukulele selections. 8.50: Holden's Silver Band: March, "Blencathra" (Rimsky-Korsakov). 9.0: From Wayville Speedway: A description of the speed events by Walter J. Murphy. 9.15: From the studio: Violet Jackson, soprano: "Lackaday" (Crampton). "I See a Thrush at Eye" (Caldman). 9.21: Holden's Silver Band: Valse, "Smiles, Then Kisses" (Anellini). "Australia." 9.30: E. J. Van De Velde: "Australia Through the Focussing Glass." 1. Snapshots of Queensland. 9.42: Young and Burgess, entertainers: In bright, snappy numbers. 9.50: Holden's Silver Band: Int., "The Cuckoo" (Lohengrin), "Jazzina" (Hume), "Chloe" (Moret). 10.0: G.P.O. Chimes. 10.1: A description of the speed events at Wayville Speedway, by Walter J. Murphy. 10.15: From the studio: G.P.O.'s sporting service, including a resume of the Flemington and Strathalbyn races. 10.27: International cricket scores: England v. Victoria, played at Melbourne. Sheffield Shield scores: New South Wales v. South Australia, at Sydney. 11.0: Modern dance numbers by the Radio Revelers. 11.8: God Save the King. Close down.

7ZL

MID-DAY SESSION.

11.30 to 12.30: See Friday. 12.30: Anticipation. 12.30: Melbourne Commission, last-minute, selections of the Melbourne Races, also Sydney races, by special representative. 12.33: Music. 12.55: News service. 1.0: Running description of Pines Race 7 miles—run at Flemington Racecourse Flemington, Melbourne. 10.5: Music. 1.40: Running description of St. Leger Stakes, 1 1/4 miles—run at Flemington Racecourse, Flemington. 1.45: Close down. 1.50: Running description of Essendon stakes, 1 1/4 miles—run at Flemington Racecourse, Flemington. 1.55: Close down. During the afternoon progress reports will be given of the cricket match, England v. Victoria, at Melbourne.

AFTERNOON SESSION.

1.0: G.P.O. clock chimes the hour. 3.1: Music news. North-west v. Sandy Bay, described by A. M. O'Leary. 3.30: Running description of Newmarket Handicap, 6 furlongs—run at Flemington Racecourse Flemington. 3.35: Transmission from the T.C.A. Ground—Cricket match, North-west v. Sandy Bay, described by A. M. O'Leary. 4.20: Running description New Produce Stakes, 7 furlongs—run at Flemington Racecourse, Flemington. 4.25: Transmission from the T.C.A. Ground—Cricket match, North-west v. Sandy Bay, described by A. M. O'Leary. 5.0: Running description of Brunswick Stakes, 1 1/4 miles—run at Flemington Racecourse, Flemington. 5.5: Running results to hand. 5.15: Close down. During the afternoon progress results will be given of the cricket match, New South Wales v. South Australia, at Sydney.

EARLY EVENING SESSION.

6.1: All sporting results to hand. 6.15: Music news. 6.20: Dick David will entertain the little one; Dick David. 7.5: Music. 7.15: News session.

EVENING SESSION.

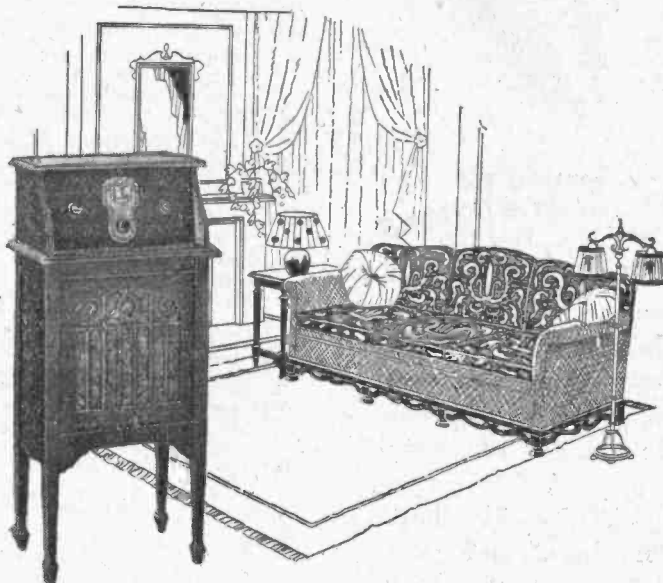
7.30: Rev. E. B. Bond, of Swan Street Methodist Church will speak on "John Wesley—His Place in History." 7.45: Roy Johnson will speak on "Manual Training." 8.0: G.P.O. clock chimes the hour. 8.45: Music. 8.50: Transmission, from the City Hall, Macarthur Street, Hobart. Theo Pipkin and his Orchestra. 10.20: From the studio: News session. 10.50: Close down.

6WF

12.0: Tune-in. 12.5: Musical programme, including pianoforte solos by Miss Audrey Dean. 12.44: Cricket, news, etc. 1.0: Time signal. 1.1: Weather bulletin, supplied by the Meteorological Bureau Western Australia. 1.2: Close down. 2.30: Tune-in. Sporting session at intervals of 15 minutes during the afternoon. 5.30 approx.: Close down. 6.45: Tune-in. 6.48: Bedtime stories for the kiddies by Peter Duffy. 7.12: Sports results. 7.30: Commercial and general information. 7.45: Talk. 8.0: Time signal. 8.1: First weather bulletin, supplied by the Meteorological Bureau of Western Australia. 8.3: Vocal and instrumental items from the studio. 9.0: Late news items, by courtesy of the "Daily News" Newspaper Co. Station announcements. Ships within range announcement. Late weather bulletin. 9.15: Programme continued from the studio. 10.30: Close down. 104.5 Metre Transmission: Simultaneous broadcast on 104.5 metres at programme given on 1250 metres, commencing at 6.45 p.m.

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THE MASTER VALVE

Local Programmes, Sunday, March 3

2FC

MORNING SESSION

Announcer: A. S. Cochrane.

- 10.0: "Big Ben" and announcements.
- 10.2: Studio music.
- 10.15: News service.
- 10.30: Studio music.
- 11.0: From St. Andrew's Cathedral—the morning service.
- 12.15: Approx.; close down.

AFTERNOON SESSION

Announcer: Eric Bessemer.

- 2.30: Programme announcements.
- 2.32: Children's session, conducted by the "Hello Man."
- 3.0: Studio record recital.
- 3.30: From the Band Rotunda, Manly Beach—Programmes arranged by the Manly Municipal Band, conducted by James Pheloung.
- 5.0: "Big Ben"; close down.

EVENING SESSION

Announcer: Laurence Halbert.

Accompanist: Kathleen Roe.

- 6.0: "Big Ben"; programme announcements.
- 6.2: C. R. Hall, talk.
- 6.18: A musical programme, arranged by Madame Evelyn Grieg.
- Pianoforte solos, Madame Evelyn Grieg—
"Sonata E Flat Major" (Beethoven).
Allegro, Scherzo, Minuetto, and Presto.
- Songs, Anne Mills—
(a) "To Sleep" (Tschalkowsky).
(b) "Only for Thee" (Tschalkowsky).
Rene Rich violinist, Madame Evelyn Grieg piano—
"Concerto F Sharp Minor" (Vieutemps).
Allegro/ Andante, and Rondo.
- Songs, Anne Mills—
"Happiness" (Hageman).
- 6.50: From St. Stephen's Presbyterian Church, Phillip Street, evening service, conducted by Rev. Hugh Paton; organist, Harry Chandler, M.A.
- Sanctus.
- Invocation.
- Hymn 267.
- Lesson, Jeremiah 18.
- Prayer.
- Hymn 265.
- Lesson, Luke 15.
- Anthem.
- Prayer.
- Hymn 71.
- Sermon, "Another Chance." Rev. Hugh Paton.
- Prayer.
- Hymn 157.
- Benediction.
- Vesper Hymn.

- 8.30: Approx., from the Band Rotunda, Manly Beach—the Manly Municipal Band, conducted by James Pheloung.
- 9.30: From the studio, Bryson Taylor, tenor
(a) "None E' Ver" (Mattel).
(b) "Because Your Love is Mine" (Doret).
(c) "Daphne" (Clarke).
- 9.38: Suzanne Ennis, contralto—
(a) "To-morrow" (Strauss).
(b) "The Welcome Vision" (Strauss).
(c) "Lullaby" (Scott).
- 9.46: Kathleen Roe, pianoforte solos.
- 9.50: Bryson Taylor, tenor—
(a) "Clorinda" (Morgan).
(b) "Our Birth is but a Sleep" (Stephenson).
(d) "Debonair" (Besley).
- 9.58: Suzanne Ennis, contralto—
(a) "Danny, Boy" (Weatherly).
(b) "A Garden is a Lovesome Thing" (del Reigo).
(c) "All for You" (Martin).
- 10.6: Record recital.
- 10.30: National Anthem; close down.

2BL

MORNING SESSION

Announcer: A. C. C. Stevens.

- 11.0: G.P.O. chimes. From the Central Baptist Church, Sydney: Lord's Day Morning Service.
- Preacher: Evangelist John E. Ridley (Lieut. Jack Ridley, U.C., A.I.F.)
Doxology.

- Invocation.
- The Lord's Prayer chanted.
- Alternative Scripture Reading.
- No. 105 in Baptist Hymnal from "Selected Passages."
- Gloria Patri.
- Scripture Lesson.
- Hymn No. 70, "Eternal Light."
- Prayers, Intercessions of Giving Thanks.
- Announcements. Offertory and Dedication of Offertory.
- Hymn 185, "Our Blest Redeemer."
- Sermon.
- Hymn 383, "O, Love that wilt not let me go."
- Benediction.
- 12.15: Approx. from the Studio.
- news service.
- 12.30: Studio music.
- 2.0: G.P.O. chimes. Close.

AFTERNOON SESSION

Announcer: Basil Kirke.

- 3.0: G.P.O. chimes.
- From the Haberfield Methodist Church, Pleasant Sunday afternoon service, including items by the Hurlstone Park Choral Society.
- 4.30: From the Studio; Studio music.
- 5.0: G.P.O. chimes. Close down.

EVENING SESSION

- Announcer: Basil Kirke, G. Vern Barnett.
- 6.0: Children's Session conducted by Uncle Bas.
- 7.0: From the Rozelle Methodist Church. The evening service, conducted by Rev. R. E. Clark.

- 6.30: Approx., from the Studio. Browning Mummy Australian tenor, principal of the late J. C. Williamson-Melba Opera Company.
- 8.40: The Manarco Quartet, instrumentalists
- 8.55: Ila Turnbull, soprano.
- 9.3: Manarco Quartet, instrumentalists.
- 9.18: Browning Mummy, Australian tenor.
- 9.30: Manarco Quartet, instrumentalists.
- 9.45: Ila Turnbull, soprano.
- 9.52: Manarco Quartet, instrumentalists.
- 9.59: Resume of following day's programme.
- 10.0: National Anthem. Close.

2GB

- 10.15: Organ music, from St. Alban's Church, Redfern.
- 10.30: Morning service, from St. Alban's Church.
- 12 noon: Close down.
- 5.30: Children's session by Uncle George.
- 7.0: Lecture.
- 8.0: Music from studio.
- 8.15: Rosenkrantz pianoforte solos.
- 8.23: Miss Heather Kinnaird, contralto.
- 8.37: Miss Elsie Brown, soprano.
- 8.44: Rosenkrantz pianoforte solos.
- 8.52: Mr. Leon Novello, tenor.
- 8.59: Miss Heather Kinnaird, contralto.
- 9.6: Mr. Edward Barry, baritone.
- 9.13: Miss Elsie Brown, soprano.
- 9.20: Rosenkrantz pianoforte solos.
- 9.26: Mr. Leon Novello, tenor.
- 9.35: Close down.

2UW

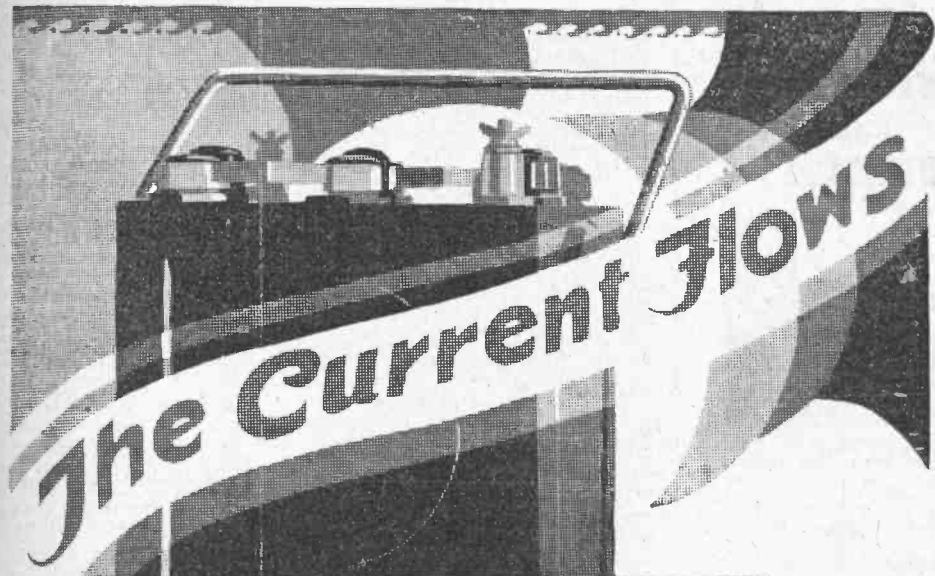
- 10.30: Music. 1.0: Close down.
- 5.30: Children's hour, conducted by Uncle Jack.
- 6.30: Close down.
- 7.0: Musical programme.
- 10.0: Close down.

Interested

BROADCASTING companies receive some peculiar requests; and this is one:—"Being interested in cricket, I would like to know which of the two cricketers has made the more runs in first-class cricket, including Shield and Test matches—Ponsford or Kippax, up till Ponsford's injury?" We believe that 2FC raked up the desired information; and we feel that it settled yet another wager at Collector.

Crowning

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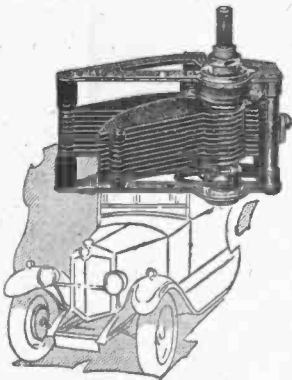
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Interstate Programmes, Sun., March 31

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3LO

MORNING SESSION.

Announcer: Maurice Dudley. 10.30: Bells from St. Paul's Cathedral. 10.45: Express train information: British Official Wireless news from Rugby; news from yesterday's papers. 11.0: Morning service from Cairns Memorial Presbyterian Church. Organ voluntary, Chorale, Fuga, and Finales. 6th Organ Sonata (Mendelssohn). Doxology, Invocation. Hymn No. 26, "Praise Ye Jehovah." Lesson, Ps. 103 (1-10). Tune 212. "O Thou My Soul Bless God the Lord." Prayer, Children's Address, Children's Hymn. 1.40: "I Want to be Like Jesus," intimations, Offertory, "Pastorale in E" (Lemare). Anthem, "The Sun Shall Be No More Thy Light By Day" (Woodward). Lord's Prayer. Sermon by Rev. P. A. Egenauer, M.A. Prayer, Hymn No. 202, "Jesus the Very Thought of Thee," Benediction, Amen, Organ Voluntary, "Grand Choeur" (Wm. Faulkes). 1.15: Close down.

AFTERNOON SESSION.

Announcer: Maurice Dudley. 2.0: Sonora Recital of the world's most famous records. 3.0: Pleasant Sunday Afternoon from Wesley Central Mission, Lonsdale Street, Melbourne. Chairman, Rev. J. H. Cain. Conference Sunday, Hymn No. 9, "Come let us join our cheerful songs." Prayer. Orchestral selection, Mr. G. M. Williams, conductor. Hymn No. 81, "There's Not a Friend Like the Lowly Jesus." Solo, V. R. Byard. Orchestra. Solo, V. R. Byard. Notices, Offering, and Orchestra. Address, Dr. George Sweet, "A Challenge to Australia." National Anthem, Benediction, Orchestra. 4.30: Close down.

EVENING SESSION.

5.45: Shipping information. 5.47: Answers to letters and birthday greetings by "Billy Bunny." 6.25: "Brother Bill," "With Face Towards the Wind." 6.45: Adult Birthday Greetings and programme announcements.

NIGHT SESSION.

Announcer: Maurice Dudley. Accompanist: Mabel Nelson. 7.0: Evening service from St. Paul's Cathedral, Melbourne. Sentence, Exhortation, Confession, Absolution, Lord's Prayer, Versicles and Responses (Perial), Psalm No. 18, 1st Lesson, Magnificat, 2nd Lesson, Nunc Dimittis, The Apostles' Creed, Collects, Anthem, "Gentle Ode To The Jubilee" (Gounod). Prayers, Hymn (A. and M.), 184, "Rock of Ages." Sermon, The Dean. Hymn No. 27, "Abide With Me." The Benediction. 8.30: Malvern Tramways Band—Overture, "Raymond" (Thomas). 8.38: Marie Bremner, soprano (by permission J. C. Williamson Ltd.), selected. 8.45: Malvern Tramways Band—Spanish selection, "Santitas" (Corbin). 8.51: Howlett Ross will speak on "The Stories of the Great Hymns." Illustrated by Wesley Church Choir, conducted by William G. James. 9.15: "Abide With Me," conducted by William G. James. 9.28: Marie Bremner, soprano, selected. 9.35: Malvern Tramways Band—"March of the Marines" (Rimmer). 9.40: Wesley Church Choir, conducted by William G. James. "I Will Lay Me Down in Peace" (Goble). "O Sweetest Are They" (Tchickowsky), two unaccompanied anthems. 9.50: "Argus" news service; announcements. 10.0: Close down.

3AR

Announcer: Frank Hatherley. 10.35: Morning service from Independent Church, Collins Street, Melbourne. Sermon by Rev. A. Henry Evans. 12.0: British official wireless news. 12.15: Close down.

AFTERNOON SESSION

Announcer: Frank Hatherley. 3.0: Gramophone recital: "Il Barbiere di Siviglia" (Rossini). "The Barber of Seville." 4.30: Close down.

EVENING SESSION

Announcer: Frank Hatherley. 5.0: "Brer Rabbit." A Story for the Children." 5.30: Close down.

NIGHT SESSION

7.0: A Bravura of beautiful ballads and orchestral chief d'ouvre. Frederick Lamond and the Royal Albert Hall Orchestra: "Emperor" Concerto, No. 5, Op. 73, Parts 1, 2, 3, and 4 (Beethoven). Robert Easton, bass: "The Midnight Angel" (Newmark). "The Song of Hybras the Cretan" (Campbell and Elliott). Percy Pitt, conducting the B.B.B. Wireless Symphony Orchestra: Overture, "Ruy Blas," Parts 1 and 2 (Mendelssohn). The Sheffield Choir, unaccompanied; "Italian Salad," a Musical Quest. Conducted by Sir Henry Coward. Soloist: Stanley Beckett. Quentin M. Maclean, Shepherd's Bush Pavilion-Compton Organ. The Sheffield Choir, unaccompanied; "Nella Ciama," "Romeo and Juliet" (Gounod), "Io son Titania," Mignon (Thomas). National Military Band: Selection, "La Traviata," Parts 1 and 2 (Verdi). 8.0: The Strad Trio (Cecil Barnes violin, Max Broderick piano, Fred Johnston cello): "Trio," "Op. 49, D Minor" (Mendelssohn). Mito Allegro ad agitato. Organ soloist, Carlo Scherzo. Finales. 8.27: Colin Crane, bass: "Negro Spirituals." 8.34: The Strad Trio: Violin, "Hymn to the Sun" (Rimsky-Korsakov), "Deutzer Tanz" (Dittersdorf). 8.41: The Cairns Quartet, "My Vineyard" (Gounod), "Yes, and the God Almighty Will Wipe Away" (Gounod). 8.48: One-act play: "Bread" (by request), Professor Eastman. Under the direction of Winifred Mowley. Characters: John Curtis (a farmer), A. J. Watkins; Martha Curtis (his wife), Kathleen B. Metcalf; Grandma (his mother), Marjorie McLeod; Stella (his blind daughter), Kara Harkness; Betty (another daughter), Dorothy Williams; Jim (his son), Stanley James. 9.13: The Strad Trio: Trios, "Norwegian Folk Song" (Svendens), "Menuette" (Gluck), "Menuette" (Bocherini-

Parkes), 9.20: Don Forbes, tenor: "She Who Dear to Me" (Holst), "Like as the Heart Dearest" (Alilstein). 9.27: The Strad Trio: Violin, "Zigeunerweisen" (Sarasate), "Selected" (Gounod), "The bass: "Negro Spirituals." 9.41: The Strad Trio: "Request Items." 9.46: The Cairns Quartet, "Thou Whose Sweeter Compassion" (Maudner), "The Us, Lord" (Rossini). 9.53: Don Forbes, tenor: "Dream of Paradise" (Gray), "Star of Bethlehem" (Adams). 10.0: News service, announcements. Close down.

4QG

MORNING SESSION.

11.0: The complete morning service will be relayed from St. Stephen's Roman Catholic Cathedral. 12.15: Close down.

AFTERNOON SESSION.

3.15: Band concert. 4.30: Close down.

EARLY EVENING SESSION.

6.30: Greetings to little listeners and replies to letters.

NIGHT SESSION.

7.30: The complete evening service will be relayed from St. Stephen's Roman Catholic Cathedral. The conclusion of the Church service, the concert by the Brisbane Municipal Concert Band will be relayed from Wickham Park. 9.30: Close down.

5CL

MORNING SESSION.

Announcer: C. J. O'Connor. 10.45: Carillon bells from Adelaide Town Hall. 11.0: G.P.O. chimes. 11.1: Divine service from First Methodist Church. 12.15: From the studio, official wireless news. 12.20: Close down.

AFTERNOON SESSION.

Announcer: C. J. O'Connor. 3.0: G.P.O. chimes. 3.15: A pleasant Sunday afternoon service from Maughan Church, Franklin Street. 4.40: G.P.O. chimes, and close down.

EVENING SESSION.

Announcer: C. J. O'Connor. 6.0: G.P.O. chimes. 6.1: S.A. Railway information. 6.3: Birthday greetings and correspondence songs. 6.40: "The Joy of Wireless," 6.50: "The Bird Lady" and "The June Songsters." 7.0: G.P.O. chimes. 7.1: A religious service from Finlay Street Baptist Church.

NIGHT SESSION.

From the studio. 8.25: Studio Orchestra—Overture, "Raymond" (Thomas). 8.33: Carmelo Mascagni, soprano—"Serenade" (Braga), "Woman Wins Why" (Clarke). 8.40: William Davey and Francis Davey, xylophonists—"The Rosary" (New). "Jeannine" (Shikret). 8.45: Windarra Male Quartet—"Down in the Depths" (Linders), "Holy Night" (Beethoven). 8.52: Carmelo Mascagni, soprano—"De Cameron Nights" (Finck). 9.0: Eric Wicks, bass—"The Windmill," "No Faithless Men." 9.1: William Davey, xylophonist—"The Merry Wives of Windsor." 9.2: Carmelo Mascagni, soprano—"Ave Maria" (Gounod), "Elegie" (Massenet). 9.3: Studio Orchestra—Suite, "African" (Bing). 9.4: Vera Rogers, contralto—"Cavata Rusticana" (Mascagni). "Down the Vale" (Moir). 9.50: Windarra Male Quartet—"In a Gondler" (Linders), "How Much Wood Would a Wood Chuck Chuck." 9.55: Studio Orchestra—Selection, "Cavata Rusticana" (Mascagni). 9.45: P. E. Nicholls, in another of our interesting talks, "Dr. Barnardo." 9.59: Meteorological information, including Scotch weather. God Save the King, and close down.

6WF

10.25: Tune-in. 10.30: Special half-hour for enthusiastic listener-in. 11.0: Morning service relayed from the Seventh Day Adventists' Church. 12.15: Close down. 3.30: Tune-in. 3.35: Programme from the studio, including items by the Select Four—Mr. R. Parsons, Messrs. G. and J. Warden, M. and A. Arthur. 4.0: Tune-in. 7.0: Tune-in. 7.15: Best-time stories for the kiddies. 7.30: Evening service relayed from St. Andrew's Church. 8.45: Band programme, relayed from the Government Gardens programme of the Fifth City Band, conducted by Mr. Les. Price. 10.5: Close down. 10.45: 10.45 Metre transmission: Simultaneous broadcast on 104.5 metres programme given on 1250 metres, commencing at 7 p.m.

7ZL

MORNING SESSION.

Announcer—J. M. Counsel. 11.0: Transmission from the Cairns Strada Presbyterian Church, Hobart. 12.30: Close down.

AFTERNOON SESSION.

3.30: From the studio: A Pleasant Sunday Afternoon service, by the Hobart P.B. Association. 4.30: Close down.

EARLY EVENING SESSION.

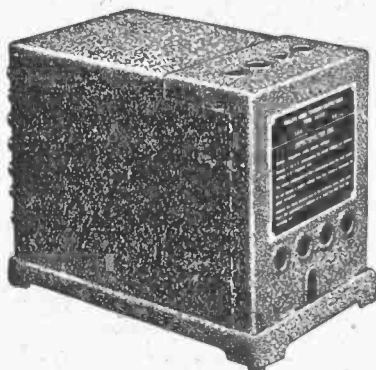
6.15: Chorus singing. Conductor, Godfrey Ledz, of the Children's Special Service Mission. 8.42: Bertha Southey Brammall, will read a poem to us we folk.

EVENING SESSION.

7.0: Transmission from St. David's Cathedral, Murray Street, Hobart. 8.25: From the studio, a programme of musical music, arranged by J. M. Counsel, L.A.B. 9.40: News session. 9.45: Close down.

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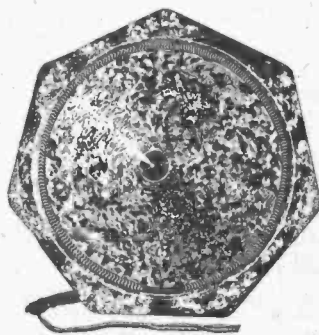


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Local Programmes, Monday, March 4

2FC

EARLY MORNING SESSION

Announcer: A. S. Cochrane.

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

MORNING SESSION

Announcer: A. S. Cochrane.

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

MIDDAY SESSION

Announcers: A. S. Cochrane and Eric Bessemer.

11.30: From the Sydney Cricket Ground, description and progress scores of the match, South Australia v. New South Wales. 1.15: From the studio, Stock Exchange. 1.18: Rugby wireless news. 1.22: Weather intelligence. 1.24: "Evening News" midday news service; Producers' Distributing Society's report. 1.40: Studio music. 2.0: "Big Ben"; close down.

AFTERNOON SESSION

Announcer: Laurence Halbert.
Accompanist: Ewart Chappie.

2.30: Programme announcements. 2.32: Educational session for the schools, short musical recital; a reading. 3.0: From David Jones's Auditorium—the opening ceremony in connection with "Be Kind to Animals Week." 4.0: From the studio, popular music; cricket scores. 4.15: From the Sydney Cricket Ground, description of the match, South Australia v. New South Wales. Note: Description of the match from 5.40 until stamps drawn will be broadcast through 2BL.

EARLY EVENING SESSION

Announcer: A. S. Cochrane

6.40: From the studio—the chimes of 2FC. 6.45: The children's session, conducted by the "Fello Man"; letters and stories; music and entertainment—Edith Harry will entertain the children with songs and stories. 6.50: Dalgety's market reports (wool, wheat, and stock). 6.40: Fruit and vegetable market. 6.43: Stock Exchange information. 6.45: Weather and shipping news. 6.48: Rugby wireless news. 6.50: Late sporting news. 7.0: "Big Ben"; late news service. 7.10: The 2FC Dinner Quartette, conducted by Hoace Keats—(a) "Juliet" (Grieg); (b) "Two Arabesques" (Debussy); (c) "La Boheme" (Puccini); (d) "Gardas" (Monti).

EVENING SESSION

Announcer: Laurence Halbert.

Accompanist: Ewart Chappie.

7.40: Studio Music.
Programme announcements.
7.45: Impressions on the cricket by M. A. Noble.
8.0: The Light Music Four—
(a) "Romance" (d'Ambrósio).
(b) "A Dream" (Grieg).
(c) "Repose of the Forest" (Grieg).
(d) "The Asra" (Rubenstein).
(e) "With a Violet" (Grieg).
8.15: Browning Mummy, Australian tenor, principal of the late J. C. Williamson-Melba Opera Company.
8.27: Edith Harry, Welsh composer-pianist, pianoforte solos—
(a) "Nocturne in E Minor" (Chopin).
(b) "Waltz in G Flat" (Chopin).
Songs—

(a) "Wert Thou the Sun" (Anderson).

(b) "A Song of the Land" (Harry).

8.37: The Light Music Four—

(a) "Scotch Poem" (MacDowell).

(b) "Chopiniana" (arr. Finck).

8.52: Peggy Dunbar, contralto—

(a) "Peace" (Schubert).

(b) "Dawn Skies" (Drummond).

9.0: "Big Ben"; weather forecast.

9.1: F. H. Raward will speak on "Tales of a Traveller."

9.16: Edith Harry, pianoforte and vocal—Pianoforte solos—

(a) "Melodie" (Rachmaninoff).

(b) "Musical Box" (Ljadow).

Songs—

(a) "Mother's Song" (Harry).

(b) "Ma Vorsine" (Thomas).

9.26: Browning Mummy, Australian tenor

9.38: A late booking.

9.48: Peggy Dunbar, contralto—

(a) "My Ain Folk" (Lemon).

(b) "Wayfarers' Night Song" (Martin).

9.56: The Light Music Four—

(a) "Sous les Tilleuls" (Massenet).

(b) "Mimanche Soir" (Massenet).

(c) "Valse Piquante" (Féel).

(d) "Valse Romantique" (Debussy).

10.12: Celebrity records.

10.29: To-morrow's programme and late weather forecast.

10.30: National Anthem; close.

2BL

MORNING SESSION

Announcer: A. C. C. Stevens.

8.0: G.P.O. chimes; metropolitan weather report. 8.1: State weather report. 8.2: Studio music. 8.15: G.P.O. chimes; news from the "Daily Telegraph Pictorial." 8.30: G.P.O. chimes; news service continued. 8.40: Information; mails; shipping, arrivals, departures, and sailings. 8.45: Studio music. 9.15: Half and hour with silent friends. 9.45: Studio music. 10.0: G.P.O. chimes; close down.

MIDDAY AND AFTERNOON SESSIONS

Announcer: A. C. C. Stevens.

11.0: G.P.O. chimes; 2BL Women's Sports Association session, conducted by Miss Gwen Varley. 11.30: Advertising hints—talk on "Diet and Health" by Miss Dorothy de Cleghorne. 11.40: Women's session, conducted by Mrs. Cranfield. 12.0: G.P.O. chimes; special ocean forecast and weather report. 12.3: Pianoforte reproduction. 12.30: Shipping and mails. 12.35: Market reports. 12.45: Cricket scores, England v. Ballarat, played at Ballarat. 12.48: "Sun" midday news service. 1.0: Studio music. 1.30: Talk to children and special entertainment for children in hospital. 1.57: Cricket scores. 2.0: G.P.O. chimes. Note: Results of the trots by courtesy of the "Sun" Newspapers. From the Sydney Cricket Ground, description of the cricket match, South Australia v. New South Wales. 4.0: From the studio, programme announcements. 4.2: Studio music. 4.10: Ann Melhuish—(a) "The Dawn has a Song" (Phillips); (b) "Everywhere I Look" (Carew). 4.17: Studio music. 4.22: A talk by Captain Aarons. 4.37: Popular records. 4.42: Studio music. 4.55: Ann Melhuish, soprano—(a) "A Coon Lullaby" (Del Riego); (b) "Kashmiri Song" (Flinden). 5.3: Studio music. 5.10: "Sun" news service. 5.15: Studio music. 5.30: Racing resume. 5.33: Studio music. 5.37: Features of the evening's programme.

EARLY EVENING SESSION

Announcer: Basil Kirke

5.40: From the Sydney Cricket Ground, description and progress scores of the match, South Australia v. N.S.W. 6.0: From the studio—Children's session, music and entertainment; letters and stories. 6.30: "Sun" news and late sporting. 6.40: 2BL Dinner Quartette—(a) "Fairy Feet" (Finck); (b) "Love Waltz" (Harrold); (c) "At Greta Green" (Fletcher); (d) "Andante" (Götte-

mann); (e) "Serenade Espagnole" (Albeniz); (f) "Le Reve" (Thorne); (g) "Out of the Dawn" (Donaldson). 7.7: Australian Mercantile, Land, and Finance Co.'s report; weather report and forecast by courtesy of Government Meteorologist; Producers' Distributing Society's fruit and vegetable market report; grain and fodder report ("Sun"); dairy produce report ("Sun"). 7.25: Mr. Pin and Miss Pam, in advertising talks and nonsense. 7.55: Programme and other announcements.

EVENING SESSION

Announcer: Basil Kirke.

Accompanist: G. Vern Barnett.

8.0: G.P.O. chimes.
8.0: From the King's Cross Theatre—The King's Cross Theatre Orchestra, conducted by E. J. Roberts.
8.20: From the studio, H. C. Hinchcliffe, baritone—
(a) "You Gave me all my Sunshine" (Haydn Wood).
(b) "World that Once was a Garden" (Lohr).
8.28: Frank Ryan, comedian.
8.36: Lotys Lescaut, soprano.
8.44: A talk by W. G. Acocks, president of the R.S.P.C.A., in connection with Humane Week.

8.54: Laurel Streater, popular vocalist.
9.2: Weather report.
9.2: The Savoyan Dance Band.
9.13: H. C. Hinchcliffe, baritone—
(a) "Just a Cottage Small" (Hanley).
(b) "Beating up the Channel" (Sanderson).
9.20: The Savoyan's Dance Band.
9.30: Lotys Lescaut, soprano.
9.38: Frank Ryan, comedian.
9.46: The Savoyan's Dance Band.
9.55: Archie airs his Views.
10.0: From King's Cross Theatre—Joseph Wayne at the Wurlitzer organ.
10.20: From the studio—Laurel Streater, popular vocalist.
10.28: The Savoyan's Dance Band.
10.45: Late weather report and announcements.
10.50: The Savoyan's Dance Band.
11.0: G.P.O. chimes; resume of following day's programme.
11.2: The Savoyan's Dance Band.
11.30: National Anthem; close down.

2GB

10.0: Music. 10.10: Happiness talk by A. E. Bennett. 10.20: Music. 10.30: Women's session by Miss Helen J. Beegling. 11.30: Close down. 2.0: Music. 2.5: Women's radio service, by Mrs. Dorothy Jordan. 2.50: Music. 3.15: Close down. 5.0: Children's session, by Uncle George. 7.0: Stock and market reports by New Zealand Loan and Mercantile Agency, Ltd. 7.15: Music. 7.30: Feature story. 8.0: Mr. Eric Cansdell, baritone. 8.10: Miss Ada Brook, pianist. 8.30: Miss Muriel Feldwick, soprano. 8.30: Mr. Leslie Sproule, fiddler. 8.40: Mr. Jack Win and Mr. Heath Burdock, humorous interlude. 8.50: Miss Florence Gordon, contralto. 9.0: Weather report. 9.3: Address. 9.14: Mr. Eric Cansdell, baritone. 9.25: Mr. Leslie Sproule, fiddler. 9.35: Mr. Jack Win and Mr. Heath Burdock, humorous interlude. 9.40: Miss Muriel Feldwick, soprano. 9.50: Instrumental music. 10.0: Miss Florence Gordon, contralto. 10.10: Mr. Jack Win and Mr. Heath Burdock, humorous interlude. 10.15: Dance music. 10.30: Close down.

2UW

MIDDAY SESSION.

12.30: Music. 1.0: G.P.O. clock and chimes. Music. 2.30: Close down. 4.30: Musical programme.

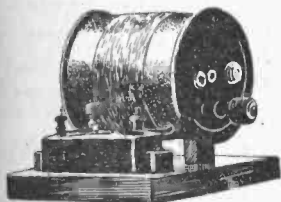
EVENING SESSION.

5.30: Children's hour, conducted by Uncle Jack. 6.30: Close down. 7.0: G.P.O. clock and chimes. Music. 8.0: To-day's anniversary. Music. 9.0: G.P.O. clock and chimes. Comments on foreign affairs, by Mr. J. M. Practice. 9.10: Music and request numbers. 10.0: Close down.

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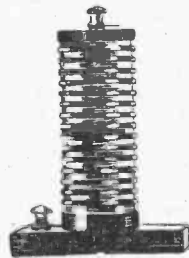


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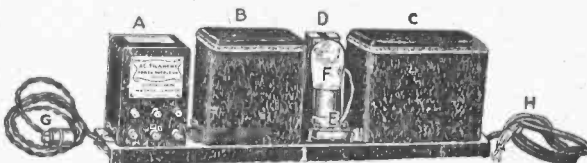
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- C—Condenser pack.
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Suggden Place off Little Collins St.
 MELBOURNE

Local Programmes, Tuesday, March 5

2FC

EARLY MORNING SESSION

Announcer: A. S. Cochrane.

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

MORNING SESSION

Announcer: A. S. Cochrane.

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

MIDDAY SESSION

Announcers: A. S. Cochrane and Eric Bessemer.

Note: Race results will be transmitted as received. 11.30: From the Sydney Cricket Ground, description and progress scores of the match, South Australia v. New South Wales. 1.15: From the studio, Stock Exchange. 1.18: Rugby wireless news. 1.22: Weather Intelligence. 1.24: "Evening News" midday news service; Producers' Distributing Society's report. 1.40: Studio music. 2.0:

AFTERNOON SESSION

Announcer: Laurence Halbert.

Accompanist: Ewart Chapple.

"Big Ben"; close down. 2.30: Programme announcements. 2.32: Educational session for the schools. 2.45: A talk by Freda Sternberg, "The Mozart Festival at Salzburg." 3.0: "Big Ben"; pianoforte reproduction. 3.10: Cricket scores, England v. Victoria, played at Melbourne. 3.12: Studio music. 3.15: Kathleen Logue, violinist—(a) "Beneath her Window" (Hubay); (b) "Caro Mio Ben" (Giordani). 3.23: Popular records. 3.36: Kathleen Logue, violinist—(a) "Swanee River" (Kreisler); (b) "Entr'acte to Manfred" (Reinecke); (c) "Mignon Gavotte" (Thomas). 3.44: Studio music. 4.15: From the Sydney Cricket Ground, description and progress scores of the match, South Australia v. New South Wales. Note: Description and scores through 2BL from 5.40 until stumps drawn.

EARLY EVENING SESSION

Announcer: A. S. Cochrane.

5.40: From the studio, the chimes of 2FC. 5.45: The children's session, conducted by the "Hello Man," assisted by Aunt Eily; letters and stories; music and entertainment. 6.30: Dalgety's market reports (wool, wheat, and stock). 6.40: Fruit and vegetable markets. 6.43: Stock Exchange information. 6.45: Weather and shipping news. 6.48: Rugby wireless news. 6.50: Late sporting news. 7.0: "Big Ben"; late news service. 7.10: The 2FC Dance Quartette, conducted by Horace Keats—(a) "Minuet" (Paderewski); (b) "Martha" (Plotow); (c) "Nocturne" (Grieg); (d) "Melody in F" (Rubenstein); (e) "Forty-seven Ginger-headed Sailors" (Sarony); (f) "Japansy" (Klenner); (g) "On the Volga" (Krien).

EVENING SESSION

Announcer Laurence Halbert.

Accompanist: Ewart Chapple.

7.40: Studio Music. Programme announcements. 7.47: Impressions on the cricket by M. A. Noble. 8.0: The New South Wales Tramway Band. 8.15: Alfred Cunningham, baritone—Farewell appearance prior to his departure for Canada. Note: Listeners are invited to send in requests for Mr. Cunningham to sing. 8.25: H. W. Varna, a sketch. 8.35: Mabel Batchelor, soprano—(a) "Noble Signor" (Meyerbeer).

(b) "There is Dew for the Flow'r" (Cowen)

8.43: The New South Wales Tramway Band.

9.0: "Big Ben"; weather forecast.

Talk in connection with "Be Kind to Animals Week" by a member of the R.S.P.C.A.

9.25: Alfred Cunningham, baritone—request numbers.

9.37: Maurice Arlen, pianoforte solos.

9.47: Mabel Batchelor, soprano—

(a) "Gay Butterfly" (Hawley).

(b) "Willow Tree" (Hahn).

9.55: The New South Wales Tramway Band

10.10: A sketch by H. W. Varna.

10.20: The Studio Dance Band, conducted by Cec. Morrison.

10.30: Late weather forecast.

The Studio Dance Band, conducted by Cec. Morrison.

10.58: To-morrow's programme.

10.59: The Studio Dance Band, conducted by Cec. Morrison.

11.30: National Anthem; close.

2BL

MORNING SESSION

Announcer: A. C. C. Stevens.

8.0: G.P.O. chimes; metropolitan weather report. 8.1: State weather report.

8.2: Studio music. 8.15: G.P.O. chimes; news from the "Daily Telegraph Pictorial."

8.30: G.P.O. chimes; news service continued. 8.40: Information; mails; shipping, arrivals, departures, and sailings. 8.45: Studio music. 9.15: Half an hour with silent friends. 9.45: Studio music. 10.0: G.P.O. chimes; close down.

MIDDAY AND AFTERNOON SESSIONS

Announcer: A. C. C. Stevens.

11.0: G.P.O. chimes; 2BL Women's Sports Association session, conducted by Miss Gwen Varley. 11.30: Advertising hints.

11.40: Women's session, conducted by Mrs. Cranfield. 12.0: G.P.O. chimes; special ocean forecast and weather report. 12.3: Pianoforte reproduction. 12.30: Shipping and mails. 12.35: Market reports. 12.43: "Sun" midday news service. 1.0: G.P.O. chimes; studio music. 1.30: Talk to children and special entertainment for children in hospital. 2.0: G.P.O. chimes. Note: Race results from Epping will be broadcast by courtesy of the "Sun" Newspapers. From the Sydney Cricket Ground, description of the cricket match, South Australia v. New South Wales. 4.0: From the studio, programme announcements. 4.2: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 4.10: From the studio, Beatrice Nobbs, mezzo contralto—(a) "Garden of Happiness" (Wood); (b) "When you Come Home" (Squire). 4.18: Studio music. 4.21: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 4.30: From the studio, studio music. 4.40: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 4.50: From the studio, popular records. 4.56: James Pedal, novelty pianist. 4.4: Beatrice Nobbs, mezzo contralto—(a) "Deep in My Heart" (Stephenson); (b) "In Sweet September" (Temple). 5.12: Studio music. 5.18: James Pedal, novelty pianist. 5.28: "Sun" news service. 5.32: Producers' Distributing Society's poultry report. 5.34: Studio music. 5.37: Features of the evening's programme.

EARLY EVENING SESSION

Announcer: Basil Kirke.

5.40: From the Sydney Cricket Ground, description and progress scores of the match, South Australia v. New South Wales. From the studio—6.0: Children's session, music and entertainment; letters and stories. 6.30: "Sun" news and late sporting. 6.40: 2BL Dinner Quartette—(a) Valse "Naila" (Delibes); (b) "The Tin Pan Parade" (Whiting); (c) "My Desire" (Gadman); (d) Valse Sweet (Brahms); (e) "Moments of Windsor" (Nicola). 7.7: Australian Mercantile, Land, and Finance Co.'s report; weather report and forecast by courtesy of Government Meteorologist; Producers' Dis-

tributing Society's fruit and vegetable market report; grain and fodder report ("Sun"); dairy produce report ("Sun"). 7.25: Mr. Pim and Miss Pam, in advertising talks and nonsense. 7.55: Programme and other announcements.

EVENING SESSION

Announcer: Basil Kirke.

Accompanist: G. Vern Barnett.

8.0: G.P.O. chimes.

The Music Makers—

(a) "Sylvia Ballet" (Delibes).

(b) "Scotch Intermezzo" (Brahms).

8.15: Browning Mummy, Australian tenor (late of the J. C. Williamson-Melba Company), the final of his series of broadcasting prior to his departure abroad.

8.27: Charles Lawrence, monologues at the piano.

8.37: Minnie Hamblett, English pianist—

(a) "French Suite Nob" (Bach).

(b) "Prelude, Minstrels" (Debussy).

(c) "Prelude in 7-8 time" (Corder).

(d) "Rhapsody Op. 79" (Brahms).

9.0: G.P.O. Chimes.

"Archie Ains his Views."

9.5: Linda Harte, contralto—

(a) "Three Fishers went Sailing" (Hullah).

(b) "As in Old Gardens" (Risher).

9.13: The Music Makers—

(a) "Intermezzo" (Granville-Bantock).

(b) "Clair de Lune" (Thome).

(c) "Last Dream of the Virgin" (Massenet).

(d) "Andante Melodioso" (Rachmaninoff)

9.28: Talk on "The Aborigines" by "Bringa."

9.43: Browning Mummy, Australian tenor (late of the J. C. Williamson-Melba Company), the final of his series of broadcasting prior to his departure abroad.

9.55: Charles Lawrence, monologues at the piano.

10.5: Linda Harte, contralto—

(a) "Meadowweet" (Brahe).

(b) "When I go Home" (Towner).

10.13: The Music Makers—

(a) "Symphonic Dances" (Grieg).

(b) Suite, "The Seasons" (Arnes).

10.28: Resume of following day's programme.

10.30: National Anthem; close down.

2GB

10.0: Music. 10.10: Happiness talk by A. E. Bennett. 10.20: Music. 10.30: Women's session, by Miss Helen J. Beesling. 11.30: Close down. 2.0: Music. 2.30: Women's radio service, by Mrs. Dorothy Jordan. 2.30: Music. 3.15: Close down. 5.30: Children's session, by Uncle George. 7.0: Stock and market reports by N.Z. Loan and Mercantile Agency Ltd. 7.15: Music. 7.30: Feature story. 7.40: Talk from the Radio Service Department, by Mr. Stan Crittenden. 8.0: Miss Mary Neal, mezzo-soprano. 8.10: Mr. Gregory Valentine, violinist. 8.20: Mr. Leslie Herford, baritone. 8.30: Mr. Jack Win and Mr. Heath Burdock. 8.35: Instrumental music. 8.45: Miss Gladys Verona, soprano. 9.0: Weather report. 9.3: Address. 9.15: Miss Mary Neal, mezzo-soprano. 9.25: Mr. Gregory Valentine, violinist. 9.35: Mr. Heath Burdock, dramatic recital. 9.45: Instrumental music. 9.50: Mr. Leslie Herford, baritone. 10.0: Mr. Jack Win and Mr. Heath Burdock, humorous interlude. 10.5: Dance music. 10.30: Close down.

2UW

MIDDAY SESSION.

12.30: Music. 1.0: G.P.O. clock and chimes. Music. 2.30: Close down. 4.30: Musical programme.

EVENING SESSION.

5.30: Children's hour, conducted by Uta Jack. 6.30: Close down. 7.0: G.P.O. clock and chimes. Music. 8.0: To-day's anniversary. Music. 8.15: Fill talk by Miss E. Baumberg. 8.30: Musical programme. 9.0: G.P.O. clock and chimes. Comments on foreign affairs, by Mr. J. M. Prentice. 9.10: Music and request numbers. 10.0: Close down.



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«\$10 in our Australian Money»

S EVEN or eight months ago we made an important announcement. The Radio Corporation of America had achieved an all-electric 6-valve Receiver at a price less than half the cost of their previous A.C. operated set. The response was immediate. Literally hundreds purchased within the first few weeks.

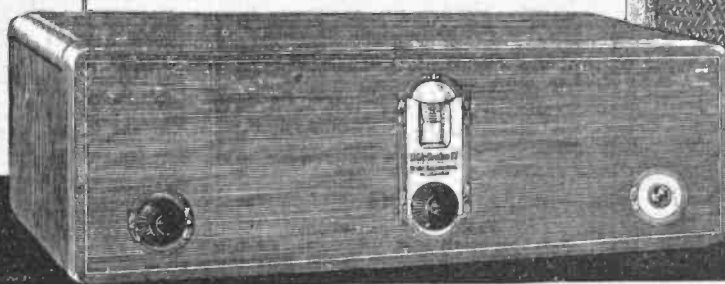
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Complete with
Model 100a Loudspeaker
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Australian General

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Electric Company, Ltd

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ALBURY,
611 Dean Street.

Interstate Programmes, Tuesday, March 5

3LO

EARLY MORNING SESSION.
7.15 to 8.15: See Friday.

MORNING SESSION.

10.50: Eric Welch will speak on to-day's V.R.C. races at Flemington. 11.0: 3LO's Different Dainties for the Daily Dinner. To-day's Radio Recipe: Cheese Biscuits. 11.5: Miss E. Noble will speak on "Gas Cooking." 11.20: Mrs. Dorothy Silk will speak on "Homecrafts." 11.35: Miss Doreen Berry will speak on "Women of Other Countries." 11.50: Description of cricket match, England v. Victoria, at M.C.C. by Rod J. McGregor. 12.35: Description of "Hopful Races, five furlongs, V.R.C. races at Flemington, by Eric Welch. 1.5: Further description of cricket match, England v. Victoria, at M.C.C. 1.15: Stock Exchange information. 1.30: Information on Metal prices received by the Australian Mines and Metals Association from the London Stock Exchange this day. British Official Wireless news from Rugby. Reuters' and the Australian Press Association cables. "Argus" news service; meteorological information; weather forecast for Victoria, New South Wales, South Australia, and Tasmania; ocean forecasts; river reports; rainfall. 1.38: Description of Elms Handicap, one mile, V.R.C. races at Flemington. 1.45: Close down.

AFTERNOON SESSION.

Announcer: John Stuart. Accompanist: Mabel Nelson. 2.0: Description of cricket match, England v. Victoria, at M.C.C. by Rod J. McGregor. 2.15: Description of March Steeplechase, two miles and half-furlong, V.R.C. races, at Flemington. 2.45: Description of cricket match, England v. Victoria, at M.C.C. continued. 3.23: Description of Australian Cup, 2½ miles, V.R.C. races, at Flemington. 3.35: Description of cricket match, England v. Victoria, at M.C.C. continued. 4.0: Hugh Huxham's Serenade Quartet. The Quartet, "Down in Monkeyville." Edith Craxham, soprano, and Rose, piano interlude, Mabel Nelson. "The Jubilee." The Quartet, Renn Miller, bass. "The Lowland Sea." The Quartet, "Starlight and Lovelight." 4.18: Description of March Nursery, one mile, V.R.C. races at Flemington. 4.23: Description of cricket match continued. 4.45: Special weather report for the benefit of listeners in the Empire. 4.55: Description of cricket match continued. 4.58: Description of Bourke Handicap, one mile, V.R.C. races at Flemington. 5.5: News service. Stock Exchange information; meteorological information; weather forecast for Victoria, New South Wales, South Australia, and Tasmania; ocean forecasts; river reports; rainfall. During the afternoon progress scores in the Sheffield Shield cricket match, N.S.W. v. South Australia, at Sydney, will be broadcast as they come to hand. 5.10: Description of cricket match resumed. 6.0: Stumps scores.

EVENING SESSION.

6.5: Answers to letters and birthday greetings by "Bobby Bluegum." 6.30: Musical interlude. 6.35: "Little Miss Kookaburra" has some more about Nellie and Billie. The program is a very marvellous leadership. Causes Oint. Blunderbuss to work on Bluebeard's repentant feelings by means of the Stool of Repentance. Nellie, instructed by the Queen of Dreams, awakens the Prince from the sleep of Magic. 6.50: "Bobby Bluegum" stories.

NIGHT SESSION.

Announcer: Renn Miller. Accompanist: Agnes Fortune. 7.5: Stock Exchange information. 7.45: Market reports. 7.50: News session; stumps scores cricket match, England v. Victoria, at M.C.C. 7.40: Birthday greetings. 7.43: Out of the Past. 7.44: Under the auspices of the University of Melbourne Extension Board, Wm. O. Groves, B.D., Ed., will speak on "Children's Reading." 7.59: A Maker of History. 8.0: Brunswick City Band—Nautical Fantasies. (Round). 8.10: Bernard Manning, bass-baritone. "The Sailor's Grave" (Sullivan). "The Admiral's Yarn" (Rubens). 8.17: Brunswick City Band—"On the Quarter Deck" (Alford). 8.22: "The Sons of the Sea" (Shenandoah). Soloist, "Main Hatch." "Sally Brown," soloist, "Square the Mainyard." "Amsterdam" soloist, "Light the Binnacle." 8.22: Captain Gerald Dooley, baritone, selected. 8.42: Captain Gerald Dooley, baritone, selected. 8.49: Brunswick City Band—Waltz, "Britannia." 8.58: "The Sons of the Sea." "Away, Hall Away." Soloist, "Lee and Grace." "The Liverpool." Soloist, "Pump Bolt." "The Plains of Mexico." Soloist, "Rope Yarn." 9.5: Graham Burgh and Don Forbes, duet. "The Fisherman." 9.13: Brunswick City Band—Selection, "Echoes of the Ocean" (Greenwood). 9.20: "The Sons of the Sea." "The Castanet." Soloist, "Swing Madama." "Be Grande." "Foot Rope." "The Banks of Sacramento." Soloist, "Top Sheet." "Time for Us to Leave Her." All hands and the cook. 9.30: Donald Mackintosh. "The Gun for Vinty." 9.32: Spencer Ward and Gertrude Long, Just a Piano and Us. 9.57: Brunswick City Band—"Recollections of Carl Rosa." 10.14: Captain Gerald Dooley, baritone. The Quartet, "Indian Moon." Madoline Knight, contralto, "I did not know." The Quartet, "That Stolen Melody." Hugh and Edith Huxham, duet, "After All." The Quartet, "Spring's Awakening." News session. 10.32: Syd. Hollister, comedian—"Yours Cheerily." 10.42: Brunswick City Band—Fantasia, "The Maid of Orleans." "The Radio Revelers—"The Dance of the Blue Danube" (Fisher). "It Goes Like This" (Caesars). "Roses of Yesterday" (Berlin). "Forever Yours" (Rubens). "New Year." "That's My Weakness Now" (Steph). "Get Out and Get Under the Moon" (Tobias). "In a Bamboo Garden" (Donaldson). Anything You Say. Donaldson. "Good Night, Good Night." News. 11.30: God Save the King.

3AR

Announcer: Maurice Dudley. 10.0: G.P.O. clock 10.1: "Age" market reports, farm and station produce, fruit, fish, vegetables, etc. 10.25: "Age" shipping reports, ocean forecast. 10.30: Mail notices. Express train information. 10.35: "Age" news service, exclusive to 3AR. 10.55: Weather-forecast.

MORNING MUSICAL SESSION.

11.0: The Radio Revelers (conductor, Ernie Talli): "Without You, Sweetheart" (Hilbert). "Dream Kisses" (Zyellen). "Lena" (Gilbert). "Billie Creeper" (Wade). 11.20: "The Glory of the Garden." 11.21: Beautiful ballads. 11.27: The Radio Revelers: "Little Log Cabin of Dreams" (Hanley). "Happy Go Lucky Lane" (Lewis). "All Day Long" (Cross). "Don't Keep Me in the Dark, Bright Eyes" (Bryan). 11.47: Beautiful ballads. 11.55: The Radio Revelers: "Down (Gowen)." "The Silent Night" (Rachmaninoff). 12.5: The Imperial Russian Trio (Arved Norit violon. Ivan Berzinsky cello, and Vassili Ister piano): "Trio in E Flat Major" (Borovik). 12.5: A. G. Mio, Allegro con brio. Spanish Dancer (Moszkowsky). 3.1: Syd Hollister, comedian: "The Quip Modest." 3.26: The Station Orchestra: Selection, "Tell Me More" (Cervini). 3.36: Marcelle Bernardi, soprano: "Las Helas del Zebedero" (Chapli). "Darling" (Lehman). 3.43: The Station Orchestra: "Woodland Pictures" (Fletcher). 4.0: Announcements. 4.3: Bernard Manning, bass-baritone: "Wanderer" (E. Tannhauser (Wagner)). "Selected." 5.52: The Imperial Russian Trio (Arved Norit violon. Ivan Berzinsky cello, and Vassili Ister piano): "Concert Etude." "The Little Melody" (A. Glazounov). Trio: "Andante" (Beethoven-Kreisler). "Serenade" (Haydn). "The Woodnymph" (Lind). "Soloists: 9.22: The Station Orchestra: "Der Baurein Schelm" (Dvorak). 4.37: Ward and Long, piano and just us. 4.44: Announcements. 4.48: The Station Orchestra: "At the Brook" (Boiseldre). "Serenade" (Frydberg). 8.2: Close down.

Announcer: Maurice Dudley. Accompanist: Agnes Fortune. 2.15: The Station Orchestra: Overture, "Morning, Noon, and Night" (Suppe), "La voix des Cloches" (Luigini). 2.30: Marcelle Bernardi, soprano: "Al and Carnival of Venice" (Mozart). 1 and 2 (Benedict). 2.37: The Station Orchestra: "Syncope Pieces" (Coates). 2.47: Bernard Manning, bass-baritone: "The Silent Night" (Rachmaninoff). 2.54: The Imperial Russian Trio (Arved Norit violon. Ivan Berzinsky cello, and Vassili Ister piano): "Trio in E Flat Major" (Borovik). 3.1: Syd Hollister, comedian: "The Quip Modest." 3.26: The Station Orchestra: Selection, "Tell Me More" (Cervini). 3.36: Marcelle Bernardi, soprano: "Las Helas del Zebedero" (Chapli). "Darling" (Lehman). 3.43: The Station Orchestra: "Woodland Pictures" (Fletcher). 4.0: Announcements. 4.3: Bernard Manning, bass-baritone: "Wanderer" (E. Tannhauser (Wagner)). "Selected." 5.52: The Imperial Russian Trio (Arved Norit violon. Ivan Berzinsky cello, and Vassili Ister piano): "Concert Etude." "The Little Melody" (A. Glazounov). Trio: "Andante" (Beethoven-Kreisler). "Serenade" (Haydn). "The Woodnymph" (Lind). "Soloists: 9.22: The Station Orchestra: "Der Baurein Schelm" (Dvorak). 4.37: Ward and Long, piano and just us. 4.44: Announcements. 4.48: The Station Orchestra: "At the Brook" (Boiseldre). "Serenade" (Frydberg). 8.2: Close down.

EVENING SESSION.

Announcer: Frank Hatherley. 6.0: Gramophone records. 7.10: News announcements, results of cricket, England v. Victoria. 7.20: Gramophone recital continued.

NIGHT SESSION.

Announcer: Frank Hatherley. Accompanist: Reg Browne. 6.0: Under the auspices of the Royal Automobile Club of Victoria. 6.15: A. G. Mio, Kelson of the 3AR Stamp Club, will speak on "Postage Stamps." 8.30: The Station Orchestra: Overture, "Loronz" (Beethoven). "Romance" (Tschalkowsky). 8.45: Milton Chick, baritone: "The Song of the Tannhauser (Wagner)." "Selected." 8.52: The Imperial Russian Trio (Arved Norit violon. Ivan Berzinsky cello, and Vassili Ister piano): "Concert Etude." "The Little Melody" (A. Glazounov). Trio: "Andante" (Beethoven-Kreisler). "Serenade" (Haydn). "The Woodnymph" (Lind). "Soloists: 9.22: The Station Orchestra: "Der Baurein Schelm" (Dvorak). 4.37: Ward and Long, piano and just us. 4.44: Announcements. 4.48: The Station Orchestra: "At the Brook" (Boiseldre). "Serenade" (Frydberg). 8.2: Close down.

4QC

EARLY MORNING SESSION.

7.43: Time signals. 7.45: News service. 8.0: Some electric records. 8.15: News service. 8.50: Close down.

MORNING SESSION.

11.0: Music. 11.5: Social news. 11.55: Talk on "Home Crafts." 12.15: News. 11.30: Reg Jones. 11.35: More social news. 11.45: Music. 12.0 (noon): Close down.

MIDDAY SESSION.

1.0: Market reports and news information. 1.30: Wuriltzer organ. 2.0: Close down.

AFTERNOON SESSION.

3.0: A program of music. 3.15: Electric reproduced records. 3.30: Made train running times. 4.15: This afternoon's news. 4.30: Close down.

EARLY EVENING SESSION.

6.0: Mail train running times. Information, shipping news. 6.5: A law talk—"The Nature of an Enforceable Action," by a Barrister-at-Law. 6.25: Commercial announcements. 6.30: Bedtime stories conducted by "The Best of 7." News in brief. 7.4: Stock Exchange news. 7.6: Metal quotations. 7.7: Market reports. 7.25: Fenwick's stock report. 7.40: Weather information. 7.40: Announcements. 7.43: Standard time signals. 7.45: Lecture: "Poultry talk by Mr. J. M. Lachlan (Assistant Poultry Instructor).

NIGHT SESSION.

Par ti—Two comedies. 8.0: From the Stage—"The Baggage." Cast: Mr. Montgomery, senior, Geoff Barry; Mrs. Brian Montgomery, Jean Tracy; "Out for the Holidays." Cast: Mr. Chugwater, Barry Barry; Mrs. Chugwater, Mrs. Tracy. 8.30: Musical programme. 8.35: From the Studio: The Studio Instrumental Quartette (conductor, Fred O. Stoddard) instrumental Quartette: Selected. 9.10: Mrs. A. F. Stoddard and Daisy McDowell: Vocal duet, "I Had a Voice" (Glover). 9.15: J. E. Bates (baritone): "Birds in the Nest" (Choveaux). 9.20: Couso (xylophonist): "Marianne" (The Ivories" (Herzer). 9.25: Betty Chambers (soprano): "A Red Rosebud" (Murray-Gibbs). 9.30: The Studio Instrumental Quartette: Selection, "The Rainbow Girl" (Hirsch). 9.35: J. E. Bates (baritone): "Shearing Song" (Wood). 9.45: Couso (xylophonist): "Just a Memory" (Herderson). 9.50: The Studio Instrumental Quartette: Ten minutes of popular numbers. 10.0: The "Birds" Club report on year's work of the club. Weekly news for distant listeners; weather news. Close down.

5CL

EVENING SESSION.

6.0: G.P.O. chimel. 6.1: Children's Happy Moments—birthday greetings, correspondence songs and stories by "The Watlie Lady." 6.30: Capt. Douglas Maclean will give a vivid description of how he was captured by the Japanese. 6.40: G.P.O. chimel. 6.55: Flemington race results. 7.2: G.P.O. chimel. 7.3: C. Ward and Co.'s Stock Exchange information. 7.8: General market report. 7.10: "The Daily Produce" A. E. Wandford and Co., produce and poultry; A. E. Hall and Co., dairy produce; poultry; Dalgety and Co., wool and grain; Reardon Smith and Co., wool and grain; South Australia at Sydney; international cricket scores, England v. Victoria. 7.15: Melbourne report on the progress of day's matches by Mr. C. H. Hartley, secretary and organiser, Country Carnival Cricket Association. 7.20: 5CL's sporting service, by "Gus" (Miss Laurie). "Lead will talk on "The Art of Dancing." 7.35: Dr. Herbert Bascall, another interesting Australian talk. 7.55: 5CL "Birds" Club report on year's work of the club by "The Bird Lady" (Mrs. L. Sowton).

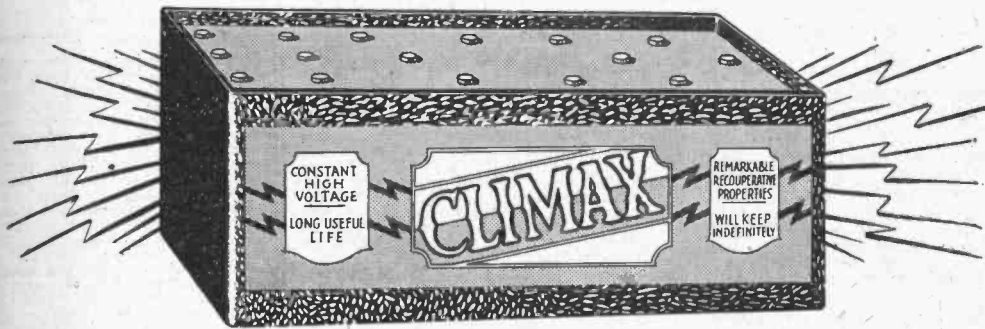
7ZL

EVENING SESSION.

7.30: W. E. Fuller will speak on "Literary Laps and Library Lists." 7.45: J. H. Coombs, G.P.O. chimel. "Tasmanian Art." 8.0: G.P.O. chimel. 8.15: Musical selections. 8.15: A dance programme by Reg. Jones and his Orchestra and Moseley Sonora. Return Jones and his Orchestra. "Mexican Serenade." "Lonesome in the Moonlight" (Baer). "You're a Real Sweetheart" (Baer). 8.20: J. H. Coombs, G.P.O. chimel. "The Little Melody" (Wood). "That's My Mammy" (Perse). 8.25: Reg Jones and his Orchestra, "Painting Pretty Pictures" (The Kinkajou). "Birds in the Nest" (The Ivories). 8.35: Moseley Sonora and his Orchestra. "The Sons of the Sea" (Wreath of Heaven) (Heagney). "Dreamy Old Days" (Clarke). 8.45: Reg. Jones and his Orchestra, "The Moon" (Tobias). "That's My Weakness Now" (Steph). 8.54: Walter McNally, baritone, "The Irishman" "Come to the Fair." 9.1: Reg. Jones and his Orchestra, "High upon the Hill top." "My Black and Blue Now." "Jeannine, I Dream of Liat Tui." 9.10: Alex Whitson, baritone, "The Adorable Occast" (Hayes). "When Love Comes Stealing" (Rappaport). "Return Jones and his Orchestra, "Rain, Rain, Chiquita" (Wayne). "My Angel" (Gilbert). 9.25: Milton Hayes, monologue, "Meadowlands of 2222." 9.30: Moseley Sonora and his Orchestra, "Golden Gate." "Last Night I Dreamed You Kissed Me." "When You Played on Strings" (Singer). 9.40: Moseley Sonora and his Orchestra, "Sunshine" (de Sylva). 9.45: News session. Close down.

6WF

12.30: Tune-in. 12.35: Markets, news, etc. 12.50: Time signal. 1.1: Weather bulletin, supplied by the Meteorological Bureau of Western Australia. 1.5: Musical selections by the studio trio. 2.0: Close down. 2.30: Tune-in. 2.35: Musical programme from the studio, including pianoforte solos by Audrey Dean. 3.40: Close down. 5.45: Tune-in. 5.48: Bedtime stories for the kiddies, by Daisy Mackintosh. 6.0: Tune-in. 6.25: Musical programme. 7.30: Commercial and general information. 7.45: Talk by Mr. J. P. Bathgate. 8.0: Time signal. 8.1: Weather bulletin, supplied by the Meteorological Bureau of Western Australia. 8.2: Musical programme, conducted by Mr. W. Wilkins. 8.45: Station news items, by courtesy of the "Daily News." 9.0: Tune-in. 9.15: Musical programme. 9.30: Tune-in. 9.35: Programme continued from the studio. 10.30: Close down. 10.4: 5 Metre Transmissions. Standard time signal. 10.45: Lecture: "Poultry programme given on broadcast metres, commencing at 10 p.m."



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Local Programmes, Wednesday, March 6

2FC

EARLY MORNING SESSION

Announcer: A. S. Cochrane.

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

MORNING SESSION

Announcer: A. S. Cochrane.

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

MIDDAY SESSION

Announcers: A. S. Cochrane and Eric Bessmer.

11.30: From the Sydney Cricket Ground, description and progress scores of the match, South Australia v. New South Wales. 1.15: From the studio, Stock Exchange. 1.18: Rugby wireless news. 1.22: Weather intelligence. 1.24: "Evening News" midday news service; Producers' Distributing Society's report. 1.40: Studio music. 2.0: "Big Ben"; close down. Note: Race results from Victoria Park.

AFTERNOON SESSION

Announcer: Laurence Halbert.
Accompanist: Ewart Chapple.

2.30: Programme announcements. 2.32: Musical session. 2.45: A talk by Rev. T. A. Waish, S.J. 3.0: "Big Ben"; studio music. 3.10: Dorothy Benbow, contralto. 3.18: Popular music. 3.30: Dorothy Benbow, contralto. 3.38: Studio music. 3.45: A reading. 4.15: From the Sydney Cricket Ground, description of the match, South Australia v. New South Wales. Note: Description of the match, South Australia v. N.S.W. will be carried on through 2BL from 5.40 until stumps drawn.

EARLY EVENING SESSION

Announcer: A. S. Cochrane.

5.40: From the studio, the chimes of 2FC. 5.45: The children's session, conducted by the "Hello Man," assisted by Uncle Ted and Sandy; letters and stories; music and entertainment. 6.30: A chat about the Cheer-up Society, by Uncle Frank. 6.35: Dalgety's market reports (wool, wheat, and stock). 6.40: Fruit and vegetable markets. 6.43: Stock Exchange information. 6.45: Weather and shipping news. 6.48: Rugby wireless news. 6.50: Late sporting news. 7.0: "Big Ben"; late news service. 7.10: The 2FC Dinner Quartette, conducted by Horace Keats—(a) "The Voice of Spring" (Strauss); (b) "Prelude in G Minor" (Rach-

manoff); (c) "In a Persian Garden" (Lehmann); (d) "Prelude and Siciliana" (Mascagni); (e) "High up on a Hill-top" (Whiting).

EVENING SESSION

Announcer Laurence Halbert.
Accompanist: Ewart Chapple.

7.40: Studio Music.

Programme announcements.

7.45: Cricket impressions by M. A. Noble. 8.0: Browning Mummery, Australian tenor, will make the final appearance of his broadcasting series with this company prior to his departure abroad.

8.10: Classical programme arranged by Vern Barnett.

9.0: "Big Ben"; weather forecast. A talk by Francis Jackson.

9.12: Browning Mummery, Australian tenor. 9.22: Part II. of the classical programme arranged by Vern Barnett.

10.30: National Anthem; close.

2BL

MORNING SESSION.

Announcer: A. C. C. Stevens.

8 a.m.: G.P.O. chimes Metropolitan weather report. 8.1: State weather report. 8.2: Studio music. 8.15: G.P.O. chimes News from the "Daily Telegraph Pictorial." 8.30: G.P.O. chimes. News service continued. 8.40: Information, mails, shipping, arrivals, departures, and sailings. 8.45: Studio music. 9.15: Half an hour with silent friends. 9.45: Studio music. 10.0: G.P.O. chimes. Close down.

MIDDAY AND AFTERNOON SESSIONS.

Announcer: A. C. C. Stevens.

11.0: G.P.O. chimes 2BL Women's Sports Association session, conducted by Miss Gwen Varley. 11.30: Advertising hints. 11.40: Women's session, conducted by Mrs. Cranfield. 12.0: G.P.O. chimes. Special ocean forecast and weather report. 12.3: Pianoforte reproduction. 12.30: Shipping and mails. 12.35: Market reports. 12.48: "Sun" midday news service. 1.0: Studio music. 1.30: Talk to children and special entertainment for children in hospital. 2.0: G.P.O. chimes. Note:—Race results from Victoria Park will be broadcast, by courtesy of the "Sun" newspapers. From the Sydney Cricket Ground, description of the cricket match, South Australia v. New South Wales. 4.0: From the studio, programme announcements. 4.2: Popular music. 4.10: Florence Croft, soprano—(a) "The Flutes of Arcady" (James), (b) "Happy Song" (Del Riego). 4.18: Studio music. 4.25: A talk by Basil Kirke. "The Home of the Kentia Palm." 4.40: Studio music. 4.50: Florence Croft, soprano—(a) "Robin, Robin, Sing Me a Song" (Spross), (b) "The Market" (Carew). 4.58: Studio music. 5.10: "Sun" news service. 5.15: Studio music. 5.20: Racing resume. 5.25: Studio music. 5.37: Features of the evening's programme.

EARLY EVENING SESSION.

Announcer: Basil Kirke.

5.40: From the Sydney Cricket Ground, de-

scription and progress scores of the match, South Australia v. New South Wales. 6.0: From the studio, children's session. Music and entertainment. Letters and stories. 6.30: "Sun" news and late sporting. 6.40: 2BL Dinner Quartette—(a) "Poupee Valse" (Poldini), (b) "Valse Lente" (Levater) (c) "Primrose" (Gershwin), (d) "Spring Song" (Mendelssohn), (e) "Waiting" (Ancliffe), (f) "A Summer's Morn" (Haines). 7.7: Australian Mercantile Land and Finance Co. report. Weather report and forecast. Courtesy of Govt. Meteorologist. Producers' Distributing Society's fruit and vegetable market report. Grain and fodder report. "Sun" Dairy produce report ("Sun" 7.25 Mr. Pam and Miss Pam on advertising talks and nonsense. 7.55: Programme and other announcements.

EVENING SESSION.

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

8.0: G.P.O. chimes. From the Victoria Theatre, Kogarah, items by the orchestra. Leslie Harvey at the Christie organ.

8.20: From the studio, David Craven, baritone.

8.28: "Archie airs his views."

8.33: Millie Hughes, soprano—

(a) "Love Song" (Brahms).

(b) "Liebestreu" (Brahms).

(c) "Lullaby" (Brahms).

8.40: Graham and Manning, entertainers—

(a) "When I Met You for the First Time" (Foley), duet.

(b) "A Suburban Romance" (Longstaffe), duet.

8.50: Talk in connection with "Be Kind to Animals Week." G.P.O. chimes. From Victoria Theatre, Kogarah, items by the orchestra. Leslie Harvey at the Christie organ.

9.20: From the studio, David Craven, baritone.

9.28: Talk on "General Sporting," by Claude Corbett.

9.43: Millie Hughes, soprano—

(a) "A Feast of Lanterns" (Bantock).

(b) "Illusion" (Greville).

(c) "Adrift" (Bantock).

9.50: Graham and Manning, entertainers—

(a) "Subjects" (Wood), Harry Graham; (b) "Little Miss Simplicity" (Rose), Miss Dorothy Manning; (c) "Bye and Bye" (Hay), duet.

10.0: From the Victoria Theatre, Kogarah, items by the orchestra. Leslie Harvey at the Christie organ.

10.15: From the studio, late weather report.

10.18: The Savoyans' Dance Band.

10.30: Announcements.

10.32: The Savoyans' Dance Band.

10.58: Resume of following day's programme.

11.0: The Savoyans' Dance Band.

11.3: National Anthem. Close down.

2GB

10.0: Music. 10.10: Happiness talk by A. E. Bennett. 10.20: Music. 10.30: Women's session by Miss Helen J. Beagling. 11.30: Close down. 2.0: Music. 2.5: Women's radio service, by Mrs. Dorothy Jordan. 2.50: Music. 3.0: Labor-saving demonstrations from Nook and Kirby. 4.0: Close down. 5.30: Children's session by Uncle George. 7.0: Stock and market reports by N.Z. Loan and Mercantile Agency, Ltd. 7.15: Music. 7.30: Feature story. 7.40: Short talk, by Miss Beagling. 8.0: Mr. Mario Gustavo, baritone. 8.10: Mr. Leonard Brewer, violinist. 8.20: Miss Gladys Edwards, soprano. 8.30: Mr. Jack Win and Miss Nora Windie. 8.40: Instrumental music. 8.50: Mr. Cecil Houghton, tenor. 9.0: Weather report. 9.3: Advertisement. 9.15: Mr. Mario Gustavo, baritone. 9.25: Mr. Leonard Brewer, violinist. 9.35: Miss Gladys Edwards, soprano. 9.45: Mr. and Mrs. Windie, humorous sketch. 9.55: Mr. Cecil Houghton, tenor. 10.0: Dance music. 10.30: Close down.

2UW

EVENING SESSION.

5.30: Children's hour, conducted by Uncle Jack. 6.30: Close down. 7.0: G.P.O. clock and chimes. Music. 8.0: To-day's anniversary. Music. 9.0: G.P.O. clock and chimes. Comments on foreign affairs, by Mr. J. M. Practice. 9.10: Music and request numbers, 10.4. Close down.

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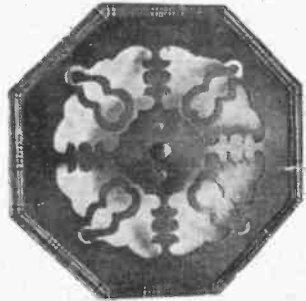
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Interstate Programmes, Wednesday, March 6

3LO

EARLY MORNING SESSION.

7.15 to 8.15: See Friday.

MORNING SESSION.

11.0: 3LO's Different Dainties for the Daily Dinner. To-day's Radio Recipe: "Coley." 11.5: Mrs. Henrietta C. Walker will speak on "The Art of Being a Settler—the Country Exchange." 11.20: Mrs. M. Callaway Mahood will speak on "Color in Decoration." 11.35: Mrs. Clarence Weber, physical culture expert, will speak on "Physical Culture for Women." "Slimming that is Healthy." 11.50: Description of cricket match, England v. Victoria, at M.C.C., by Rod McGregor. 1.30: Speeches from the Rotary Club luncheon, transmitted from the Freemasons' Hall, Collins Street, Melbourne.

AFTERNOON SESSION.

Announcer: John Stuart. Accompanist: Agnes Fortune. 2.13: Description of Moorabool Hurdle Race, 2 miles, Geelong Racing Club's Gold Cup Meeting, by Eric Welch. 2.30: The Station Orchestra—Overture. "Morning, Noon, and Night" (Suppe). 2.40: Bernard Manning, bass-baritone—"O, Pure and Tender Star of Eve" (Wagner), "Passing By" (Purcell). 2.47: The Station Orchestra—Terngala. (Terenghi). 2.43: Description of Novice Handicap, five furlongs, Geelong Racing Club's Gold Cup Meeting. 2.50: The Imperial Russian Trio—Friede Nordt, violin; Eric Berzinsky, cello; Vassili Hater, piano. Arved Nordt, violin, "Indian Lament" (Dvorak-Kreisler). The Trio—"Trio in G Major." Cecile Nordt, piano. Allegro Moderato. 3.13: Description of Newcastle Plate, six furlongs, Geelong Racing Club's Gold Cup Meeting. 3.20: The Station Orchestra—"Woodland Pictures" (Richard Wagner). "Berceuse" (Arensky), soprano—"Songs My Mother Taught Me" (Dvorak). "The Rose Envelopes the Nightingale" (Korsakoff). 3.31: Dorothy Richardson, violin—"Berceuse" (Arensky). 3.42: Description of Geelong Racing Club's Gold Cup Race, 1 mile 2 furlongs 182 yards. 3.50: The Station Orchestra—Selection. "Chimène" (Gershwin). 3.58: Wagon and Locomotive. The Station Orchestra—"Serenade and Pierrette" (Tapinade). 4.10: Syd Hollister, comedian—"Bits of Brightness." 4.17: Description of Victoria Handicap, five furlongs, Geelong Racing Club's Gold Cup Meeting. 4.25: Hugh Huxham's Serenade, Quartet. The Quartet, "Nothing to Do But Love." Rena Mann, bass, "Songs of Childhood." Orchestral Interlude. "The Quaker." "Land of Romance," "Games," humorous item. Orchestral Interlude. The Quartet, "Companions." 4.48: Special weather forecast for the benefit of listeners in the Redcliffe district. 4.45: The Station Orchestra—Selection—"The Firefly." 5.0: "Herald" news service. Stock Exchange Information. During the afternoon progress scores of the cricket match, N.S.W. v. S.A., at Sydney, will be broadcast as they come to hand.

EVENING SESSION.

8.0: Answers to letters and birthday greetings by "John the Piper's Son." 6.25: Musical Interlude. 6.30: "John the Piper's Son" will entertain the children.

NIGHT SESSION.

7.15: Stock Exchange Information. 7.15: Market reports. 7.30: News session. Stumps scores cricket match, N.S.W. v. South Australia, Sydney. 7.43: Birthday greetings. 7.45: Out of the past. 7.46: Under the auspices of the Department of Agriculture, R. Crowe will speak on "Marketing Methods." 8.0: A Maker of History. 8.1: The Station Orchestra—Overture, "Leonore" (Beethoven). 8.10: Bernard Manning, bass-baritone—"Smile of Sister Kind" (Gounod), "Vulcan's Song" (Gounod). 8.17: Joseph Barrile, fute—"Valse Pathétique" (de Lorenza). 8.22: Marcelle Berard, soprano—"Chanson Indoue" (Korakoff), "Willalet" (Debussy). 8.28: The Station Orchestra—"Barcarole" (Rubenstein). "Visions" (Tschakowsky). 8.38: Colin Thomson, tenor—"Adeleide" (Beethoven). 8.48: The Imperial Russian Trio—"Trio in D Minor" (Schumann). Cop energia e passione, Vivace ma non troppo. Lento Con fuoco. 9.3: Marcelle Berard, soprano—"Valse" from "Roméo and Juliet" (Gounod), selected. 9.10: The Station Orchestra—"Romance" (Tschakowsky). 9.15: Colin Thomson, tenor—"Silent Night" (Vaughan Williams). 9.16: R. H. Campbell will speak on "The Fifth Text Match." 9.30: Transmission from His Majesty's Theatre, "The Desert Song." News service. Stock Exchange Information. Eric Welch's selections for the V.R.O. races to be run at Flemington to-morrow. 10.50: Ward and Long. 11.1: The Radio Revelers—"That Stolen Melody" (Fisher), "Le-

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hora" (Gilbert), "Japanese Mammy" (Donaldson), "There's a Ricketty Rickety Shack" (Turk), "Just Like a Melody Out of the Sky" (Donaldson) "Beloved" (Kahn), "Because My Baby Don't Mean May be Now" (Donaldson), "The Danes" (Gardner), "Of Sponge Cake" (Castill), "Mexican Serenade," "Nebraska" (Revel). 11.30: God Save the King.

3AR

Announcer: Maurice Dudley. 10.0: G.P.O. clock says Ten. 10.1: A.G. mainly for Army and station produce, fruit, fish, vegetables, etc. 10.25: "Age" shipping reports, ocean forecast. 10.30: Mail notices, express train information. 10.35: "Age" news service, exclusive to 3AR. 10.59: Weather forecast.

MORNING MUSICAL SESSION

11.0: Radio Revelers (conductor, Ernie Hall): "Louisiana" (Schmitt), "Lonely in a Crowd" (Greer), "Parting With You" (Conley), "Selected." 11.20: Beautiful ballads. 11.28: Radio Revelers: "Kiss Before the Dawn" (Perkins), "Angella Mia" (Pappet), "Nebraska" (Sissill), "Forever More" (Blyden). 11.45: Beautiful ballads. 11.56: Radio Revelers: "My Dream, Sweetheart" (Frich), "I'm Gonna Settle Up" (Frich), "Japansy" (Klenner). "Take You to the Movies" (Frich), "I'm Gonna Settle Up" (Frich), "The Best Things in Life are Free" (Henderson), "The Best Things in Life are Free" (Henderson), "Sleepy Baby" (Tierney). "The Kim Klor" (Tierney). 11.45: Beautiful ballads. 11.57: The Glory of the Garden. 11.53: Radio Revelers: "Rio Rita" (Tierney), "I'm Sorry, Bally" (Kahn), "A Little Change of Atmosphere" (Brown), "I Wanna Go Voon, Voon Voon" (Brown). 12.5: Warde and Long, piano and just us. 12.30: British official wireless news, announcements. 12.30: Close down.

AFTERNOON SESSION

Announcer: Maurice Dudley. 3.0: Special gramophone recital: William Murdoch, piano: Sonata, "Pathétique," Op. 13, in C Minor (Beethoven), "The Austria Quartet," soprano—"Ouvre tes yeux bleus" (Massenet), "A Birthday" (Cowen), Trio. Selection. "Lilac Time" (Schubert, arr. Guttman), "Mollin," Gavotte (Liszt), "The King of the Mountains" (Liszt), "The Mads of Cadiz" (Delibes), "Thou't Like a Lovely Flower" (Schumann), Piano, "Rhapsodie No. 5" (Liszt). 4.0: Announcements. Gramophone recital: William Murdoch, piano: Sonata, "Appassionata," Op. 57, in F Minor (Beethoven). 4.30: Close down.

EVENING SESSION

8.0: A Bravoura of beautiful ballads and orchestral music. 11.45: News service, announcements; results of cricket match, England v. Victoria. 7.20: Gramophone recital continued.

NIGHT SESSION

Announcer: Frank Katherley. Accompanist: Mabel Nelson. 8.0: Musical Comedy. First act of "The Desert Song," transmission from His Majesty's Theatre, Melbourne. A new musical play, music by Sigmund Romberg; lyrics by Otto Harbach, Oscar Hammerstein 2nd and Frank Mandell. Produced by George Hyland. Cast: Sid e Kar (The Red Shadow's Lieutenant), Herbert Browne, Minder, Cecil Pawley; Hassi, Colin Crane. Next (first appearance in Australia), Maud Pomeroy Hadji (first appearance in Australia), John Ronald; Benjamin Kidd (first appearance. Society Correspondent, Paris "Daily Mail"); Herbert Moring (The Red Shadow), Lance Fairfax; Capt. Paul Fontaine, Sidney Burchall; Azuri, Stephanie Deste; Lieut. La Vergne, Ronald Pomeroy; Lieut. Du Bassac, Richard Blair; Margot Nonval, first appearance in Australia), Marie Bremner; General Birabeau, Pop Cory; Susan (his ward), Renee Murphy; Edith, Ellen Percival. Synopsis of scenes: Scene 1: Retreat of the Red Shadow in the Riff Mountains—evening. Scene 2: Outside General Birabeau's house—same evening. Scene 3: A room in General Birabeau's house—a few minutes later. Musical number. 9.45: "Prelude and Drinking Song." 2. "Ho," Riding Song of the Riffs—Lance Fairfax, Herbert Browne, and Chorus. 3. "Margot"—Sidney Burchall and Chorus Chorus. 4. "Will be Bravest Girl"—Renee Murphy. 5. Ensemble, (a) "Why did We Marry Soldiers?" (b) "French Marching Song"—Marie Bremner and Chorus Ladies and Gentlemen. 6. "Romance"—Virginia Perry and Chorus Ladies. 7. "Trio" (a) "When You Will Know"—Lance Fairfax and Marie Bremner; (b) "I Want a Kiss"—Sidney Burchall, Marie Bremner, and Lance Fairfax. 8. "The Red Shadow's Song"—Lance Fairfax and Marie Bremner. 10. Finale. 9.30: P. W. Pearce, physical culture expert, will speak on "How to Keep Sleazey A-Go." 9.45: "Prelude and Drinking Song." "Reflections of Carl Rosa" (March, "Good Fellowship." 9.55: Hugh Huxham's Serenades: Quartette, "Cuckoo Clock"; Solo, "Golden Dancing Days." Interlude. "The Coburg City Band Quartette," "In Heriotland"; humorous "A Coster's Outing." Solo by a member of the Coburg City Band, Quartette, "William Tell." 10.15: Coburg City Band Quartette, "The Quigley Love" (Cock); march, "1st Infantry" (Code). 10.25: News service, announcements; results of cricket, England v. Victoria. God Save the King.

4QG

EARLY MORNING SESSION

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

MORNING SESSION

11.0: Music. 11.5: Social news. 11.15: Talk on

"Artistic Uses of Sealing Wax and Grepe Paper," by "Denise." 11.30: Music. 11.35: More social news. 11.45: Wurlitzer organ.

MIDDAY SESSION

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

AFTERNOON SESSION

3.30: Orchestral music by the TIVOL Operatic Orchestra, under the baton of Mr. O. Groves. 3.30: Mail train running times. A programme of electrically-reproduced records. 4.0: Orchestral music. All. Afternoon news. 4.30: Close down.

EARLY EVENING SESSION

6.0: Mail train running times; mail information; shipping news. 6.5: Dinner music. 6.25: Commercial announcements. 6.30: Bedtime stories conducted by "Little Miss Brisbane." 7.0: News in brief. 7.5: Stock Exchange news. 7.6: Metal quotations. 7.7: Market reports. 7.25: Newark's Stock report. 7.30: Weather information. 7.40: Announcements. 7.41: Standard time signals. 7.45: Lecturette arranged by the Queensland Agricultural High School and College.

NIGHT SESSION

8.0: Alf Featherstone and his Dance Orchestra: Rhythmic paraphrase, "Il Trovatore" (arr. Lango); "The Little Blue Bird" (Zamcenik). 8.10: Harry Collins and the Orchestra: "Borodale (clonistat); "The Vicar's Presentation" (Squires), "The Song Shifter's Hamlet" (Anon). 8.20: Alf Featherstone and his Dance Orchestra: Fox-trot, "My Blackbird Are Bluebirds Now" (Friend); fox-trot, "High Up on a Hilltop" (Baer). 8.30: Will H. Lister: A Thought for To-night, "Mistakes." 8.34: Mary McNeish (soprano), "A Brown Bird" (Hargis), "One Fine Day" (from "Madame Butterfly" Puccini). Alf Featherstone and his Dance Orchestra: Fox-trot, "It Goes Like This" (Friend); fox-trot, "In the Woodshed" (Baer). 8.40: "The One Fine Day" Jeanette Smales (soprano); "Love is Meant to Make Us Glad" (German), "Love's Echo" (Newton). 8.0: Movement of lighthouse steamers; metropolitan weather forecast. 9.4: Alf Featherstone and his Orchestra: Jazz waltz, "Mexican Serenade" (Terese). 9.10: Harry Collins and the Orchestra: Ten minutes of popular numbers. 9.20: Alf Featherstone and his Orchestra: Fox-trot, "The One Fine Day" (Hargis), "Meow" (Kaufman). 9.30: Mary L. Spanjer and Mrs. Debnam: Vocal duet, "Sing Me to Sleep" (Greene), "The Rosary" (Newin). 9.40: Alf Featherstone and his Orchestra: Fox-trot, "Tobias"; fox-trot, "So Long" (Miller). 9.50: E. H. Humphreys: In a character impersonation. 10.6: The "Daily Mail" news; the "Courier" news; weather news. Alf Featherstone and his Dance Orchestra. 11.0: Close down.

6WF

12.30: Tune-in. 12.35: Markets, news, etc. 1.0: Time signal. 1.1: Weather bulletin, supplied by the Meteorological Bureau of Western Australia. 1.15: Hygiene talk by Sir Stink Wood. 1.40: One day. 1.25: Music. 1.0: Close down. 3.0: Tune-in. 3.25: Relay from the Carlton Cafe of afternoon tea concert. Vocal items from the studio. 4.30: Close down. 4.40: The Station Orchestra—The kiddies, by Uncle Duffy. 7.5: Light music by the station trio. 7.30: Commercial and general information. 7.45: Talk by Lieut.-Col. le Societ Director, Zoological Gardens. 8.0: Close down. Time signal. 8.1: Weather bulletin, supplied by the Meteorological Bureau of Western Australia. 8.5: Late news items, by courtesy of The Daily News. Newspaper Station announcements. Ships within range announcement. Late weather bulletin. 9.15: Band concert continued. 10.30: Close down. 10.45: Metres Transmission. Simultaneous broadcast on 104.5 metres of programme given on 1250 metres, commencing at 6.45 p.m.

7ZL

MID-DAY SESSION.

11.30 to 1.30: See Friday. 1.30: Transmission from the Imperial Hotel, Collins Street, Hobart. Speeches at the Victoria Jubilee. 1.45: News service. 2.15: Running description of Moorabool Hurdle Handicap, 2 miles—run at Geelong, Victoria. 2.10: Close down. 2.35: Running description of Novice Handicap, 5 furlongs—Geelong. 2.40: Close down.

AFTERNOON SESSION.

3.0: G.P.O. clock chimes the hour. 3.1: Music. 3.4: Midlands weather forecast. 3.8: Running description of Nursery Handicap, 5 furlongs, Geelong. 3.10: Music. 3.35: Running description of Geelong Cup, 2 miles 3 furlongs 122 yards. 3.40: Music. 4.15: Running description of Nursery Handicap, 5 furlongs, Geelong. 4.20: Music. 4.30: Close down. Running description of Barwon Handicap, Geelong. 4.50: Close down.

EARLY EVENING SESSION.

6.10: General news items. 6.11: Music. 6.20: Bertha Southey Brammell will tell a Tasmanian Fairy Tale to the wee folk. 6.40: Little Teddy Richardson will sing to the children. 7.0: Music. 7.5: Answers to letters and birthday. 7.15: News session.

EVENING SESSION.

7.30: Geo. Nation will speak on "Gardening." 7.45: Major Harry B. B. Superintendent of the Hobart Fire Brigade will speak on "Speed." 8.0: G.P.O. clock chimes the hour. 8.5: Recital of instrumental and vocal items by leading Tasmanian artists, specially arranged by Pindley's Music Warehouse. 9.45: News session. 10.0: G.P.O. clock chimes the hour. Close down.

Local Programmes, Thursday, March 7

2FC

EARLY MORNING SESSION

Announcer: A. S. Cochrane.
 10: "Big Ben" and announcements. 7.3: Official weather forecast, rainfall, river reports, temperatures, astronomical memoranda. 7.7: "Sydney Morning Herald" summary. 7.12: Shipping intelligence, mail services. 7.15: Studio music. 7.25: Investment market, mining sharemarkets, metal quotations, wool sales, breadstuffs markets, inter-bank markets, produce markets. 7.40: Studio music. 8.0: "Big Ben." Close.

MORNING SESSION

Announcer: A. S. Cochrane.
 8.15: "Big Ben" and announcements. 10.2: Pianoforte reproduction. 10.10: "Sydney Morning Herald" news service. 10.25: Studio music. 10.30: Last minute sporting information by the 2FC Racing Commissioner. 10.45: Studio music. 11.0: "Big Ben." A.P.A. and Reuter's cable services. 11.5: Close.

MIDDAY SESSION.

Announcers: A. S. Cochrane, Eric Bessemer.
 11.30: From the Sydney Cricket Ground, description and progress scores of the match, South Australia v. New South Wales. 1.15: From the studio, Stock Exchange. 1.18: Daily wireless news. 1.22: Weather Intelligence. 1.24: "Evening News" midday news service. Producers' Distributing Society's report. 1.40: Studio music. 1.50: Last minute sporting information, by the 2FC Racing Commissioner. 2.0: "Big Ben." Close down.

AFTERNOON SESSION.

1 Announcer: Laurence Halbert.
 Accompanist: Ewart Chapple.
 2.30: Programme announcements. 2.32: Recreational session for the schools. A short musical recital. A reading. 3.0: From the Club Home, on the occasion of Visitation Day, speeches in connection with "Be Kind to Animals Week." 4.0: "Big Ben." Studio music. 4.5: Miriam Pope, soprano. 4.15: From the Sydney Cricket Ground, description and progress scores of the match, South Australia v. New South Wales. Note:—Cricket descriptions will be carried on through 2BL service from 5.40 until stumps down.

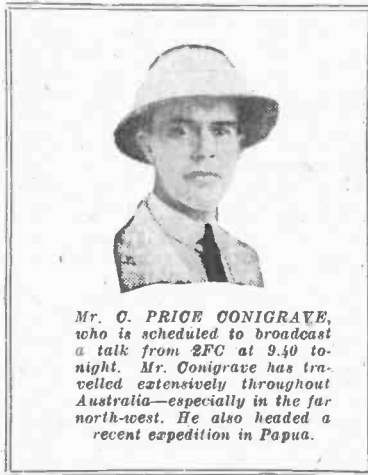
EARLY EVENING SESSION.

Announcer: A. S. Cochrane.
 5.40: From the studio: The chimes of 2FC. 6.4: The children's session, conducted by the "Hello Man." Letters and stories. Music and entertainment. 6.15: J. B. Duff, of the B.S.P.C.A. will give a talk to children in connection with "Be Kind to Animals Week" and a safety first talk. 6.30: Dalgely's night reports (wool, wheat, and stock). 6.40: Fruit and vegetable markets. 6.43: Stock Exchange information. 6.45: Weather and shipping news. 6.48: Rugby wireless news. 6.50: Late sporting news. 7.0: "Big Ben." Late news service. 7.10: The 2FC Dinner Quartet, conducted by Horace Keats—(a) "Emancipate Valse" (Helmshöffer), (b) "Abanico" (Franceschi), (c) "My Inspiration is He" (Nicholls), (d) "Canzonetta" (Herbert), (e) "The Blue Mazurka" (Lehar), (f) "Everybody I Look" (Garew), (g) "Sometimes I'm Blue" (Youmans), (h) "Arabesque" (Tilman).

EVENING SESSION.

Announcer: Laurence Halbert.
 Accompanist: Ewart Chapple.
 7.40: Studio music. Programme announcements.
 7.6: Impressions on the cricket, by M. A. Bennett.
 8.0: "Big Ben." From the Capitol Theatre. Capitol Unit Entertainment.
 8.2: The Mellow Fellows.
 8.3: To-night's competition.
 8.4: Wilfred Thomas, basso.
 8.50: Joan Fry, pianist—(a) "Night Song" (Brahms), (b) "Rhapsody" (Brahms), (c) "Scherzetto" (Brahms).
 9.1: Weather forecast.
 9.11: Talk in connection with "Be Kind to Animals Week," by a member of the B.S.P.C.A.
 9.13: From the Capitol Theatre, stage presentation.
 9.15: Bryson Taylor, tenor.
 9.33: Carlton Fay, novelty pianist.
 9.40: A talk by C. Price Conigrave.
 9.53: The Mellow Fellows.
 10.5: Joan Fry, pianoforte solos—(a) "Noc-

turne" (Chopin). (b) "Two Mazurkas" (Chopin).
 10.16: Rae Foster, in popular songs.
 10.24: From the Hotel Australia, Cec. Morrison's Dance Band.
 10.35: From the studio, late weather forecast. Rae Foster, in popular songs.
 10.44: From the Hotel Australia, Cec. Morrison's Dance Band.
 10.58: To-morrow's programme.
 11.0: From the Hotel Australia, Cec. Morrison's Dance Band.
 11.30: National Anthem. Close.



Mr. O. PRICE CONIGRAVE, who is scheduled to broadcast a talk from 2FC at 9.40 to-night. Mr. Conigrave has travelled extensively throughout Australia—especially in the far north-west. He also headed a recent expedition in Papua.

2BL

MORNING SESSION.

Announcer: A. C. C. Stevens.
 8 a.m.: G.P.O. chimes Metropolitan weather report. 8.1: State weather report. 8.2: Studio music. 8.15: G.P.O. chimes News from the "Daily Telegraph Pictorial." 8.30: G.P.O. chimes. News service continued. 8.40: Information, mails, shipping, arrivals, departures, and sailings. 8.45: Studio music. 9.15: Half an hour with silent friends. 9.45: Studio music. 10.0: G.P.O. chimes. Close down.

MIDDAY AND AFTERNOON SESSIONS.

Announcer: A. C. C. Stevens.
 11.0: G.P.O. chimes 2BL Women's Sports Association session, conducted by Miss Gwen Varley. 11.30: Advertising hints. 11.40: Women's session, conducted by Mrs. Cranfield. 12.0: G.P.O. chimes. Special ocean forecast and weather report. 12.3: Studio music. 12.30: Shipping and mails. 12.35: Market reports. 12.48: "Sun" midday news service. 1.0: Studio music. 1.15: Cricket description. 1.25: Talk to children and special entertainment for children in hospital. 1.45: Cricket description. 1.55: Studio music. 2.0: G.P.O. chimes. From the Sydney Cricket Ground, description of the cricket match, South Australia v. N.S.W. 4.0: From studio, programme announcements. 4.2: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 4.10: From the studio, Phyllis Atkinson, soprano. 4.18: Studio music. 4.25: Laura Fitzgerald, violinist—(a) "Slavonic Dance" (Kreisler), (b) "Romance" (Hickey). 4.33: Studio music. 4.42: Phyllis Atkinson, soprano. 4.50: Popular records. 5.0: Laura Fitzgerald, pianist—(a) "Souvenir" (Drda), (b) "Legende" (Wieniawski). 5.8: Studio music. 5.24: "Sun" news service. 5.28: Studio music. 5.37: Features of the evening's programme.

EARLY EVENING SESSION.

Announcer: Basil Kirke.
 5.40: From the Sydney Cricket Ground, description and progress scores of the match, South Australia v. New South Wales. 6.0: From the studio, children's session. Music and entertainment. Letters and stories. 6.30:

"Sun" news and late sporting. 6.40: 2BL Dinner Quartette—(a) "The Blue Danube" (Strauss), (b) "Praise" (Wood), (c) "Carnival Suite" (Ring), (d) "A Toi" (Ozbulka), (e) "Winds in the Trees" (Thomas), (f) "Moonlight in Rio" (Wertheimer), (g) cantile Land and Finance Co.'s report. "Camel Bells" (Lohr). 7.7: Australian Mer-Weather report and forecast, by courtesy of Govt. Meteorologist. Producers' Distributing Society's fruit and vegetable market report. Grain and fodder report ("Sun"). Dairy produce report ("Sun"). 7.25: Mr. Pim and Miss Pam in advertising talks and nonsense. 7.55: Programme and other announcements.

EVENING SESSION.

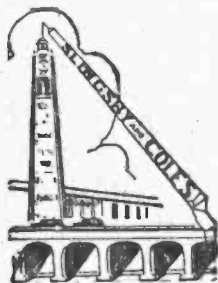
Announcer: Basil Kirke.
 Accompanist: G. Vern Barnett.
 8.0: G.P.O. chimes. The North Sydney Tramway Band.
 8.15: Amy Firth, mezzo-soprano—(a) "Four Songs of a Welsh Village" (Drummond). 1. Three Hundred Miles from London. 2. Fairy Wood. 3. Garden of Memories. 4. The Sweet Shop.
 8.23: "Archie airs his views."
 8.28: North Sydney Tramway Band.
 8.43: Debate by the Sydney School of Arts Debating Society. Subject: "That a lottery similar to Tattersal's or the Golden Casket is the solution of the problem of hospital finance in New South Wales."
 9.13: Moore Macmahon, violinist—"Adagio and Presto for Violin Alone" (Bach).
 9.20: Leo Roman, tenor—(a) "Star Vclino" (Rosa). (b) "Yearning" (Coates).
 9.27: North Sydney Tramway Band.
 9.42: Amy Firth, mezzo-soprano—(a) "Hindoo Song" (Bemberg). (b) "Venetian Song" (Tosti).
 9.50: Moore Macmahon, violinist—(a) "Humoreske" (Dvorak-Kreisler). (b) "Hungarian Dance" (Brahms). (c) "Slavonic Dance" (Dvorak-Kreisler).
 9.57: Leo Roman, tenor—(a) "Dream Tryst" (Cadman). (b) "See, Love, I Bring Thee Flowers" (Lambert).
 10.4: North Sydney Tramway Band.
 10.28: Resume of following day's programme.
 10.30: National Anthem. Close down.
 10.20: Celebrity records.

2GB

10.0: Music. 10.10: Happiness talk by A. E. Bennett. 10.20: Music. 10.30: Women's session, by Miss Helen J. Becling. 11.30: Close down. 2.0: Music. 2.5: Women's radio service, by Mrs. Dorothy Jordan. 2.50: Music. 3.30: Cookery demonstration, from Mark Poy's. 4.30: Close down. 5.30: Children's session, by Uncle George. 7.0: Stock and market reports by N.Z. Loan and Mercantile Agency, Ltd. 7.15: Music 7.30: Feature story. 7.40: Talk by Mrs. Jordan. 8.0: Mr. Victor Earle, baritone. 8.10: Mr. Gregory Valentine, violinist. 8.20: Mr. Jack Win and Mr. Heath Surdock, humorous interlude. 8.25: Miss Gwen Sciva, soprano. 8.45: Instrumental music. 8.50: Madame Bennett North, contralto. 9.0: Weather report. 9.3: Address. 9.15: Mr. Victor Earle, baritone. 9.25: Mr. Gregory Valentine, violinist. 9.35: Mr. Jack Win and Mr. Heath Surdock, humorous interlude. 9.4: Instrumental music. 9.50: Madame Bennett North, contralto. 10.0: Miss Ada Enoch, pianist. 10.10: Dance music. 10.30: Close down.

2UW

MIDDAY SESSION.
 12.30: Music. 1.0: G.P.O. clock and chimes. Music. 2.30: Close down. 4.30: Musical programme.
 EVENING SESSION.
 5.30: Children's hour, conducted by Uncle Jack. 6.30: Close down. 7.0: G.P.O. clock and chimes. Music. 8.0: To-day's anniversary. Music 8.15: Gardening talk, by Mr. S. H. Hunt. 8.30: Music. 9.0: G.P.O. clock and chimes. Comments on foreign affairs, by Mr. J. M. Prentice. 9.10: Music and request numbers. 10.0: Close down.



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Interstate Programmes, Thurs., Mar. 7

3LO

MORNING SESSION.
10.50: Eric Welch will speak on to-day's V.R.C. Races at Flemington. 11.0: 3LO's Different Dainties for the Daily Dinner. To-day's Radio Recipes. Substitute for Aspic Jelly. 11.5: W. J. G. Turner, secretary of the Austin Hospital for Incurables, will speak on, "The Work and Needs of the Hospital." 11.20: Musical Interlude. 11.25: Sister Purcell will speak on, "Infant Welfare." 11.40: Musical Interlude. 11.45: Miss B. Macaulay will speak on, "Inexpensive Travel." 12.0: Melbourne station. 12.1: Prices received by the Australian Mines and Metals Association from the London Stock Exchange this day. British official wireless news from Reuters' and the Australian Press Association. 12.15: "Argus" news service. 12.15: Newmarket stock sales. Report of the cow market and the number of cattle trucks taken for that service. 12.20: Associated Stock and Station Agents, Bourke Street, Melbourne. 12.20: Community singing. Old-time choruses, transmitted from His Majesty's Theatre, Melbourne. 12.25: Frank Hatherley, 12.40: Stock Exchange information. 12.43: Community singing resumed. Syd. Hollister (comedian) will entertain. 12.58: Description of Autumn Hurdle Race. 2 1/2 miles. V.R.C. Races at Flemington, by Eric Welch. 1.5: Community singing resumed. 1.38: Description of C. M. Lloyd Stakes, 1 mile, V.R.C. Races at Flemington, by Eric Welch. 1.45: Meteorological information. Weather forecast for Victoria. New South Wales. South Australia, and Tasmania. Ocean forecasts. River reports. Rainfall. 1.53: Close down.

AFTERNOON SESSION.

2.15: The station orchestra. Overture, "Princess Jaune" (Saint-Saens). 2.25: Marcelle Berard (soprano), "Bolero" (Delibes). Selected. 2.32: Tsarna Ternan (cello), "Roman sans Patrole" (Davidoff). 2.38: Description of Ascot Vale Stakes, 1 mile, V.R.C. Races at Flemington, by Eric Welch. 2.45: Hugh Huxham's Serenade Quartette. The Quartette, "Log Cabin of Dreams" (Madeline Knight (contralto), "Yonder." Orchestral Interlude. The Quartette, "Curly-headed Coon." "The Beautiful Sea." Orchestral Interlude. The Quartette, "Waltz September." The station orchestra. Irish selection, "Macushla" (Ball). 3.13: Dr. Loftus Hills. "Topics of the Week." 3.28: Description of the Autumn Handicap, 1 mile, V.R.C. Races at Flemington. 3.38: Fritz Hart will speak to students of music. 3.50: Rev. Wm. Bottomley, "The Loom of the Law." 4.8: The station orchestra. "La Voix des Cloches" (Ligeti). 4.13: Bernhard Manning (bass-baritone), "Drinking," old German. Selected. 4.18: Description of the Governor's Plate, 1 1/2 mile, V.R.C. Races at Flemington. 4.23: Ward and Long. 4.3: "Historical news service." Stock exchange information. During the afternoon progress scores of the cricket match, N.S.W. v. S.A., at Sydney, will be broadcast as they come to hand. 4.44: Special weather report for the benefit of listeners in the Redcliff district. 4.45: Evensong, transmitted from St. Paul's Cathedral, Melbourne. 5.30: Result of River Handicap, run at 58, V.R.C. Races at Flemington. 5.31: Close down.

EVENING SESSION.

6.0: Answers to letters and birthday greetings by "Bobby Bluegum." 6.25: Musical Interlude. 6.30: "Bobby Bluegum" in song and story.

NIGHT SESSION.

7.5: Stock Exchange information. 7.15: Market reports. 7.30: News session. 7.43: Birthday greetings. 7.45: Out of the Past. 7.46: Rene Murphy, now appearing in "The Desert Song," will speak from her dressing-room at His Majesty's Theatre, by permission of J. C. Williamson, Ltd. 8.0: A Maker of History. 8.1: Rod McGregor will speak on "Cricket."

3AR

Announcer: Maurice Dudley. 10.0: G.P.O. clock says "Ten." 10.1: "Age" market reports, farm and station produce, fruit, fish, vegetables, etc. 10.25: "Age" shipping reports, ocean forecast. 10.30: Mail notices, express train information. 10.35: "Age" news service, exclusive to 3AR. 10.39: Weather forecast.

MORNING MUSICAL SESSION

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

AFTERNOON SESSION.

Announcer: Maurice Dudley. 3.0: Special gramophone recital. Sir Hamilton Harty conducting the Hall Orchestra: "Symphony No. 4, in B Flat, Op. 60 (Beethoven)." 3.40: Announcements. 3.45: Beautiful ballads. 3.55: The Imperial Russian Trio (Arved Norit violin, Ivan Berzinsky 'cello, and Vassili Ullal) recital. "Spring Song" (Mendelssohn), "Cuckoo Song" (Schubert). 9.5: A Dlokenian Recital. J. Dear: "Gentleman Turveydrop." 9.18: Camille programme by the Auburn Methodist Choir, conducted by Sutton Crow. J. Sutton Crow, organ; gan: "Evensong" (Easthope-Martini); Stella Dredge soprano, "With Verdure Glad" (Haydn); Auburn Methodist Choir, "Chorus of Shades," from "The Messiah" (Handel); "O Father Hallelujah" (Wheeler); J. Sutton Crow, organ. "Panfare" (Lemmens). 10.15: From the studio: The Station Orchestra. Selection, "Sunny" (Kern). 10.25: News service, announcements; acceptances and losing positions for V.R.C. races, at Flemington, on Saturday. Results of cricket, England v. Victoria. G. Save the King.

Announcer: Frank Hatherley. 6.0: Sweet Solace on the Seraphina. 7.10: News service, announcements; results of cricket, England v. Victoria. 7.20: Gramophone recital continued.

NIGHT SESSION.

Announcer: Frank Hatherley. 8.0: Sweet Solace on the Seraphina. 8.0: Dr. Loftus Hills. "Life's Fancies and Fancies." 8.15: Under the auspices of the Nurserymen and Seedsmen's Association of Victoria. "Talk on Gardening." 8.30: The Station Orchestra: Overture, "Der Bauerlein Schelm" (Dvorak). 8.40: Bernard Manning, bass baritone: "Father O'Flynn" (Stanford), "Drinking" (Old German). 8.47:

The Imperial Russian Trio (Arved Norit violin, Ivan Berzinsky 'cello, and Vassili Ullal piano); "Allegro" (Bocherini-Kreisler); piano solo, "Alberich" (Ullal) (Liszt); "Spring Song" (Mendelssohn), "Cuckoo Song" (Schubert). 9.5: A Dlokenian Recital. J. Dear: "Gentleman Turveydrop." 9.18: Camille programme by the Auburn Methodist Choir, conducted by Sutton Crow. J. Sutton Crow, organ; gan: "Evensong" (Easthope-Martini); Stella Dredge soprano, "With Verdure Glad" (Haydn); Auburn Methodist Choir, "Chorus of Shades," from "The Messiah" (Handel); "O Father Hallelujah" (Wheeler); J. Sutton Crow, organ. "Panfare" (Lemmens). 10.15: From the studio: The Station Orchestra. Selection, "Sunny" (Kern). 10.25: News service, announcements; acceptances and losing positions for V.R.C. races, at Flemington, on Saturday. Results of cricket, England v. Victoria. G. Save the King.

4QG

MORNING SESSION

11.0: Music. 11.5: Social news. 11.15: Lecture, "A Gardening talk," by "Tecoma." 11.30: Music. 11.35: More social news. 11.45: Music. 12.0 (noon). Close down.

MIDDAY SESSION.

1.0: Market reports and weather information. 1.15: A lunch-hour address. 1.30: Close down.

AFTERNOON SESSION.

5.30: A programme of electrically-reproduced records. 3.30: Mail train running times. 4.18: The afternoon's news. 4.30: Close down.

EVENING SESSION.

6.0: Mail train running times; mail information, shipping news. 6.8: From the Wintergarden Theatre. Wurlitzer organ. 6.25: Commercial announcements. 6.30: "The Best of the Best" by "The Gangman." 7.0: News in brief. 7.5: Stock Exchange news. 7.6: Metal quotations. 7.7: Market reports. 7.25: The Fenwick's Stock report. 7.40: Weather information. 7.45: Announcements. 7.43: Standard wireless signals. 7.45: Lecturette: A talk on books by M. J. Doyle (M'Leods).

NIGHT SESSION

8.0: Instrumental Trio: Otto Reis (violin), Gilbert Drover ('cello), Claude Wearne (piano): "Dreame" (Schumann). Will H. Lister: A Thought To-night, "The Light and the Darkness." Ward and Long (soprano), "Oh, Cool is the Valley" (Grieg). 8.15: The Wold Pigeon (Schumann). 8.20: Gersonderson (pianist): "Scene for the Left Hand Alone" (Pirkhert). Two Boys and a Guitar: "Like a Melodist from the Sky" (Donaldson), "The Rose" (violinist), "Londonerry Air" (Schumann), "Kern Higginbotham (baritone), "Harlequin" (Saxophone). Instrumental Trio: "Liebestraum" (Liszt). Jean Rigby (soprano), "Or" (Schumann). 8.30: (Bohm). "Vince Azeby (steel guitar)." (Nevin). Harmony Four: "Sweet and Low" (Barby). Claude Wearne (pianist), "Syncopeation at the Piano." C. Woodland (baritone): "Passing By" (Purcell). Gilbert Drover (baritone): "Bereave" (Jocelyn). Godard). Two Boys and a Guitar: "Of My Dreams" (Clapp). 9.0: Metropolitan news service. 9.1: "The Motor Car" (Schubert). "Gargoyle." Virgil King (tenor): "If I might Owe to You" (Squire). Thelma Sanderson (soprano): "La Lissonera" (Chaminade). Nancy Mulnead (piano): "Carnisma" (Fenn). Instrumental Trio: "Melody in F" (Rubinstein). Arthur Smith (cello): "My Dream" (Tosti). Vince Azeby (steel guitar with piano accompaniment): "The Mountain Mourner" (Higginbotham). "The Dream of the Fiddlers" (Phillips). Otto Reis (violinist): "Humoresque" (Dvorak). Virgil King (tenor): "Vale" (Ravel). Claude Wearne (pianist): "Syncopeation at the Piano." Harmony Four: "Crazy Days" (Schubert). Jean Rigby (contralto): "Towns Here" (Ehrlich). C. Woodland (baritone): "Bells of the Sea" (Peters). Instrumental Trio: "Serenade" (Schubert). The "Daily Mail" will broadcast the "Courier" news; see their news. Close down.

7ZL

EVENING SESSION.

8.15: Lella Reed, piano solo, selected. 8.20: Community singing. All: "Dreame of the Road of Life." (Gilechrist). "Ramona" (Wayne). Let. Duet, Jean Hibbard, soprano, Beatrice Rothwell, contralto, "The Days" (Schubert). 8.30: All: "Mother Macchree" (Ball). "Light and Roses," selected. 8.37: J. Blair, baritone, selected. 8.40: All: "Swanee River Moon" (Carson). "Little Spanish Town." 8.47: Jean Hibbard, contralto: "Slave Song" (Del Riego). 8.50: All: "Goodbye Ladies." Till We Meet Again. 8.57: Katie Rowland, soprano, "The Days" (Schubert). 9.0: All: "The Bells of St. Mary's." "John Peel." 9.7: Dr. Jean Hibbard, soprano, Katie Rothwell, contralto: "Sweet and Low" (Barby). 9.10: All: "Old Folks at Home." "Mexico." 9.15: All: "The Road to the Top." 9.20: All: "On the Road to the Top." "I'm Sitting on Top of the World." 9.25: Duet, Jean Hibbard, soprano, Katie Rothwell, contralto: "Blum Song." (Schubert). 9.30: All: "Lang Syne." 9.33: Miss. Columbia broadcasts 9.35: News session. 10.0: G.P.O. clock chimes the hour. Close down.

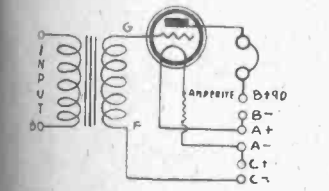
The WIRELESS WEEKLY

RADIO INFORMATION

Under the direction of
Ray Allsop
and
Don B. Knock
Associate Technical Editors

Correspondence Answered
only through
these
Columns
(See Coupon Below)

W.W. (Haberfeld).—"I made the Improved Single Valve Reinartz Receiver, which gave remarkable results on both Inter-State and local stations. This was published in 'Wireless Weekly' on Friday, Sept. 7, 1928. A friend of mine advised me to add to another, but I do not know anything about amplifiers, and he knows very little himself; so I thought the best plan would be to write it, and ask you to publish in your columns a two-valve Reinartz circuit back panel diagram, as I would be making a lot of mistakes trying to follow those other sort of circuits."



A two valve amplifier that can be added to a crystal set, one valve, or two valve set. Requested by W. W. (Leichhardt).

Answer: The diagram appears in these columns. All parts mentioned in your may be used.

W.W. (Tabarrus).—"I have two Emeco S.L.P. condensers, .00025 mfd. capacity. Would these be suitable for building a short-wave receiver with bakelite short-wave kits?"

Answer: One of them may be used for re-action, the other must be reduced to seven plates—i.e., .00025 mfd. for the main tuning condenser.

Q: "Could I successfully reduce these to the capacity of 50 microfarads, and, if so, please advise number of plates and best way of carrying it out?"

Answer: Remove all but six plates. Use washers in the other remaining plates.

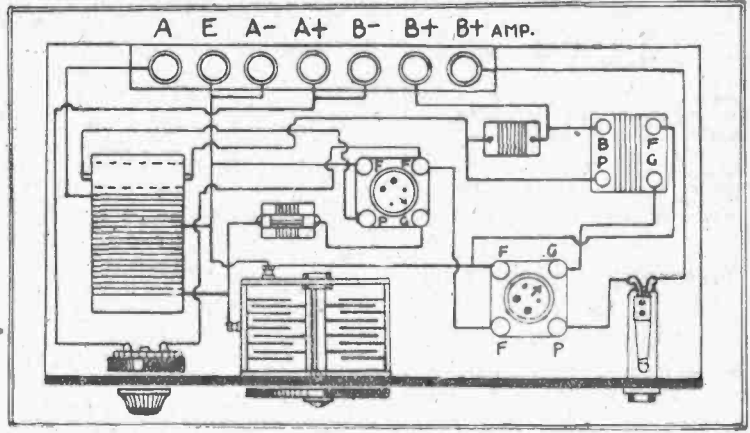
Q: "Many."—"My set has recently been recommended by an enthusiastic amateur friend, who has a set as a hobby, and was originally a Reinartz type in the older cabinet till my friend added an extra valve in order to use loud speaker and employ a four-volt accumulator and 40-volt "B" battery. The set is 40 feet long overall by about 20 feet high, and is partitioned to south approximately, part of it under the eaves, part on roof guttering about 5 feet below the eaves. Earth wire to nearest water pipe via 1/2 inch wire. Good loud volume is obtainable, but tuning is very broad. 2GB crowns 2BL at night sometimes or is in the background. 2PC fairly O.K., but the "Old People" here at home complain that the speech and singing are indistinguishable, and it is necessary to use phones at times. The volume is always plain. Speaker is an Ampilphon 27A. Has a swan-neck and horn vent about 10 inches again. I don't want to bother with head phones again, so would you mind suggesting a design. Will get another speaker up to £10, if possible."

Answer: Speaker may be damaged, or may be connected wrong way round. The cord with a red line through it should be connected to B plus. A resistor must be used for the detector valve, though a 100 ohm resistor is not necessary for audio end. A midget condenser of 11 plates in series with the aerial may help sensitivity. A .002 fixed condenser across the secondary of the last transformer or a .00025 fixed condenser across the output terminals may help to reduce the tone. The speaker may have become disconnected through reversed terminals.

W.W.C. (Leichhardt).—"Will you please give me a diagram of the 'Cocky's' One Valve" with a stage of audio added? Please give me a simple back of panel diagram, as I cannot read a circuit diagram. I made one, but I think it is fine."

Answer: Here is the circuit. Glad you liked "The Cocky's" One Valve. You should learn to read circuit diagrams. It is considerably easier to follow out a circuit diagram than a back-of-panel wiring diagram. "Proving Radio" you will shortly have an opportunity of learning how to follow out a theoretical circuit.

W.W. (Hilde).—"I am using a three-valve Reinartz, and am desirous of adding a stage of R.F. to make it a Marco Four. Will you please send me a plan and list of parts required? Would it be better to use 20



The Countryman's One Valve has become very popular, and many readers are asking for the circuit with a stage of audio added. W.W.C. (Leichhardt) asks for a back of panel wiring diagram.

volts of the Marco instead of 80 I am using at present? I may add I am a very enthusiastic radio fan, and am always eager to learn. I must also congratulate you on the excellence of your paper.

Answer: The complete article covering the Marco Four was published a week or so back. You will get more information from this than we could possibly put into these columns. Use 90 volts on the audio side of the receiver; 48 volts for the B.P. stage, and 30 volts for the detector. We do not reply by post. Thanks for your kind remarks.

"OMEGA" (Olebe Point).—"I failed to enclose a coupon with my queries. Here is the coupon, and I have repeated my queries below."

Answer: Thanks. We wish other readers would also repeat their queries when writing again.

(2). "A friend of mine has built the enclosed set on recommendation of a well-known expert, and, as I intend to build it (in fact, I have already commenced construction), I'd like to ask you if the layout is satisfactory?"

Answer: Layout quite O.K., with the exception of the valve socket, which should be so placed that the lead from the grid leak will be near to the main tuning condenser and coil in order to keep grid leads short. This is doubly important since yours is a short-wave receiver.

(3). "Are the components satisfactory?"

Answer: The variable resistance is too large. One of 0-500,000 ohms will be necessary.

(4). "Is the by-pass condenser O.K.? I thought .001 was necessary."

Answer: Bypass condenser O.K. This is not critical.

(5). "Is the choke necessary?"

Answer: Not always necessary on a one-valve receiver, but will be required if you intend adding an amplifier, and, at least, one stage of audio amplification is necessary on a short-wave receiver.

(6). "Can a 'B' eliminator be used with this set in conjunction with the by-pass condenser? If not, what is the reason?"

Answer: An eliminator can be used with a short-wave receiver, but it is not advisable owing to A.C. hum, which would be particularly noticeable on a one-valve S.W. receiver where ear phones have to be worn.

(7). "Presumably a midget condenser in parallel with the tuner would be advantageous. What capacity?"

Answer: Nothing gained by its use but it you like to try it use one of .00025 mfd. (about 11 plates). This condenser would be of greater use in series with the aerial.

(8). "I am using a sixty-foot aerial. Would a condenser in the lead-in reduce the natural wave length

so as to effect an improvement in S.W. reception?"

Answer: It would reduce wave length only slightly. In a short-wave receiver it is not advisable to use more components than are absolutely necessary for good reception.

(9). "How closely may the shielding of the set approach the coils without affecting signal strength? I wish to make the set as small as possible."

Answer: Not critical. Half an inch may be allowed with safety, though 1 1/4 inches is the general allowance. If the coils themselves are shielded the distance of the screened coils from the shields will not be important.

(10). "Can the set be used in the general manner as a S.W. adapter?"

Answer: Yes; but in this case you will have to leave the choke in the circuit. You can wind one yourself if you wish. A good S.W. choke can be wound on a piece of bakelite rod half an inch in diameter. Using 36-gauge wire, wind 150-200 turns.

QUERY COUPON

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

The Radio Information Service, WIRELESS WEEKLY, please enclose the accompanying queries in your correct correspondence. I enclose this coupon in order to indicate that I am a bona-fide reader.

(11) "Will it improve reception if I use a potentiometer as shown in the circuit?"
 Answer: The potentiometer is not necessary in your case. See the latter part of my remarks in answer to your question, No. 8.

(12) "My reason for asking these questions is that my friend, who built the set, is getting poor results. He is very experienced, with B.C. receivers, and has several foreign Q.S.L.'s."
 Answer: The reason for his failure is pointed out clearly in these answers.

(13) "On this set, beside Morse, he can get a Dutch station in Java and local harmonics, all of which are in poor head phone strength, both when the set is used alone and when used as an adapter in a two-valve set."
 Answer: The Dutch station stated is probably ANA, which is coming through rather well lately.

(14) "Am I not correctly informed that a single-valve short-wave receiver should bring in telephony from nearly all over the world? With one or two stages of audio such a set should operate a speaker, should it not?"

Answer: Under good conditions a one-valve short-wave receiver will pull in stations at almost any distance, though in some cases they are so faint that the circuit can be solved. Two stages of audio are necessary for good speaker reproduction. Three stages of resistance coupled stages are better still. Components, of course, must be good, and the set well constructed.

(15) "This locality is not good for B.C. work—poor strength, though not many outside noises. Does it, therefore, mean that I am in a bad district—a dead spot for short waves?"
 Answer: Not necessarily; but if the poor strength effect is due to local screening, such as br. metal buildings, and the like, the effect may be even more marked on short waves, which are rather erratic at times.

(16) "I understand the plate voltage is critical."
 Answer: On the detector, yes; on the audios, no. Detector voltage usually about 20-30 volts. Audios up to 135 volts, depending on valves used.

(17) "Trusting you will survive the ordeal of answering this, and with oest of luck to 'Wireless Weekly.'"
 Answer: There is no reply. Don't forget next time you write to limit your number of questions to six.

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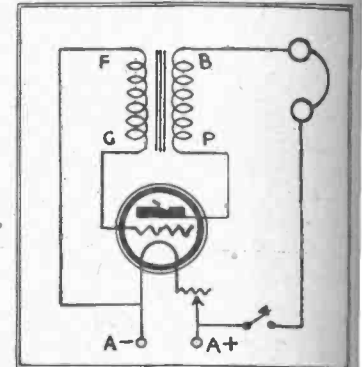
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all, although with nearly the same volume local stations were received. I put it down to the accumulator, so I had it charged the same day. I use a "B" eliminator for plate voltage. Although the "A" battery was charged, I got no better results. All locals come in at customary strength, but do not oscillate. I2 has to be right up against the grid coil to get the volume, and as a result 2GB spreads itself over 10 degrees or the dial, and 2BL over 5 degrees, whilst 2FC is spread over 1 degree. That is when the reaction condenser is fully meshed. I have tried across the grid condenser with Indian ink for a grid leak. Atern detector voltage does not make the set oscillate. "B" eliminator is the Economic Eliminator published in "W.W.", 1927. I will use C509 for rectifying. In the set, valves used are UV199 R.F., C509, audio UV199. There is a hum in my eliminator that drops reception when I use the "B" plus manual tapping, and I have to use the one tapping (detector tapping) for all four valves. I have tried reversing the plug to the mains, only to get a shock off the negative terminal, which forced me to unplug me which was the live side of the mains.

Answer: The Indian ink method of suppressing a grid is very unsatisfactory. Use a proper condenser, or try various thicknesses of Indian ink. You are using the wrong detector valve. The C509 takes a minimum of 3 volts. Also you are using the wrong valve in your eliminator. Use a 20A here. This will save the hum to a certain extent. A condenser may also be broken down in the eliminator. Use a proper choke in the eliminator; a telephone magneto is not of much use. M.C. (Queensland)—"Would you please show me through your columns how to make a good Morse code practice outfit, using a transformer and coil valve?"



A Morse code practice outfit requested by M.C., Queensland.

Answer: The circuit appears in these columns. A 201A or 199 valve can be used as an audio oscillator. An old audio transformer with good terminals, a pair of 2000 ohm headphones, a Morse key, three 1½ volt cells, or one "C" battery, and a 25-50 ohm rheostat are all the equipment required. The circuit is a Hartley. The "B" supply comes from the "A" plus terminal, as shown. This may be that it is important that the "A" battery polarity be just as shown, or the outfit will not work. If nothing is heard when the key is depressed, reverse the primary leads of the transformer. Keying gives a fine signal in the 'phones.

Mr. H.R., Electrical Engineer, of Quorn, writes—"I note in your issue of January 25 an article on the working of aluminium. Having worked on three sets in this metal, perhaps my experience may be useful. For those who use aluminium in the sheet, start off with sharp edge and use a sharp knife. Place sheet on solid flat surface and cut with good wood-working chisel and hammer. The sharp edge of the chisel will find the metal every time, and sharply back and forthward on edge of bench or table. The rough edge can be planed easily with an iron plane, the metal coming off like wood shavings. Drill ALL holes after marking out with sharp wood chisel. In the first, the second drill of proper size will finish out. After drilling all holes in panel and base, wherever they are, do not file the ragged edges off, but note off with a sharp wood chisel. This can be done without leaving any marks. For making large holes for jacks, switches, or rheostats, a round file, fitted in a brace, and turned left handed, will make a very neat job. Do not use a round file with wood chisel as before. If partitions are screening are cut 3/16 in. longer and can be folded square in a tinSmith's folding machine, there is only need for one set of bolts and nuts, instead of two, thus saving angle strips as well. Panel, ends, and back 1/8 gauge properly folded can be drilled and tapped 3/16 in., same with top cover. The brackets underneath can be cut off the same. Care in measurements and marking-off is essential. I find that woodworking tools are used from practice, not theory. Just use a plane, a clamp a piece of aluminium in the vice, and do the plane sharply over the edge. This will convince the most sceptical."

Answer: Thanks very much for the information. It will probably be of use to many readers.

W.E.C. (Lismore).—"I am forwarding to you a sample of all the ingredients required for making a dry cell battery described in 'Proving Radio' columns of 'Wireless Weekly.' I have made up several cells according to instructions, but cannot get them to show more than one volt per cell, nor what volts correct, for it tests my Amipon carbon cells 1½ volts per cell. I procured some carbon rods from the B.G.E. Co., and also tried some carbons from old 'A' cells. I am now at loss to know what is deficient or if all the ingredients are O.K. Perhaps you will be able to tell me what is wrong?"

Answer: The zinc chloride sticks were useless. The samples submitted were covered with moisture, showing that these sticks had been exposed to the air too long before being mixed.

A.E.C. (Glen Innes).—"I would be very pleased if you could let me know where I can get a copy of the Ultimax Three, which appears in 'Radio' columns of 'Wireless Weekly.' Your request is published above. Perhaps same reader may be able to oblige. Name and address of inquirer: A. E. Curtis, 'Brimingham,' Macquarie Street, Glen Innes."

W.E.P. (Glen Innes).—"I have been a reader of your journal ever since I got my set (seven months ago), and each week I eagerly await Wednesday and 'Wireless Weekly.' I am never disappointed. I can assure you that in my opinion the best threepence-worth on the bookstall. Now for business. Could you explain how to make a 90-volt accumulator 'B' battery? Let me know what parts are necessary and where such parts could be procured. Please explain method of mixing acid and charging the accumulator mentioned."

Answer: An article is being prepared for "Proving Radio" that will cover your requirements.

A.C.P. (Funchbowl).—"I am studying for my A.C.P.O. and would be glad if you would kindly answer the following queries through your fine journal: (1) What signal is used to denote underline and full-stop?"

Answer: Underline is | dot, dot, dash, dash, dot, dash. Full-stop is: | dot, dot, (space), dot, dot, (space), dot, dot.

(2) "What steps should be taken to obtain an extension of wave-length at power?"

Answer: An application should be made to the P.M.C.'s. Department, on the prescribed form, giving full particulars of requirements, and your reasons for desiring the increase or extension, as the case may be.

(3) "What is the priority assigned in the transmission of radio telegrams?"

Answer: Signals of distress come first, followed by messages of national importance, urgent messages, and so on. Your best plan would be to procure the G.P.O. Handbook (price 2/6), which contains everything in detail that it will be necessary for you to know in connection with radio telegrams. The other information required may also be obtained from this booklet in greater detail than could possibly be placed here.

(4) "I wish to congratulate you on the new 'Wireless Weekly,' particularly on the 'Proving Radio' articles. Glad you like the new paper. 'Proving Radio' is becoming very popular.

R.R.R. (Queensland).—"I wish to build a receiving set, and want your advice. I live 47 miles due south of Brisbane, and wish to know which would be the most suitable type of set to use to tune-in the southern stations. The country is not heavily timbered, and there are few mountains between here and Brisbane. I wish to use a two-way coil holder in the attached circuit. Is this possible? What size coil would be required?"

Answer: The circuit is O.K. Use a honeycomb coil of 50 turns. The circuit is not very selective, but this may not trouble you. However, you could improve on the circuit by building a Reinartz. Circuits appear in these columns quite frequently.

(2) "Is the circuit correct?"

Answer: Yes.

(3) "What type valve is used?"

Answer: Any good detector valve will do.

(4) "Where could I buy a chart giving all the wave lengths of broadcast and short-wave stations?"

Answer: The Citizen's Call Sign and Guide Book, an American publication, is, I think, the only book that gives a complete list. If you desire the list merely for use with your one-valve receiver, the list appearing in 'Wireless Weekly' will more than cover your needs. Your receiver is not suitable for short-wave reception.

S.H. (Cremorne).—"In regard to the Marco Four, published a week or so ago, would you please answer the following queries, which are rather urgent, through your journal? When constructed and tested the set worked well and oscillated easily, but after an hour's work the volume of the set slightly, and on Sunday it refused to oscillate at



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