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INCORPORATING "RADIO IN AUSTRALIA & NEW ZEALAND"

VOL. 13. NO. 13.

FRIDAY, MARCH 22, 1929

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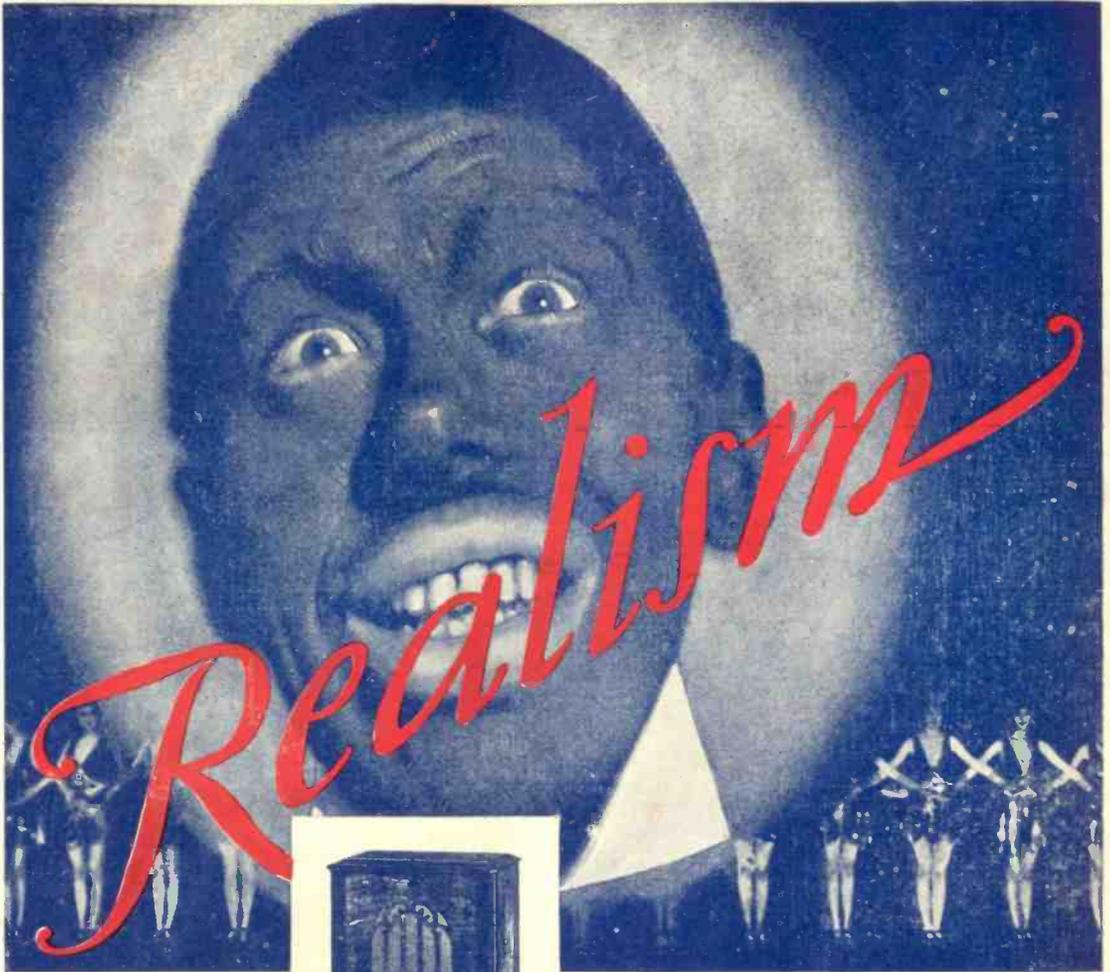
THE MOVIES
EXPERIMENT
WITH SOUND

A New Laughing
Competition

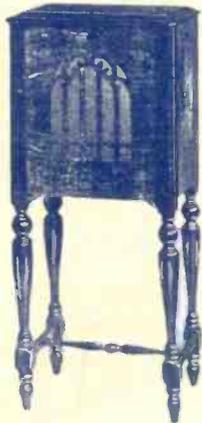
The Renown 3

Workshop Hints
By D. B. Knock

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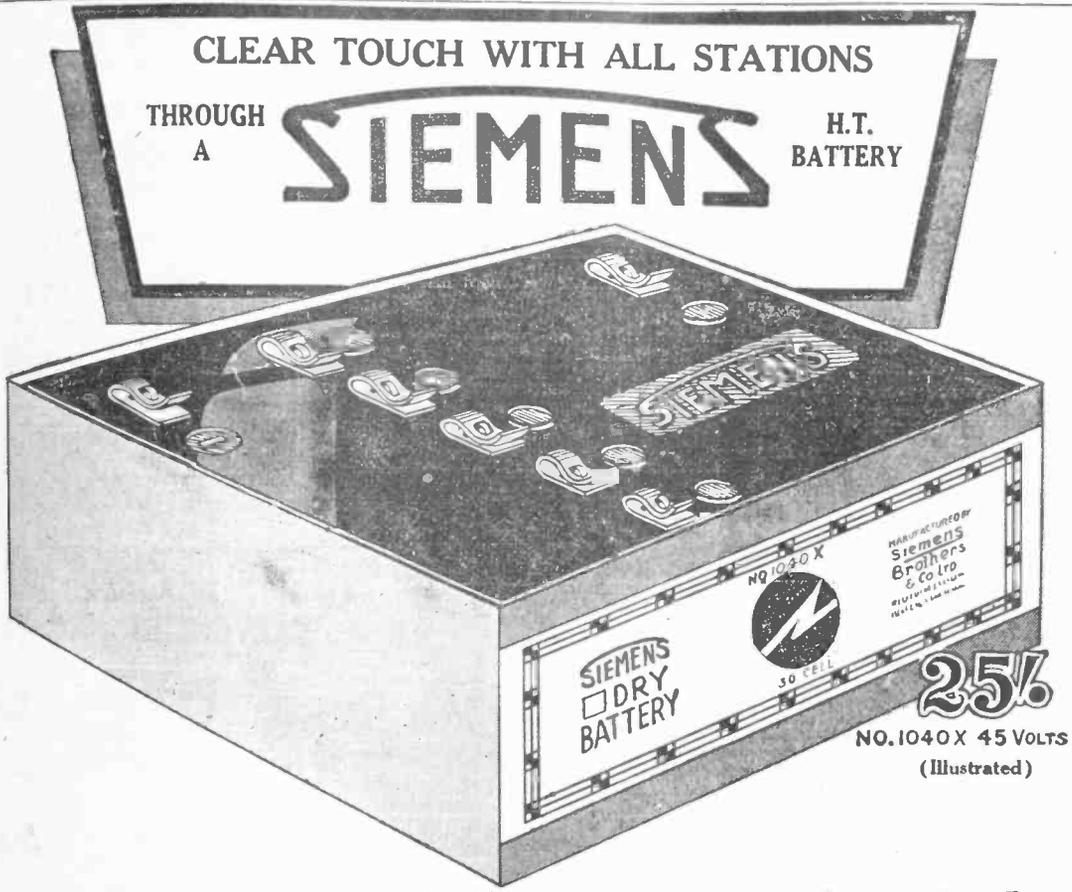


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Vol. 13 No. 13
Friday,
March
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1929.

Wireless Weekly

Incorporating Radio in Australia & New Zealand

Address:
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Phones:
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LAUGH WITH THEM ON MARCH 28



C. R. HALL



CARLTON FAY



WALLY BAYNES



R. A. BARTLEMAN



JACK CANNOT



DOROTHY DEWAR

£2/2/- for Correct
Guess

NOT a series of dental ads, but another Laughing Competition. Everybody enjoyed the last Laughing Competition, and over a thousand people voted. Join in the hilarity again on March 28, when these people will be heard from 2FC. They will compete to see who, in the opinion of listeners-in laughs best. Each will tell a short anecdote, and then laugh, and at the conclusion of the competition, listeners will be asked to vote for

LAUGHING COMPETITION

- | | |
|--|---|
| <input type="checkbox"/> C. R. HALL. | <input type="checkbox"/> R. A. BARTLEMAN. |
| <input type="checkbox"/> CARLTON FAY. | <input type="checkbox"/> JACK CANNOT. |
| <input type="checkbox"/> WALLY BAYNES. | <input type="checkbox"/> DOROTHY DEWAR. |

FROM

.....
.....
.....

the artist who, in their opinion, laughed best.

All you have to do is to fill in the attached coupon, number the squares opposite the names in the order which you believe the voting will take. The largest number of first votes for each artist will decide the winner, and £2 2s will be awarded the entry in which the order of popularity is correct or most nearly correct. In the event of there being more than one correct guess, the winner will be drawn for.

Fill in the coupon, including your name and address, and forward to "Wireless Weekly," 51 Castlereagh Street, Sydney, endorsed "Laughing Competition."

The Editor's decision will be final.

BETWEEN YOU AND ME AND THE MICROPHONE

Tradition

MR. ERIC BESSEMER, who announces frequently from 2BL and 2FC (we forget when; but you will have heard his delightful voice), was faintly excited when a horse by the name of Bessemer ran third at Flemington in Victoria. "Although," said Mr. Bessemer, "I am not superstitious by nature, I went into this question very carefully, to see whether it might or might not be an omen for the future. However, I have decided that this unfortunate animal did not live up to the name he bore, as it is the peculiar habit among Bessemers to come first on all occasions." We sympathise with Mr. Bessemer as he grieves over this blot on the family escutcheon.



... ..

Paint

IT IS NOT OFTEN THE 2FC "Hello Man" is worried. A genial soul, he accepts the world in a spirit of goodfellowship, which many would do well to emulate. But the contretemps which arose last week disturbed even his habitual calm. Nobody likes to receive a telegram when there can be no possible reason for it, and as he was conducting his session at the time he could not stop to ascertain the message behind the ominous, flaring "URGENT" which stared at him from the table. All manner of weird possibilities—and weirder improbabilities—chased through his mind while he strove desperately to concentrate on the job on hand. At last he was free, and with trembling fingers undid the envelope. The home folk... what was the matter... could it be... The words on the printed slip fairly leapt at him: "YOU'LL WANT TWO COATS OF OIL PAINT COST ONE THOUSAND POUNDS."

"I know what I want," he said faintly as he subsided into a chair and inopped a damp forehead. "but it isn't OIL PAINT." He delivered the offending wire to the rightful owner personally, and relates the joke against him with much gusto.

Coushirtu

MR. EWART CHAPPLE placed a neat brown paper parcel on a seat in the waiting-room hall at 2FC, and remained very uncommunicative as to its contents. An hour later he went down in the lift with Mr. Browning Mummery. One minute later the lift door clicked open again, and the voice of Mr. Ewart Chapple issued forth singing in the manner of opera: "Mal Lau-aun-dree! Mal Lau-aun-dree!"

Mr. Ewart Chapple followed, looked about anxiously, and suddenly dived for the brown paper parcel, continued the evolution into the lift, which descended immediately.



Precisely!

THE latest way of getting over the awful fact of a gramophone record is to say, after the name of the composition, "Recorded on a 'Garapoozla' Disc."

Mistake

FRIENDS of Mr. James Peddle, the 2BL and 2FC pianist, were surprised to see his photograph in the "Sunday Sun" showing a beard. It was quite unlike Mr. Peddle, whose features are a modest blending of the beauties of Adonis and Apollo; and who, therefore, does not think a beard or any other disguise necessary during the hot seasons. But it turned out to be quite another Mr. James Peddle; and our Mr. Peddle is hoping that his friends may soon forget all about it.

Coincidence

JULES VAN DER KLEI has very little time for broadcasting, and still less time to drop in to the studio for the informal little chat most artists love. One day last week, however, he proved the exception to his busy rule. "Why, what are YOU doing here?" 2FC greeted him, in surprise. "I thought I would just come and see you; I thought, perhaps you wanted me," he said with a laugh. At that moment a strange voice interrupted. "Does anyone know Mr Jules Van der Klei; a request has just been received by telephone for him to play Schubert's 'Ave Maria.'" He was highly delighted, and promised to include it in his programme from the Lyceum Hall on Good Friday Night.

The Idle Hour's Idyll

MR. MOORE MACMAHON went to the studio of Mr. G. Vern Barnett to rehearse the sonata or thingummy he played in the classical concert of Mr. G. Vern Barnett. But the door of the stodyo was shut; and, having nothing better to do, Mr. MacMahon took out his violin and commenced to practise, striding this way and that between the studio door and the elevator. As he was returning for the seventh or eighth time from the elevator he found himself confronted by a pair of grey eyes (he said they were marvellous grey eyes), which, after careful inspection, he found to belong to a nice (a particularly nice, says Mr. MacMahon) girl, who was sitting on the step of Mr. Vern Barnett's stodyo. "How do you do?" said Mr. Moore MacMahon, who is perfectly at ease on all occasions. "Perfectly very well, thank you," answered the nice, the particularly nice, girl. "I hope you don't mind my sitting here and listening." "Not at all," said Mr. Moore MacMahon. "It is really very kind of you." "Thank you," said the nice, the particularly nice, girl: "will you please continue as though I were not here?" "Impossible!" exclaimed Mr. Moore MacMahon. "You shall be my inspiration!" And so Mr. Moore MacMahon began once more to play. What effect his playing might have had, and what might have happened eventually, we can only conjecture; because Mr. G. Vern Barnett, accompanied by Mr. Wilkinson, arrived suddenly. The maiden gathered up her skirts, or what there were of them, and vanished. Mr. Moore MacMahon ceased playing, and said things to Mr. Vern Barnett about coming in at the wrong time, which even Mr. Vern Barnett would not repeat to us.

In Costume

MR. SCOTT ALEXANDER was at 2FC the other night, putting over one of his inimitable sketches. He wore a frock coat, striped trousers, and a marvellous cravat. We asked him if he wore this unusual garb to get the atmosphere and feeling of his production, and were rewarded with an icy stare. We had been foolish enough not to know that Mr. Scott Alexander was dressed for the part of manager in "New Brooms," in which he is playing at the Palace. And as we were talking to Mr. Alexander the swing doors of the studio parted, and Mr. John Dunne came out, dressed in the uniform of the Captain of "Hit the Deck." It was quite a theatrical evening for 2FC.

The Faux



THE ballet music of "Sylvia" was being played "Whenever I hear that music," said the musical gentleman. "I feel just like a dancing faux;" and he danced a few airy steps in the passage-way to illustrate his meaning. "Who the devil's making all that row?" demanded a stern voice from the control room.

A Japanese Fan

TWO FC had a letter from a Japanese fan this week, whose location sounds uncommonly like a bad burst of static. "Shimochiai Ochaimachi!" He adds: "Tokyo, Japan," and we really think it necessary. "I am one of the DX hounds here," he writes, "and I heard some musical comedy from a hall on wave length of 442 metres on February 8. There were loud laughs, too, of spectators. I believe that the programme received was carried out by your station, and I shall feel obliged if you would confirm my report of reception." The New South Wales Broadcasting had much pleasure in advising Mr. Masakazu Kohno that he logged 2FC transmitting from the Capitol Theatre. Ted Henkel's "Musical Comedy" is a Capitol joke.

Know Ye by These Presents

AUNT WILLA and Cousin Marjorie, of 2BL, were presented with a crepe-paper doll apiece; and when we said that they ought to be old enough to know better than play with dolls we were told indignantly that these dolls were for the dressing table, and that they were very beautiful (which we had not attempted to deny), and that we ought to mind our own business, anyway. So we have done so ever since—that is, until we saw Mr. Jack Barnett edging into the lift with an armful of flowers. He said they had been presented to him. We said, "By whom? Why?" and he said, "To put on your grave if you aren't careful." So we have been very careful—that is, until we wrote this paragraph.



The MOVIES EXPERIMENT WITH SOUND

With the appearance of the "movie-talkie" the motion picture studio has been changed into a sound-proof studio similar to the radio studio. The movies' experiments with sound are interestingly recorded in the article below.

IN the working of the motor picture we have to-day a craft which is truly synthetic. The illusion of reality in the minds of the audience reaches a degree of perfection which is only produced by reproducing life even more faithfully than it is by the subtle art of exaggeration and restraint.

The addition of sound to the other necessary attributes has made movie production such a complex matter that the joint labors of more and more experts are required. To those who have built up the act of presentation based on pantomime it has come as a blow, according to David Lasser in the "New York Times."

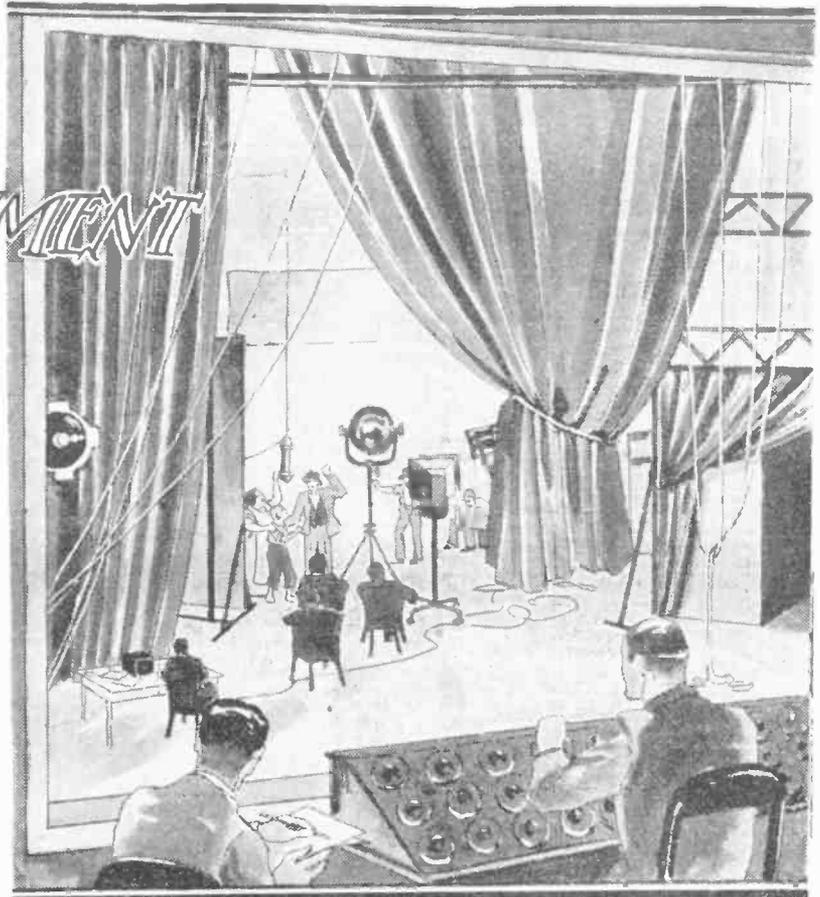
There are three kinds of sound pictures. One is the regular feature movie, of which all or part of the dialogue is "talkie." Then there is the "short"—a song, instrumental number, or dialogue, serious or funny, lasting for a few minutes. The third is merely the synchronisation of a musical score with the silent film, or the addition of some sound effects.

SOUND EFFECTS

The most conservative producers, because of the complexity of the "talkie" are in general still making the movie feature all silent. When the silent film is finished its sound possibilities are studied, and in consultation with the sound director certain scenes may be scheduled for talking or sound effects. The sounds may be only the barking of a dog, a scream in the night, a pistol shot or a rushing train. So the scene of the feature we are going to witness is merely the retaking for dialogue or sound effects of a silent picture that has already been completed.

The new sound studios, of which as many are being built as an unlimited supply of money can produce, are made exclusively of concrete. This is in order to keep out the noises of the world outside and to reduce vibrations of sound within the buildings. Double walls are used, and between them from eight to eighteen inches of air further kill the transmission of sound. So, once one passes into the studio and the door closes, one is assailed by the sensation of being cut off from the outside world like the old-fashioned radio studio.

The stage is so designed that no sound will



The monitor is a new addition to the motion picture production craft. He looks into a sound-proof studio in very much the same manner as the control operator at a broadcasting studio.

penetrate from the outside, and also that there will be no echoes or reverberation of sound inside. The speaker's voice is his only when he is speaking. When he finishes the sound waves, must not conflict with those of the next speaker. That is the primary principle of this new science, acoustics, that is so disturbing Hollywood.

The changing of scenes in itself changes often the acoustic quality of the recording, and may result in a scene being thrown out of harmony with the others. Then the technicians must figure out anew mathematical constants of the acoustic qualities of the set. The result may be that the substitution of a lounge in the set instead of a table will restore its acoustic harmony.

SEX IN ACOUSTICS

These mathematical studies have resulted in certain cases in the discovery that the corners of certain sets are adaptable to the actors of one sex only. There are corners that, because of their acoustics, must be reserved for the male sex and others into which the female must not intrude her voice. To allow a female voice in a male corner would necessitate the rearranging of the furniture, the removal of a carpet, or the hanging of a picture on the wall, or, in some cases, complete reconstruction. No wonder then that the directors of the school of pantomime are losing sanity under the ever-accumulating complexities of this most strange art.

The action on the stage is observed by a man in a room next door. This man, who

is called the monitor, is one of the new powers that sound pictures have brought into being. He occupies all alone a great chamber that in one studio measures precisely 57 feet long by 44 feet wide and 35 feet high. It is the necessity of this lonely individual occupying a room large enough to hold a hundred men that brings forcefully to mind the delicacy of the sound problems in this synthetic art.

THE MONITOR

The monitor's room is shut off from the outside by double walls, so that no undesirable sounds penetrate to it. Looking down on to the stage through three thicknesses of glass, the monitor watches the action, and by a loud speaker connected directly to the stage he hears all the sounds that go to the recording device. In front of him is a large instrument with a set of dials. Each dial is the control for the volume of sound that is to be transmitted to the recorder for each microphone on the stage. Like a cook, therefore, the monitor can mix the sounds on this mixer panel so as to produce the sauce that he thinks most appropriate.

He may, at his judgment, if an orchestra is playing, tone down the volume coming from the microphones over the enthusiastic violinists and at the same time increase the volume from the tired or indifferent brass players. If a number of actors are on the set he can increase or reduce the volume of each one's voice. He can change an assailed maiden's shriek to a squeak, or raise the

weary villain's whispered threats to a terrifying, threatening boom. He can vary the volume of the basso's profound intonations and increase or decrease the thunder of the crescendo that a conductor is endeavoring to draw from his orchestra.

It is the monitor, too, who often sends by telephone the order to stop the action if he hears some untoward sound coming from the stage. He may remind the elaborately dressed actress that the rustle of her dresses sounds like a hailstorm, or that the handsome hero's shoes squeak.

KILLING ECHOES

To make the room soundproof is easy. The concrete construction and double walls do that. But to kill echoes and vibrations is the problem that is keeping the sound experts, these new powers in moviedom, awake nights. Science, however, has been solving the problem after the manner it solved similar problems for the broadcasting studios. By composing the inner wall of a number of different materials selected for their sound-absorbing qualities, they have been able to kill 50 per cent. of the sound waves in nine-tenths of a second. One of the materials used on the wall is a specially prepared felt. The other elusive 50 per cent. of your sounds is what the engineers are gunning for. Even the floor and ceiling are made of special preparations. Furthermore, the stage floor is not connected with the walls, and is itself made of a number of layers of various materials. The top layer may be cork, or even a heavy carpet which will deaden footsteps.

On the stage are two camera booths, both encased within sound-proof compartments and wheeled on to the stage on rubber wheels. One compartment has two cameras for long shots and for close-ups, and the other holds a single camera for angle shots.

Above the stage, suspended from wires, are a number of microphones which catch the sounds from various parts of the stage and transmit them to the sound-recording devices. The usual stage paraphernalia or sets and lighting equipment is all ready. In some of the more advanced studios special microphones labelled "M" are used exclusively for transmitting the male voice, and others labelled "F" to record the delicate shades contained in women's voices.

There has been in progress on the stage a conference of the various experts—the sound director, the lighting director, the scenarist, cameramen, the director, and, not to be forgotten, the actors. The various effects to be obtained are discussed, the cues are settled upon, and the actors take their places.

CO-ORDINATION

Then follows a period of communication between the various parts of this movie organism. The cameramen have gone into their booth and signify by flashing a light on to the stage that their film is threaded and that they are ready. The sound director on the stage telephones to a man in a room which overlooks the stage and he, too, signifies he is ready. In the sound-recording room where the sound-recording devices are installed, is a man also at a telephone receiver, and he is ordered to get his apparatus ready. This, too, for the amplifying room, where the sounds are amplified to give a power sufficient to operate the recording apparatus.

To decide whether the final sound record is to be made on a

disc or record, or on the edge of the film itself (as in the sound track method), a test record of the scene is first made on the disc. This is to permit the record to be played back immediately after the scene is over, so that the actual sound effects may be known. The record is made of wax, its surface being ground at the studio to a mirrorlike polish.

By the flashing of signal lights on the stage, the various parts of this organism have signified that they are ready. Then, at a final signal from the director, the actors begin their scene, the cameraman starts his reel, the electricians switch on the power, the recorder starts revolving the disc, and like the starting of a ponderous machine the movie organism begins to function.

From the time the scene starts until it is stopped, for one reason or another, not a word is spoken except by the actors. The directors have by necessity developed a new sign language. With the waving of arms, with imploring, threatening, applauding gestures all their own they ask the actors for more or less force or emotion. The directors are acquiring the technique of an orchestra conductor. Or, to put it another way, while our well-known actors of pantomime are finding their voices and adding sound to their repertoire, the directors are losing their voices and acquiring pantomime.

STARTS AND STOPS

Several times the scene is stopped by the sound experts on the stage or by the directors. Then everything—actors, cameras, and sound discs—stops at once. Then the directors can express their opinion of the hapless actors, or they can engage in a new conference on "effects." With many starts and stops made as if by a well-oiled machine the scene proceeds through and with a final wave of his hand the director orders the "cut." Illustrating the great refinement of method necessary, and a cause of a "stop," in one studio an actor walking across the carpeted stage acquired a charge of static electricity by his scuffling gait. On reaching the microphone he accidentally touched it, thereby discharging the static on to the microphone and ruining the record that was being taken.

Then there are the heartbreaking efforts to control the human element. In one "short," requiring four scenes to be taken on four different days, it developed on the third day that the actor acquired a slight, and at that time imperceptible, hoarseness. This was only detected when the act was finished and a test run of the four scenes was made. Then it was found that the continuity of the scenes was rudely disturbed by the changed voice in the third scene.

THE "PLAY BACK."

When the scene is finished then comes the "play back." The record that has just been made is played back on the stage and the effects rendered may be observed by all and criticised. Here the blue note of the musician, the falsetto of the singer, or the sneezing of an extra is unflinchingly detected.

After the "play back" the directors may decide to do the scene over with another test record. And they will continue the rehearsing until they are sure they have the right effects and every one knows his part. Then and then only is the final recording made, either on the disc or on the film.

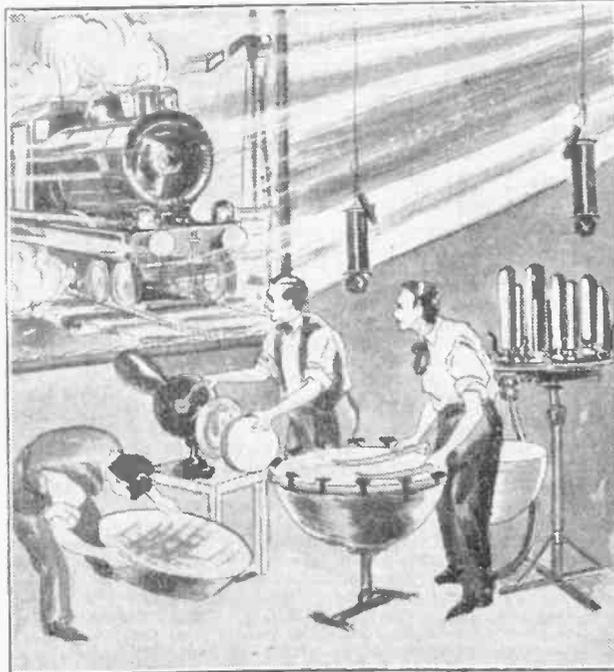
A number of miniature theatres designed to reproduce perfectly the acoustics of a modern theatre are also a part of the sound studio. Here the finished picture will be run off after the film and records have been developed, and a final criticism and editing may be accomplished under theatre conditions. It is in these theatres that the greatest ingenuity has been used to devise means to reproduce the theatre conditions. For as the sounds register in the toy theatres they will sound when they are presented to the public, which pays the bills.

For example, it has been found that the presence of an audience in a theatre will in itself change the acoustic or sound transmitting properties of the room. Each human being has a sound reflecting and absorbing property. Mathematical constants have therefore been devised for each object in the theatre, and the total sound property of the entire theatre is painstakingly worked out from these constants.

Even the supply of electricity must be of a special brand. The general city supply, it is found, has in it some static which unfits it to operate directly the sound machines. Therefore, the city system is used to charge storage batteries which in turn, having strained the sound out of the electricity, will supply the necessary power.

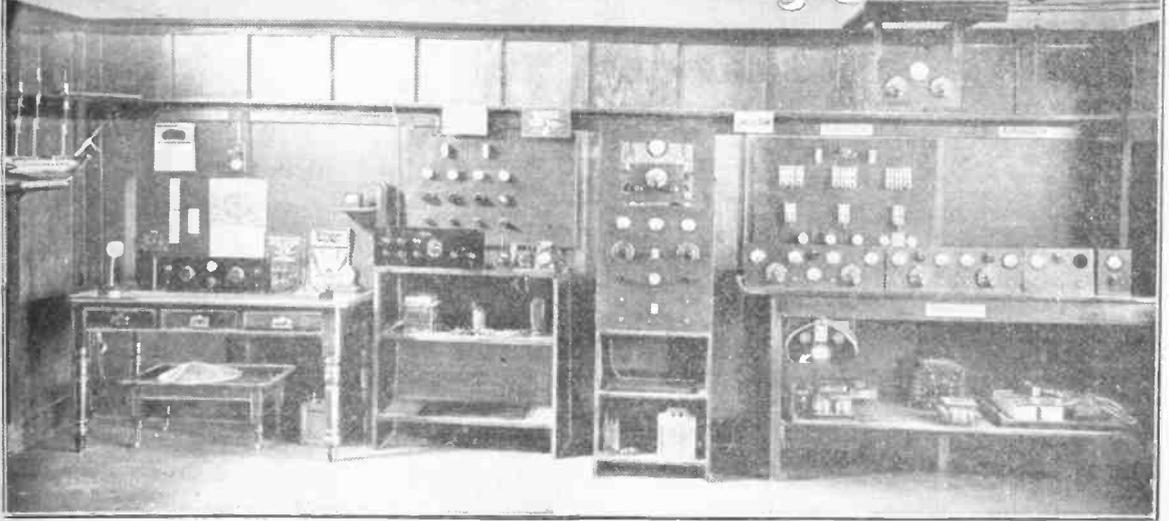
DISTORTION

Another room of the studio will probably be a well-guarded "library of what might be termed 'equivalent acoustics.'" These will be devices "which give sounds which when recorded sound like some other object whose sound is desired." For it has been found that many sounds when reproduced do not transmit the reality, but are distorted. A barking dog or a pistol shot will not reproduce as such. Therefore some curious instruments have been devised from tin cans, pieces of string, bottles, and wooden sticks, after the most painstaking labor. They are operated by an effects man, who watches the screen and at the right moment by a cue from the director does his part. The effects man is one of the valuable and necessary partners in this new and curious art. He is trying sincerely to reproduce more faithfully than nature a sound effect.



The synthetic sound producer in some cases works while a film is being thrown on the screen, and his effects are simultaneously recorded on a gramophone disc.

An Amateur Transmitting Station



(By DON B. KNOCK,
Associate Technical Editor.)

THERE must be a large number of readers who wonder what "VK2NO" means, and what the owner of this cryptical hieroglyphic does in his spare time, such as it is, in between keeping readers supplied with technical material, &c.

The photograph accompanying this description shows exactly half of experimental station, VK2NO-VK2AW, it not being possible to show the whole of the station at once, owing to its extensiveness. In December, 1928, my own station, 2N.J., was combined with that of Mr. A. W. Dye, 2AW, at Martin-road, Centennial Park, Sydney, the idea being to provide a reliable short-wave transmitting station, with two operators, mainly in view of the R.A.A.F. defence scheme, proposed for experimental stations, in 1929.

The photograph shows some of the apparatus, which, when complete, will be used for this purpose. The transmitting apparatus in this portion of the station is not yet ready for action, considerable work being necessary in adjusting the quartz crystal-controlled circuits before it may be put on the air efficiently. At the left is the operating table, at present holding a super-heterodyne receiver, serial change-over switches, telegraphy key, and Amphon microphone, for speech transmission.

The power board, on the right of this, carries AC power points, and fuses for the whole station. Underneath may be seen a short-wave receiver of the Reinartz type, and a baby Ultra-audion 10 and 20 metre telegraphy transmitter. This little transmitter may be quickly put into action in case of any breakdown in the 1929 type tuned-plate-tuned-grid transmitter, at present used by VK2NO-VK2AW for 20-metre communication. The 1929 TPTG set is not visible, being across on the other side of the station.

The panel in the centre of the photograph contains a very efficient Master Oscillator Power Amplifier used by VK2AW on 32 metres until the end of 1928. The oscillator is a split Colpitts, using a Radiotron UX210, driving a power amplifier consisting of a Marconi T250. A modulator for speech is also provided, this being another T250 with a two-stage push-pull speech amplifier, following the microphone amplifier.

Speech was very little used with this MOPA, but when it was, VK2AW had some very fine reports from Australasia and America. It is generally considered very difficult to excite the grid of a 250-watt amplifier from a 10-watt oscillator, but no trouble was ever experienced in this, owing to the am-

plifier running considerably below its rating. In the near future this transmitter will be rebuilt for telephony tests on the 200-metre band, when VK2NO will continue the transmissions previously taking place at the old location in Randwick.

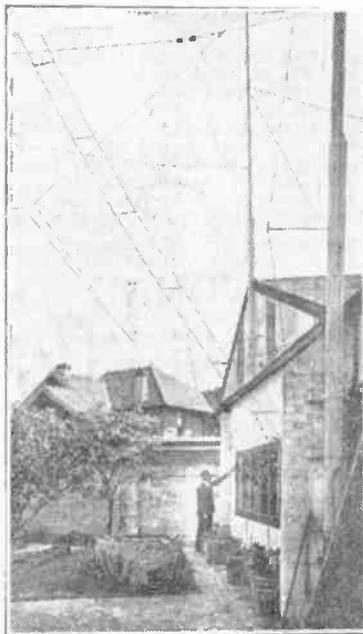
On the right may be seen the half-wave 42 metre Zepplin aerial coupling unit. The feeders are tuned by 0005 mfd. series, variable condensers. Underneath this is a switching board, for the various circuits, for the crystal controlled transmitter on the table below. The plate supplies, rectifying and filtering units, are on the shelf underneath.

This constitutes the major portion of the station, as it will be in action in the near future, but at the present time the two operators derive much pleasure from the 20-metre band for international contacts, with the self-excited 1929 transmitter previously mentioned.

The aerial used for this work is a half-wave current fed "Hertz" or doublet. The input to the transmitter never exceeds 100 watts, and reports from Oceania, including Honolulu and the Philippines, are always rock steady. Signal strength from England is consistently R5, in the old strength code, this being a good working average, according to weather conditions. Although this transmitter will eventually become the standby, it will always be known as the "old reliable," and amply justifies the scrupulous attention to rigid inductances and lay-out, recently explained by Mr. Ross Hull, in "QST."

The call sign, NO, has many records to its credit, the old station, in 1926, when located in Cremorne, N.S.W., being considered by English experimenters as the strongest and most consistent Australian station heard there. It would be difficult to say which country in the world where there is an amateur transmitter has not been communicated with during the past three years, and the stacks of "DX" cards held by the writer bring back many pleasant memories of arduous nights of fighting through static and power leaks to maintain contact with the "gang" at the other end.

The receiver in use for general short-wave reception is the faithful old original "Gogger," which has been altered to use the Pilot "Wasp" coil kit. With this a tuning range from 17 to 500 metres is obtained. A new receiver, which will eventually be described to "Wireless Weekly" readers as the "Air King," is due for construction, and, when complete, will be one of the most interesting and valuable features of the station. This will have a resistance coupling to the aerial for an untuned stage of screen-grid RF amplification, followed by a tuned screen-grid stage before the detector. After this will be one transformer coupled audio, followed by another push-pull audio stage, thus giving a six valve short-wave receiver in all. Needless to say, headphones will not be used, the output being taken to a power-operated dynamic speaker. The performance of this receiver is expected to far excel the All-Empire for full loud-speaker operation of all short-wave stations.



The aerial system at VK2NO-2AW

PEOPLE in the PROGRAMMES.

Mr. Colin Crane

ONE of the most popular vocalists over the air from 3LO is Colin Crane, who, in addition to his performance in the successful musical play, "The Desert Song," still finds time to delight thousands of listeners with "special request" numbers.

Many readers will remember him as a choir boy some few years ago, and, when his voice was properly "set," he was recommended to adopt the concert stage, and placed himself under the guidance of one of the best singing masters in Sydney, and studied for seven years—working (as he says) harder than he thought it possible for any young vocalist to work. He was then engaged for a season of the "Pops," after which he joined that strenuous and best school of all—a "costume concert party"—where art and versatility are taxed to the uttermost.



COLIN CRANE.

He gained much experience in stage technique when he was engaged as principal baritone to Sir Harry Lauder, and mastered many points of character acting. "I could not have had a better teacher," he says, "for in the opinion of well-known critics Sir Harry Lauder is one of the finest 'character song' artists we have with us to-day. This is especially noticed in his song, 'The Safest of the Family,' for the detail introduced is marvellous, and the artistry of the vocalist, which compels tears to struggle for supremacy over laughter, is a master touch."

Mr. Crane is always proud to recall that he deputised for that very fine artist, Harry Dearth. "I was playing at the Palace at the time," he relates, "and had just finished my performance, when a messenger came racing round and said that I had to go back to the Town Hall with him at once. Harry Dearth had just 'phoned through to say he had suddenly developed a relaxed throat, and couldn't sing. Luckily, I was able to sing the songs programmed for Dearth, and though the audience was disappointed at the non-appearance of the great man (who could blame them?) they gave me a great reception."

Mr. C. R. Hall

MR. C. R. HALL, whose photograph appears among the laughing bee on our front page, was born in Sydney. He was educated at the Cleveland Street School, in common, as he is pleased to remember, with such celebrities as Mr. Kippax, Mr. Kelleway, Mr. Oldfield, and the Attorney-General (Mr. Boyce). In his youth he was fond of drawing; although there are no specimens of his work in the Art Gallery, a lack of judgment on the part of the trustees, for which we can only account by the fact that Mr. Hall has neither kept any of his drawings nor shown them to the trustees of the New South Wales Art Gallery.

Following his usual custom of associating with none but the great men, Mr. Hall began hard work while he was yet very exceptionally young, in the company of Mr. W. M. Hughes, Mr. Holman, Mr. J. A. Browne, and Mr. D. R. Hall (no relation) in an old building at the corner of Elizabeth and King Streets. At that time Mr. Hughes was the secretary of the Waterside Workers' Union and life was worth living.

Mr. Hall then spent a few years as an accountant; and a couple more in the operating-room of the G.P.O. Possibly he did many other things. Then he entered the Church as a minister in Victoria, but resigned in 1915 to join the A.I.F. as a private in a wireless squadron, in the getting of which position his G.P.O. experience stood him in good stead.

His squadron was sent to Suez by mistake. They were a short while there, and then went to Bombay, and so up the Gulf to Mesopotamia. Major G. W. C. Marr was O.C. the Anzac Wireless Squadron, which was lent to the British Government for operations in Mesopotamia and Persia. Wireless, it appears, was the only satisfactory means of communication in the desert on operations, and was used in the form of base stations, which maintained contact with portable sets in the field.

Mr. Hall travelled as far as Mosul on the Tigris, the Euphrates in the west, and followed General Dunsterville, the hero of Kipling's "Stalky," into Hamadan, in Persia. While he was there he learnt all about everything; and his talks from 2FC, "Out and About in Irak and Persia," are the interesting results of his inquisitiveness.

A little war at Kurdistan kept part of the squadron busy after the signing of the Ar-

mistice; and it was not until 1920 that Mr. Hall was demobilised. With 52 other Australians who stayed behind, he received the Kurdistan Medal, which is, therefore, rather rare in Australia.

For six years after demobilisation he was interested in the financial side of the real estate business, whatever that is; and in 1926 he joined the staff of the Chamber of Manufactures of New South Wales as assistant-industrial officer.

He gives:—
Information and
Advice to, and

Pleads in the Federal and State Arbitration Courts for members of the Chamber of Manufactures of New South Wales. He is also secretary of several associations within the Chamber of Manufactures, and his graphs of imports and exports, etcetera, which hang on the walls here and there are marvels of beautiful coloring, and should be most interesting and useful if they are as correct as they look.

Mr. Hall's broadcasting habits began last year with his series of lectures on Irak and Persia. He afterwards won the announcing competition in the Radio Eisteddfod, since when his voice has been heard more and more frequently from both studios. He it was who described the "Sun" going to press, and the underground railway excavations. On alternate Sunday afternoons he announces from 2FC. He likes broadcasting immensely, and attributes any special charms of voice and manner to the tuition of Mr. Howlett Ross, under whom he spent two years in Victoria. He used to spend a half-hour every morning at breathing exercises and vowel pronunciation.

P.S.—Mr. Lewis, who listened and gave valuable suggestions while Mr. Hall told us some of these things, wishes us specially to mention that Mr. Hall is married. Mr. Lewis is Mr. Hall's senior advocate, and treasures a medal stamped with the initials W.M.H., which he earned when he belonged to the Waterside Union, and when Mr. Hughes was its secretary. We don't see why we should specially mention the fact that Mr. Hall is married; but that we do so is a tribute to the excellent advocacy of Mr. Lewis.



GWEN VARLEY, who conducts the Women's Sports Session at 2BL.

THE 2BL SPORTSWOMAN

We'll hold a short parley on dear Miss Gwen Varley,
Who runs 2BL Women's sport;
Her sportswomen's heaven begins at eleven—
A half-hour that's always too short.

On all Women's questions, from golf to digestions,
She knows what a sportswoman should,
And teaches the others—our sisters and mothers—
Just how to be sporty, though good.

Although, with gay graces, she runs in footraces,
She's not like Atlanta a bit,
Gold Apples can't tempt her, nor lobster exempt her,
From keeping remarkably fit.

She takes in the waters like Neptune's finned daughters;
But Neptune, with forehead downcast,
Remarks: "Other days, other times, other ways;
But I think she is really too fast!"

She also plays ericket, and keeps a good wicket;
She also can hockey and row;
And Shylock of Venice should match her
at tennis—
His pound of flesh quickly would go.

At basket-ball, too, she has made her debut;
She camps—she does everything well;
But yet she confesses each game needs new dresses—
Which means—more than we'd like to tell.

In the works of Diana Miss V. V. throws a spanner
For poor dear Diana was vain;
Besides, the young lady was mooney and shady,
While our Miss Gwen V. has a brain.

She gets women talkers and women world-walkers
To come and give lectures and things
On "How to Stop Weeping" and "Careful Housekeeping,"
And "Men and their shortcomings."

"Domestic Economy," "Notes on Astronomy,"
"How I enltered the Globe,"
"The New Sociology," "Talks on Mythology,"
And "Just how to probe the microbe."

Our fancy enthuses on nine ancient muses,
Who once were the joy of the Greeks;
But these all go flying off, shrieking and crying,
As soon as Miss Gwen Varley speaks.

We kick our old muses, sans any excuses
To lie, till swept up, in the street.
Miss Varley, we raise you to heaven, and praise you,
And throw down our hearts at your feet!

MORE HINTS FROM THE WIRELESS WORKSHOP

*Explaining How Apparently Disadvantageous Body Capacity
May be Used to Advantage.*

(By Don B. Knock, Associate Technical Editor.)

ONCE the beginner in this fascinating study of wireless communication makes enough progress to understand a little about the subject he is dealing with he wants to know more and more, and his enthusiasm makes the work-bench the most interesting place in the world.

It is in the workshop, or laboratory, that new ideas are formed and old ones improved upon with the final evolution of the practical application, which may be a success or a failure. There is so much that we do not know about wireless science, even in these days of international broadcasting, that a failure to attain one's objective only adds fuel to the fire and a determination to find out just where the cog is missing in the machinery.

When I think of some of my own early failures they seem strikingly ridiculous at times. They were mostly brought about by a feverish haste to get the work finished and the apparatus working, as it should according to theory, and I know quite well that there must be countless home constructors who are making these self-same errors, and who would welcome with open arms some well-timed advice.

Normally, there is actually no reason why a mistake should be made in wiring up a receiver when a back-of-panel wiring diagram is shown, but it often happens that the builder will be in such a hurry as to confuse himself about details which may not look very important, but which are the very heart of the circuit. In any case, I consider personally that a grave mistake was made from the first by technical wireless journals the world over by introducing the point-to-point wiring diagram.

The theoretical circuit diagram is never confusing; it shows plainly the function of each item, and leaves nothing to the imagination, but the point-to-point diagram may show the same theoretical circuit in dozens of different ways, for the reason that there are many different kinds of variable condensers, transformers, valve sockets, coil kits, etc. which when connected up may all produce the same result.

The symbols used in illustrating a circuit diagram theoretically are really very simple.

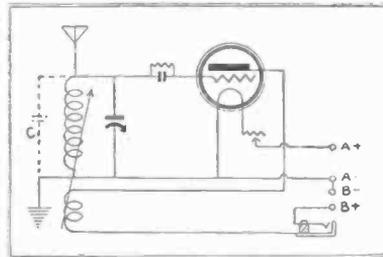
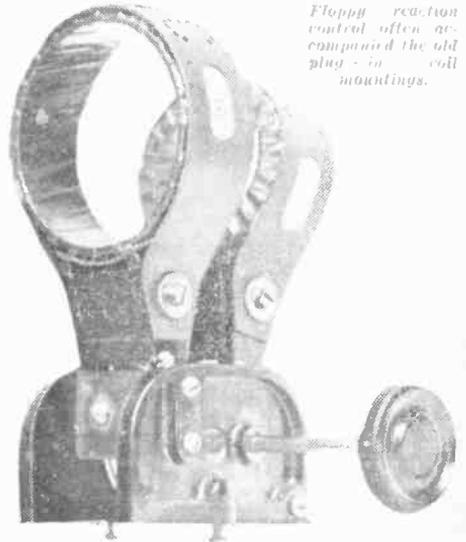


Fig. 1. Capacity to earth from grid may be duplicated by close tuning.

and it would pay everyone interested in the construction of any form of wireless or electrical apparatus to memorise them, after which it will be found that the wiring up of what may be a formidable-looking receiver is really very easy. Readers will find from time to time that "Wireless Weekly" will publish lists of these symbols, and it is well worth while cutting them out and keeping them filed for quick reference.



Floppy reaction control often accompanied the old plug-in coil mountings.

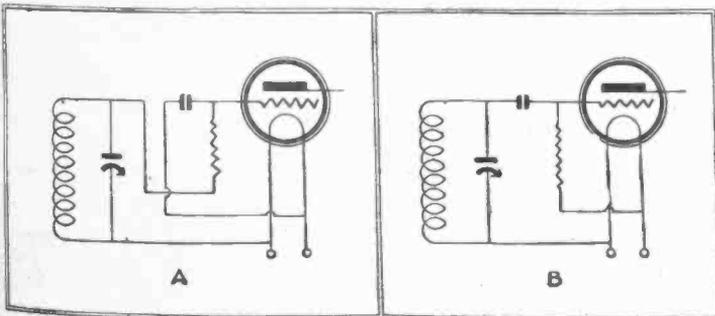
It is very disappointing to the man who has a newly-constructed receiver, and on connecting up the correct batteries, aerial, and earth, etc., to find that the promised results of range and volume do not materialise. A wrong connection can be very easily made owing to a misunderstanding, and where the constructor's knowledge of wireless and its components is limited he may be forgiven. There is no excuse for the man who has made himself a good technician in the building of sets, but has not troubled to learn something about the theory of the apparatus he is handling.

I recently met with an interesting case where a receiver had been built up according to diagrams and was very neatly wired, showing that the builder meant to get the best from his efforts, but the signal strength, no matter what was tried in the way of detector valve changes, etc., was very weak. A quick test eliminated the audio amplifier from blame, and, as it was a three-valve Reinartz, the only possible source of the fault lay with the detector. The usual .00025 grid condenser and two megohm grid leak with a separate clip mounting had been used, but a mistake had been made in the wiring, which a beginner could make and fail to notice without careful checking.

It had been intended in the circuit that the grid leak should be connected from the grid of the detector valve to the A positive, instead of the more common method across the grid condenser. The two were connected together correctly on the grid side, but in connecting up the other leads from the leak and condenser they had been mistaken, with the result that the other side of the grid condenser was returned to the A positive instead of the leak, and the leak placed in series with the grid end of the coil and the variable condenser stator plates.

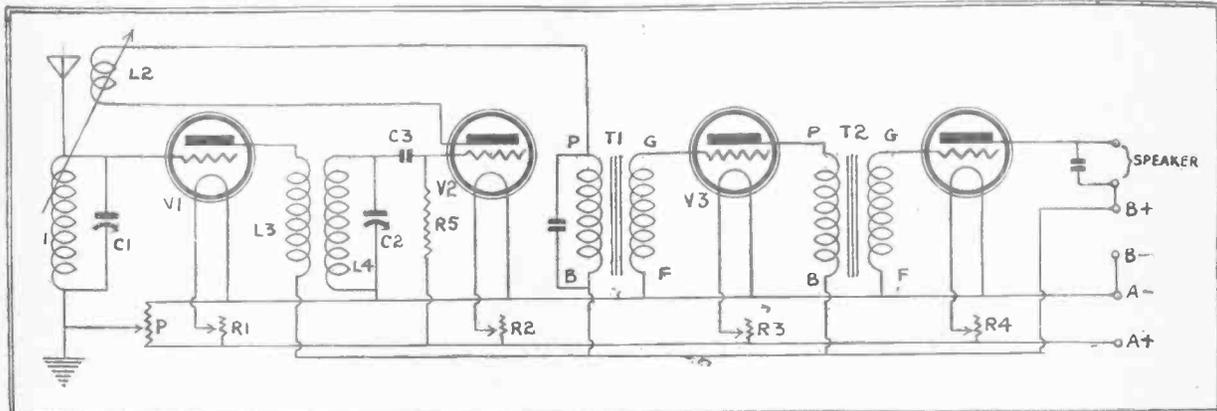
The diagram shows exactly what is meant by this—(A) showing the incorrect method, and (B) the correct. An elementary knowledge of the operation of the detector valve will at once explain the effect. The introduction of such a high impedance as two megohms in series with the grid of the detector valve, compared to the low impedance of the grid condenser, prevented the detector from rectifying at anything like its normal efficiency.

It was only necessary to reverse these connections and the set immediately came to life with the usual excellent performance of the Reinartz circuit. Only a little detail, but quite sufficient to "throw a big spanner in the machinery" and ruin the performance of the set.



A beginner's easy mistake. (a) Incorrect wiring—little or no signals. (b) Correct.

BODY CAPACITY EFFECT MAY BE CHECKED IN RECEIVER



A once familiar type of circuit and—

The following discussion of certain effects noticed by the user of the average set using a regenerative detector and one or two audio stages is prompted by one of my most common queries. Often will a reader write and say that he notices that when he places his fingers on certain parts of his receiver there is a considerable increase in signal strength. How often have you built a set and had this happen to you?

Not only does this effect puzzle many constructors, but it is apt to be very exasperating for the reason that it often seems impossible to overcome the trouble. Nothing is impossible, however, particularly in wireless matters, and if the trouble lies at "your finger tips," the best thing is to look for it there. The human body may be looked upon as a fairly high resistance or a fixed condenser, for it often acts as both.

For a rough guide we will consider the capacity to be in the region of .001 microfarads. Supposing that when you touch the aerial terminal of your receiver with your finger the local station seems to come up considerably in volume; this is nothing more or less than a tuning effect. By doing this you are really connecting a fixed condenser across the aerial and earth terminals of the receiver, owing to the capacity to earth of the body, and it should be obvious that careful tuning of your receiver will produce exactly the same effect.

In a receiver which has been carefully designed, with the rotor plates of the tuning condenser grounded, and with a metal panel, this effect will not be in evidence, for the reason that the tuning may be correctly done in the first place, and without any body capacity to earth. The effect of placing the finger on a correctly-tuned receiver will be to reduce the signal strength instead of increasing it. In this case, of course, I

am referring to the ordinary detector and audio type of receiver, but there is an exception to this when a very sensitive circuit, such as in the Marnock Five, with two stages of screen grid R.F. are used.

The human body can collect energy in the same way as an ordinary aerial, and if the finger is placed on the aerial terminal of such a receiver the effect is at once a tremendous increase in strength and a broadening of the tuning. Figure 1 shows the effect of the body capacity in an ordinary regenerative detector.

Even with a crystal set we can prove the same occurrence. If you disconnect the lead joining the telephones to the earth, no signals will be heard, for the reason that the detector circuit will be broken. Although the audibility of the signals is often too low for the human ear, yet they are still there, and you would be able to hear them if an audio amplifier were connected after the crystal set. The human body is really making up the connection as a fixed condenser between the telephones and the earth by reason of capacity to the head.

Often the user of a set will notice that quite a large increase in signal strength will occur when the aerial or earth terminal of the set is touched with one hand and one side of the 'phones with the other. The explanation of this is quite natural, but it is advisable not to try this with anything else than a set using 90 volts B battery at the most, or you may receive a shock. By doing this the body is placed right across the B supply, and if this is fairly low the effect is a regenerative one, and brings the set up to a more sensitive state. This may be counteracted again in the set itself, as it is only necessary to readjust the reaction control slightly to bring the circuit to the same condition. Figure 3 shows the con-

denser effect of the body in this instance. In figure 4 is illustrated how the body may act as a resistance, also producing "feedback" and an increase in signal strength.

The reader of this little dissertation may wonder why I am going to the trouble of explaining what may appear to be unnecessary phenomena, but now I will point out how useful these capacity and resistance properties of our earthly structure can be in radio work. Let us assume that you have just finished completion of a neat little two-valve set of quite a straight-forward nature. The circuit is of the "sure fire" kind, with

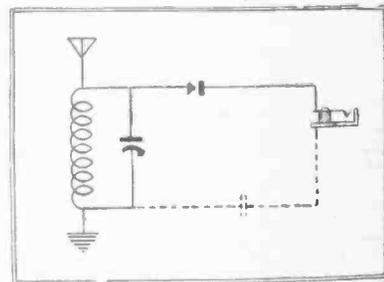


Fig. 2. Showing capacity to earth from head 'phones in crystal set.

a regenerative detector provided with a movable reaction coil, and followed by a transformer coupled stage of audio amplification. Everything has been scrupulously followed in the description of how to make the set, and yet it will not work properly. That is to say, it will work on the nearest local station, but it positively refuses to oscillate at all, thus reducing its range and selectivity.

Suddenly you touch one of the primary terminals of the audio transformer with the finger, and there is a considerable improvement in strength. By keeping the finger there and rotating the reaction coil the set oscillates merrily. What does it prove? You need a fixed condenser across the primary of that transformer, or if there is already one there the value of it needs to be increased. If the quality of the reproduction improves when the primary or secondary terminals of the transformer are bridged by two fingers it shows that a fixed resistance in place of the fingers would be beneficial.

Just because I have pointed out the use of the human body in simple little ways such as this in connection with wireless receivers, I do not expect readers to hold me respon-

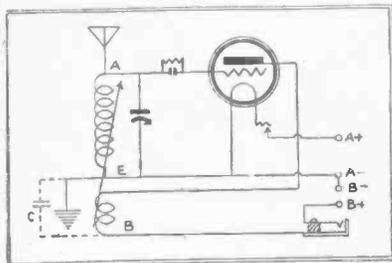


Fig. 3. Capacity to earth increases feed-back.

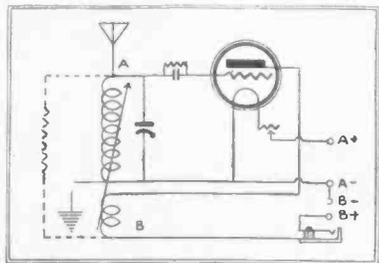
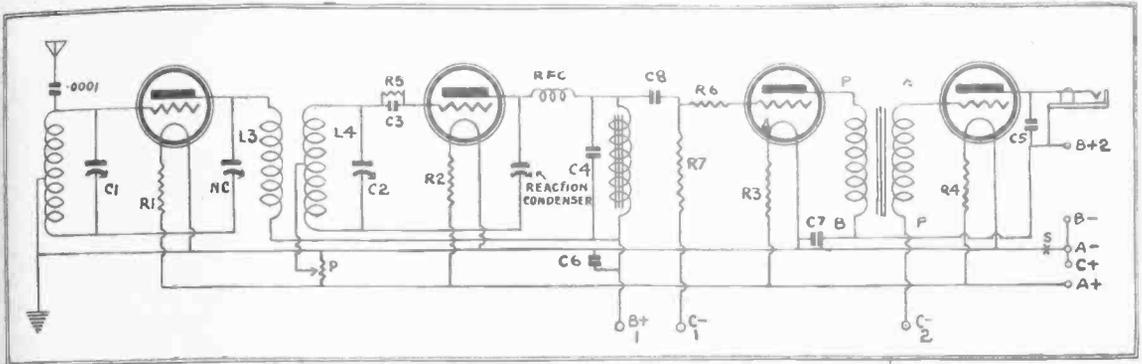


Fig. 4. Body may act as resistance, thus giving tendency to regeneration.

A METHOD OF MODERNISING A ONCE FAMILIAR SET



—its modernised version.

sible for shocks from B eliminators. My advice where high-powered sets are in use is to "let well alone," and use the correct testing instruments.

Though "Wireless Weekly" publishes from time to time constructional articles of a modern nature, there are still quite a large number of listeners who are using some of the old veteran receivers, and are not getting the best that broadcasting offers them in these days. Although the set works fairly well—as well as can be expected—they would like something better, but do not feel like going in for a new one. What is the objection to modernising the old veteran and making use of such parts as may be possible?

There are very few of the old-time sets which cannot be improved, and may be made to give a performance equal to the latest productions of the radio engineer. There are a lot of considerations why an old set should be given a new lease of life, and among them you will find stability, higher R.F. amplification, selectivity, and sensitiveness. No attention was paid to stability in earlier days, but since then it has been achieved by the many methods of neutralising the feedback in R.F. amplifiers, due to the internal capacities in the valves used for the purpose.

Then there is the question of reaction control—equally important. We now have new circuits and methods, allowing perfect smoothness of control, so that the set may be kept in a continuously sensitive condition without suddenly "spilling over" into oscillation. Those who have used, and may still be using, the now antiquated three-coil holder, with aerial and reaction coils variably coupled to the grid coil, realise how troublesome oscillation control may become if there is any floppiness in the variation of the reaction coil.

Audio amplifiers have also progressed, with their associated valves, beyond the wildest dreams, and it is only a short time ago that it seemed a practical impossibility to build a two-stage amplifier, which would reproduce speech and music at good volume without any distortion. The first circuit diagram of the two four-valve receivers shows a once familiar type of four-valve set occasionally seen in use even to-day. The second diagram shows its modernised version. You will see that the old set has an R.F. valve V1, with a single circuit tuner, coupled by means of an R.F. transformer to the detector valve V2.

Variable reaction on to the aerial is provided by the coil L2. Both the audio valves, V3 and V4, are transformer coupled, and it is obvious that only general purpose valves can be used here, since there is no provision

for grid biasing. Distortion is, therefore, bound to occur in the audio amplifier. As the B supply to the plates of all the valves is common, the voltage cannot be too high, and the fact of it being low does not allow the valves V3 and V4 to deal with the grid voltage properly.

The first thing to do, then, is to deal with the audio amplifiers, and provide for grid biasing. Arrange some additional terminals on the baseboard for B positive 2, C positive, C negative 1, and C negative 2. The positive output terminal is then disconnected from B positive 1, and connected to B positive 2. Probably the second transformer in the set is of an unsuitable ratio, and should be replaced with a more modern high-grade transformer, with a ratio of 4 to 1. A choke coupling takes the place of the old transformer in the first stage.

Instead of stabilising the R.F. valve by the potentiometer as before, a centre-tapped coil is substituted for the original L1, with the tapping connected to earth. Between the bottom of the coil and the plate of the R.F. valve is connected a neutralising condenser to look after the internal capacities of the valve itself.

The grid return for the detector circuit is taken from a centre tapping on the coil L4 to the potentiometer, and instead of using a variable rheostat for each valve an automatic resistance is substituted. A comparison of the two circuits will show the essential changes, which are well worth while, and which will make your "old-timer" a really modern receiver, which will make you wonder how on earth you were content to carry on with such an old-fashioned arrangement.

HAM NOTES

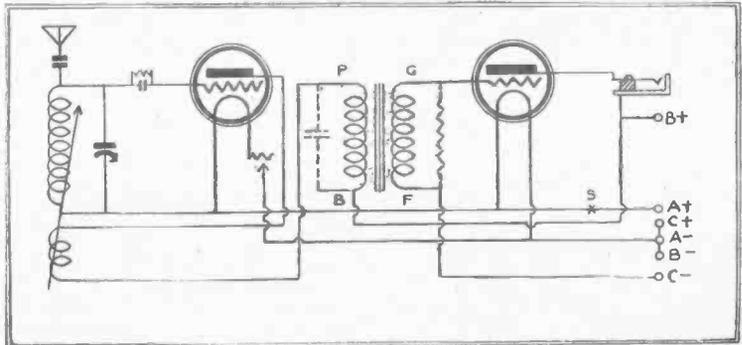
THINGS are beginning to boom on the 28,000 KC (10 metre) band in "hamland."

Managing to hook up with my old friend, Lieut. Rodman, VT2KT, in India, we had a long yarn away together on the 20-metre band, during which he gave me some very interesting information. He has just returned from his leave in England, and since then has worked 4 Australians, 7 Englishmen, 1 Belgian, and 1 Finlander—all on 10 metres, with only 9 watts input. N.T.B. for the previously-dispised frequency which the commercial people slung at the "ham" (I wonder how long for).

Even while I am writing, the tests are on until March 24, and as soon as this news from VT2KT gets around there will be a feverish CQ party on 10 once again. It seems that, after all, the 1-metre band will stand a chance of bearing fruit in the future, judging by recent results on its half lower frequency.

Through the courtesy of VK3CX I have discovered where VRIAH is located. He turned out to be old SC-IAH, at Chiquitaua, in Chile—one long known to Aussie "hams."

The new prefixes are as yet apt to be very confusing, and, unless the contact is really good, and one is able to get the full "dope" on the QRA, it frequently happens that one or both sides of the QSO are left in the air without any idea as to whom was at the other end, and where!



Placing fingers across transformer primary, thus producing oscillation, indicates that a bridging capacity is needed here.

TALKING BETWEEN CONTINENTS

How the America-Europe telephone service operates. Possibility of England-Australia service.

(By Our Melbourne Correspondent)

PEOPLE interested in radio matters and general readers also have noticed in the press frequent references lately to long-distance telephony. It is now no "stunt" to talk by wireless telephone across thousands of miles separating far distant countries; and truly the marvels of radio are making the world smaller.

The telephone service across the Atlantic from America to Europe is a well-established commercial service. Any telephone subscriber in the United States or Canada can "book a call" for almost any place in Europe. The ordinary land lines are, of course, used in the respective countries on either side of the Atlantic, the huge track of ocean being bridged by a radio telephone circuit. The transmitters are situated in England (at Rugby) and the United States (Long Island, near New York), and the receiving stations situated some miles distant from the transmitters.

Actually there are two distinct channels of communication by radio—one by long waves and another auxiliary circuit worked on short waves. The long-wave circuit with its huge power of about 300 kilowatts is the normal circuit and when the short-wave circuit is introduced the persons conversing are not aware of the difference.

This service was not inaugurated without a long series of tests and experiments extending over several years. A lot had to be learned about transmission and reception—overcoming fading and atmospheric, etc.—and necessarily the tests covered many months in order to cover the effects of seasonal changes. Having regard to those long periods of testing it will not be expected that any Australian international service will be established at an early date. The process of trial and experiment must be gone through and long periods of patient observation and research completed before anything approaching satisfactory commercial service can be attempted.

There have been several satisfactory experimental transmissions already. For many months 3LO Melbourne conducted a session of world broadcasting on short wavelengths. Those transmissions were in the nature of test transmissions for reception in distant countries, and the successful receptions in places distant thousands of miles from Melbourne were surprising. Hundreds of reports were regularly received from Europe, Asia, America and Africa.

More systematic telephony trials have recently been carried out by Amalgamated Wireless between Sydney and New York and Java. The results were quite satisfactory, although it was at no time claimed that anything approaching a commercial service could be guaranteed. That will come only by degrees, and these tests now to be arranged with England will be an encouraging start in the preliminary work of establishing regular telephonic service between Australia and the heart of the Empire.



Betty Ross Clarke, the well-known American stage star, who will shortly be heard in a series of recitals from the works of famous authors at 3LO.

Muriel Starr Produces Radio Plays

ONE of the most important engagements during the broadcasting year is that of

the popular dramatic actress, Miss Muriel Starr, who has been engaged to appear in six Radio plays, and will be heard from 3AR on March 26 in "A Christmas Present."

Sacred Music

The production selected by Mr. Mansley Greer for the Tuesday evening before Easter is the successful passion cantata, "The Darkest Hour," by Harold Moore, which depicts the trial of Christ before Pilate and the Crucifixion, whilst the final composition for the series will be the Biblical scene by Dr. Herbert Brewer.

Mr. Mansley Greer will also act as organist, and his playing of the famous organ at Scots Church will be a special feature of the productions. Broadcasting from Scots Church is always a success on account of its acoustic properties, which are very suitable for microphone transmissions of big choral and organ productions such as these, and a delightful feature of the broadcasting from there is the intermixing with the music of the inspiring beauty of holiness and atmosphere of sanctity of Scots Church.

3LO SPORTING NOTES

Broadcasting from Randwick

THERE will be so much interest in the racing at Randwick Racecourse, Sydney during Easter week that 3LO, Melbourne, has made arrangements to have relayed to Melbourne the descriptions of the more important races to be run there. The A.J.C. autumn meeting always attracts the best horses in Australia, as well as some from New Zealand, and this autumn Sydney seems likely to be invaded by one of the strongest teams of visiting horses that has been there for some years. Melbourne will possibly be represented by such horses as Gothic, Strephon, Balmerino, High Syce, Highland, North Star, Carradale, Parkwood, Mollison, Crowdel, and many others. The New Zealand contingent will include Limerick again, and there will also be some smart two-year-olds from there. The races in which the most interest will be taken will be the Doncaster Handicap and the Sydney Cup, also the All-aged Stakes and the Cumberland Stakes on the third day of the meeting and the A.J.C. Plate on the last day of the meeting. All of those races will be described by 3LO, Melbourne, by means of relayed descriptions from Sydney.

Races at Williamstown

EASTER Monday is a favored day by racing clubs, and a large crowd of provincial meetings are held on that day. Williamstown Racing Club conducts the metropolitan fixture, and good horses are usually attracted by the Williamstown Racing Club Easter Cup. This year there will be a number of good middle distance horses left in Melbourne, and the race should be full of interest. 3LO, Melbourne, will describe all of the races at the meeting, the descriptions being in the hands of Eric Welch, who will also broadcast his selections for the meeting at 10.50 on the morning of the races.

Great Eastern Steeplechase

ARRANGEMENTS have been made by 3LO, Melbourne, to have a description of the Great Eastern Steeplechase relayed from Adelaide on Easter Monday, April 1. The Great Eastern Steeplechase is the richest steeplechase run in Australia during the year, and this year it has attracted an entry from New Zealand, as well as the best jumping horses in Victoria. The race is run on the famous Onkaparinga Racecourse at Oakbank, and is usually a race of great excitement from start to finish.

Cricket Finals

EASTER Monday will see the pennant cricket competitions in Victoria rapidly drawing to a close. The semi-final, which commences on Saturday, March 30, will be concluded on Monday, April 1, and the two teams which will contest the final will meet on Tuesday, April 2. The game will then be continued on Saturday, April 6. On each of the days that the semi-finals and finals are being played Rod McGregor will broadcast full descriptions of the play through 3LO, Melbourne. The broadcasts on Monday, April 1, will be interspersed with descriptions of the races at Williamstown, Randwick, and Oakbank, South Australia.

Sandown Park Races

ON Saturday, April 6, races will be held at Sandown Park, and 3LO, Melbourne, will broadcast descriptions by Eric Welch of all the races there. In addition acceptances for the meeting, which will be declared on Thursday, April 4, will be broadcast from 3LO during the afternoon news session. Eric Welch will speak on the form of the horses on Friday night, April 5, and he will broadcast his final selections on the morning of the races at about a quarter-past eleven.

EASTER WEEK PROGRAMMES

Easter Week Festivities

CEC. MORRISON'S Dance Band is playing from the Hotel Australia throughout Easter Week—from Saturday, March 30, to Saturday, April 6—and this excellent combination will be broadcast alternately through 2FC and 2BL throughout the week. The usual Good Friday night concerts have been arranged. 2FC have supplied a concert programme to the Central Methodist Mission, which will be broadcast from the Lyceum Hall, and 2BL will take an hour's organ music from the Arcadia Theatre, Chatswood, interspersed with vocal items from the studio, to which Fosse Brakell and Clem Williams will contribute. It is with considerable pleasure the big following he has on the air will welcome the return of Mr. Williams after a long and serious illness. Alf. Lawrance and Nell Crane will be over from Melbourne, and are booked to appear at 2BL on Easter Monday night, April 1. On that evening Donald M'Beath, the famous violinist, will be heard by 2FC listeners.

Tommy McAuliffe to Broadcast

ONE OF THE BEST golfers in the Buffalo District Golf Association is Tommy McAuliffe. Overcoming handicaps is part of the game, but Tommy McAuliffe has surmounted a handicap of a different kind. He has become one of the greatest golf players in the country, and this despite the fact that he has no arms. His exhibition is not only wonderful, but is a great inspiration to people with any sort of an affliction. Without arms Tommy plays a game anyone would be proud of, and makes tricks and fancy shots few people can equal. He uses ordinary clubs with a special corrugated grip, and he holds them between the angle of his jaw and his right shoulder, the head movement giving the club an easy rhythmical swing, with quite an elaborate follow through for the wooden shots. He will be heard over the air from 2FC on the evening of March 23 at 7.45, when he will explain to listeners how to manage to get through life without arms.



Madame Gooren-Viceroy, who is arranging a classical programme from 2FC on April 17.



Donald M'Beath, the Australian violinist, who will broadcast from 2FC and 2BL on April 1 and 3.

Donald McBeath

THE New South Wales Broadcasting Company has just made arrangements for the appearance in Sydney on April 1 and 3 of Donald M'Beath, the famous Australian violinist, who was chosen by John MacCormack to tour the world with him. Prior to joining up with Evelyn Scotney, who is touring Australia this year, Mr. M'Beath will find time to come to Sydney from Melbourne to give these two broadcast engagements.

Melbourne Relays

AN INTERESTING SERIES OF RELAYS has been arranged throughout April by the New South Wales Broadcasting Company, whereby listeners with crystal sets will be afforded an opportunity they otherwise would not have of hearing the Melbourne stations. On Thursday, April 4, 2BL will relay 3AR between 9.0 and 10.0 p.m. On the following Thursday, April 11, 3LO will be relayed by 2FC between 9.30 and 11.30 p.m. This is 3LO's dance night; so here is a chance of arranging home radio dances to the strains of the famous "Radio Revellers." An hour's dance music will be taken by 2BL from 3LO on the following Thursday, April 18, and the final relay for the month will be from 3AR through 2FC between 9.0 and 10.0 on the evening of Friday, April 26.

League of Nations Council

IN connection with the meeting of the Council of the League of Nations at Geneva in May arrangements have been to broadcast the proceedings. The New South Wales Broadcasting Company, which is anxious to arrange transmissions from this historic conference, have been advised that preliminary tests will be carried out by Station PCLL, Holland. These tests will be given on March 14, 21, and 28, at 2.0-2.30 p.m. London time, or 12 midnight to 12.30 a.m., Sydney time. The power to be used is 25 kilowatts on a frequency of 16,666 and a wave length of 18.4 metres. The engineers associated with 2BL and 2FC will listen to these tests, and if the reception is satisfactory portion of these programmes will be placed on the air.

Interpretations

A UNIQUE competition has been arranged for 2FC listeners on Thursday, April 4. It is styled an "Interpretation Competition," and the artists participating will strive to create the atmosphere of the nationality they represent. Brunton Gibb will do a Coster act; Carlton Fay is an Italian for the occasion. Ad. Cree could not be other than a Scotsman, and Joe Cahill is, of course, the Irishman. Jim Donnelly is the American, and Montgomery Stuart a Frenchman. H. W. Varna represents his homeland—England. Listeners are asked for an expression of opinion as to which act is the most vividly portrayed, and the one who forecasts the winner will receive a prize of £2/2/. On the same evening through 2BL the first of the inter-State relays will be taken from 3AR, commencing at 9.0 o'clock.

"Crucifixion"

THE outstanding item of 3AR's programme for Good Friday will be the broadcasting of Stainer's "Crucifixion" from St. Paul's Cathedral. This favorite Easter oratorio is one of the events of the church year and the very fine interpretation always given by the Cathedral Choir with special soloists is a performance that no listeners can afford to miss.

More Easter Features

GOOD FRIDAY at 3LO will commence with the broadcast of the morning service from St. Paul's Cathedral. During the afternoon the Station String Quartette will be heard in specially selected numbers, interspersed with solos from Dawn Harding, J. Alexander Browne, and Agnes Fortune. In response to many requests the song cycle, "Songs of the Hebrides," will be included in the programme. They will be sung by Ella Riddell, with a brief talk on their origin and picturesque birthplace by Frances Fraser.

Lenten Customs

FRANCES FRASER has chosen "Some Lenten Customs and their Origin" for her subject at 3LO on March 28. Few Australians have travelled more extensively than Miss Fraser, who has spent much time in Europe studying the quaint customs of many nations.

"The Darkest Hour"

AMONG the special Easter music attention is drawn to the Passion Cantata, "The Darkest Hour," by Harold Moore, which will be transmitted from Scots Church on March 26. The soloists are Annie Caddell (soprano), Madame Gregor Wood (contralto), Leslie Paull (bass), and William Davey (tenor). The choir is under the direction of Mr. Mansley Greer, who will also officiate at the organ.



E. G. Findlay, the well-known pianist, who will be heard from 3LO shortly.



James Hay, of Gilbert and Sullivan fame, who will be singing from 3LO on March 25.

Auburn Methodist Church Concert

UNDER the direction of Mr. J. Sutton Crow a combined organ and vocal recital will be given at the Auburn Methodist Church on March 28, and broadcast by 3AR. Vocal solos will be rendered by those two well-known concert artists, Miss Sybil Shaw and Mr. Allan Eddy, and organ numbers by Mr. Sutton Crow include "Andante in E Minor" and the "Pilgrim's Chorus" from "Tannhauser."

James Hay Returns to 3LO

JAMES HAY, the popular Gilbert and Sullivan artist, will be singing from 3LO on March 25, where his contributions to the programme will be greatly appreciated. Apart from his success as a vocalist he will be remembered in connection with the much-discussed opera, "Ruddigore," which he produced in Australia with conspicuous success.

Senator Payne at Wesley

THE Pleasant Sunday Afternoon Service to be broadcast by 3LO from Wesley Central Mission on March 24 will prove most instructive and interesting. Senator H. J. M. Payne, who recently returned from his trip overseas, will give an address, "How Europe Impressed Me;" special vocal items will be rendered by the Stonnington Quartette Party, and operatic selections will be played by the popular Wesley Orchestra under the direction of Mr. G. M. Williams.

Pat Returns to 3AR

PAT McLEAN and her ukulele are due at 3AR on March 25 to the delight of the wide circle of listeners who appreciate the true spirit of comedy. Pat is a very versatile little lady, and can extract every ounce of wit from a comedy number; but it is with her immensely clever child impersonations that she scores her greatest successes. She is a veritable "tiger" for work, and her repertoire always contains the latest and best numbers.

Wireless Weekly

Incorporating "Radio in Australia and New Zealand."

FRIDAY, MARCH 22, 1929.

RADIO FAMILY PARTY

TO people who do not listen-in, the least understandable thing about a radio fan is his immense enthusiasm. He pursues his interests with a singleness of purpose seldom met elsewhere, and this often leads people to dismiss him summarily as a "crank."

The unfairness of this attitude does not need our comment. If the radio fan finds grid leaks more fascinating than garters, and potentiometers of more consequence than ponies, it is merely an indication of his energy and ability in certain directions. However, the mild social ostracism with which his seemingly strange pursuits are met, has had a powerful influence upon him.

It has caused him more and more to seek his friends among those who share his interests. And even more than that, it has produced a camaraderie among radio fans generally. How many firm friendships have been the outcome of casual references to circuits and sets. How many times has every advanced radio fan helped an enthusiastic beginner.

Some time ago we published a letter from a reader who wanted to obtain a copy of a long since sold out issue of "Wireless Weekly" in order to build a set from details published therein. Within a month he had received fifty letters from listeners in every State in the Commonwealth, not only informing him that they had posted him their copy, but also advising him how to go about building the set from their own experience. Since then numbers of readers who have collected or saved their copies of "Wireless Weekly" have written and placed them at the disposal of others who might desire them.

What other than a wireless paper can boast of such a spirit among its readers? Always our observations have confirmed the fact that radio fans are willing, indeed anxious, to share their knowledge and experience, not only with advice, but in practical matters.

Nearly every radio fan has, at some time or another serviced his neighbors' sets or otherwise helped them, grumbling perhaps, but good-naturedly. It is this communal spirit which makes him the valuable citizen he is, even though he may often be branded as a "crank."

Increase of Wireless Licenses in N.S.W.

THE figures presented by the P.M.G.'s Department last week show that there are now 94,404 licenses in New South Wales. The net increase for the month of February was 1,723 out of a total increase for the Commonwealth of 2124. This State also presented the smallest percentage of cancellations of licenses previously existing. February covers a period of particular interest to New South Wales, for it was in that month in 1926 that this State received its last set-back in radio licenses. Ever since then there has been a steady but definite increase, and February of this year sees the close of a term of three years in which exactly 62,000 additional licenses have been brought into existence.

The steady upward trend month after month in new licenses and the gradual decrease in lapses, must prove beyond doubt that the policy governing the administration of broadcasting in New South Wales is meeting with approval. There are, however, certain directions in which improvements can be brought about which will be to the mutual benefit of the radio stations and the listening public.

Each week the Radio Inspector of New South Wales supplies a list of successful prosecutions for evasion of the payment of wireless licenses. Attached to the list received last week was the following notice:—

"Sixteen prosecutions are already pending for the first week in March of persons who

have been availing themselves of the broadcasting services without being in possession of a wireless license."

It is very evident that with the whole State to cover, however energetic the officers in the Radio Branch of the P.M.G.'s Department may be, they can only detect a small percentage of people who are evading their obligations. Some twelve months ago an appeal was made for the co-operation of licensed listeners with the broadcasting stations and the P.M.G.'s Department in an effort to prevent piracy. This was very successful. In view of the continuation of the practice of evading the payment of license fees by such a considerable percentage of set owners, the question arises as to whether the time is not suitable for another State-wide drive.

It has been previously pointed out that every increase of revenue leads to an improvement in the services rendered by the "A" class stations, and this in turn makes the possession of a wireless receiving set still more attractive. The exacting claims that are being made upon those controlling broadcasting are an ever-increasing quantity, and the payments made in copyrights, royalties, and fees, of which the public have little or no knowledge, are eating into the revenue previously available for programmes to such a degree that to maintain the standard which has apparently proved so satisfactory during the past three years calls for a still greater percentage of new licenses.

WIRELESS LICENSES

	FIGURES FOR FEBRUARY, 1929.			
	%	Total.	New.	Cancelled.
N.S.W.	94.404	2,498	775	1,723 Inc.
Victoria	141,642	2,136	1,773	363 Inc.
Queensland	24,543	319	558	218 Dec.
S. Aust.	22,682	467	205	262 Inc.
W. Aust.	3,820	54	53	1 Inc.
Tasmania	4,198	201	201	6 Dec.
Commonwealth	291,289	5,696	3,571	2,125 Inc.
TWELVE MONTHS TO 28.2.29.				
New South Wales				Inc. 18,135
Victoria				Inc. 5,232
Queensland				Dec. 377
South Australia				Inc. 3,230
West Australia				Inc. 40
Tasmania				Inc. 1,360
COMMONWEALTH				Inc. 27,949

The Young Idea Gets Radio - No.2



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.

Phrases that Stick, from 2FC

1. "Now, here's a letter from Jean, of Epping ———" (The Hello Man).
 2. "Er-feresh and er-skerwally on the coast." (Lawrence Halbert).
 3. "Mr. Mackellar is just calling the boys into line." (Mr. Ferry, Racing Comm.).
 4. "The recipes to be demonstrated are Scones, Potato Cakes, Fried Noodles, and Billed Chopsgoodbye." (Miss Furst. Cooking Talks).
 5. "This is the loveliest bloom that has ever been seen, friends, in Australia." (Redgum).
 6. "The fielding of Vic. Richardson to-day is superb." (Cricket Announcer).
- Yours, etc.,
Greenwich.

G.D.S.

Another "Ghost" Voice

Dear Sir,—I noticed readers complaining about their receivers picking up telephone confabs. Well, my received was a three-valve Reinarz, with interchangeable coils for long or short waves. One day I was changing coils, and left the set switched on, and as soon as the coil (tuning and react) was removed a voice spoke very loudly in the speaker. The telephone wires are within 20 feet of the set, and my aerial runs at RIGHT ANGLES to them. A loud squeal accompanied the reception, but can be stopped by turning down the Det. Rheostat. Imagine the volume if the aerial had happened to be parallel. Trusting this will be of interest to you.—Yours, etc.

M. McD.

An Old-time Night

Dear Sir,—The little town of Albion Park, which lies in the midst of the dairy farming country of Illawarra, lately found that it was difficult to attract a satisfactory attendance to social functions. What to do perturbed organisers of such functions, and even the presence of special jazz musicians at a recent function was not entirely a successful move. But lo! Some person had a brain wave a few days before the recent broadcast on February 25 of an old-time dance night at 3LO, and, although the notice was short, an old-time dance night was announced, and arrangements hurriedly made, a local resident offering the use of a receiver.

The result surpassed even the most optimistic, for even grandmothers and mothers whose presence is unknown at the present-day dances, came along and joined in the old-time dances. It was a night that will long be remembered by old and young, for the reception was almost perfect—very little static and ample volume. The old people revelled in the music of Hoffman's Dance Band, as did the assemblage generally.

The tennis club was also highly delighted for its funds were augmented to the extent of £8/10, the profit on the night. And now the town is thoroughly aroused, and is already inquiring as to the date of the next old-time dance night. Even the older portion of the male population is just as enthusiastic as the women folk.—Yours, etc.,

Dapto.

D. L. DENNIS.

Running Him Down

Dear Sir,—I would just like to say the man who wrote the letter, entitled "Poor Announcers: Poor Announcing" ought to write another letter and then die. Let him try to undertake the job of the announcers, and see how he would stand. He would not stand long; he would be lying low. I am afraid. He is not worth wasting ink, paper, or time with, so let him mind himself or he'll have some of the million "nieces and nephews" running him down.—Yours, etc.

Pennant Hills. "EVER LISTENING."

Echo Effect at 3JR

Dear Sir,—On reading the article "Radio Echoes from Space" I thought that, perhaps, you would be interested in the reception of echo signals at VK3JR.

During the latter part of last year signals from LPI in Argentine could hardly be copied on account of the echo effect, the QRH being about 33 metres, and the time about 7 p.m. to 8 p.m. At times when he was sending a dash I could count as many as three echoes, some fainter than others. The dash would sound like a B ——— and echoes would appear within a fraction of a second. The same thing has been happening to KEL on about 43 metres lately at about 9 p.m. Also signals from WIK on 22 metres are noticed about 8.30 p.m. to 9 p.m., but only on certain nights.

By listening closely one can count the number of echoes, and if the station has been sending long dashes every now and then one can make more accurate observations. I think that the echoes I heard only traversed the earth once.

Now take LPI in Argentine, for instance. It is a little more than halfway around the world. You know, of course, that a signal sent out from a radio station disturbs the ether—like a stone disturbs the surface of a pond of water when dropped into it—and the signal thus sent out is reflected from the Heavyside layer to earth, and back again until the signal has diminished in strength. The signal sent out will travel in either direction—say, one to the east and one to the west. You will note that the shortest distance is via South Africa, and the signals travelling by this route will reach here a fraction of a second before the other, and so on. The signal going to the north-west of Argentine would travel a further distance still to reach Australia, and would arrive a fraction behind the others.

Provided that the angle of reflection from the Heavyside layer reflects this wave to the receiving station, you can notice this echo effect, and the strength of echo will vary according to the angle of reflection and the magnetic field surrounding the earth, and the receiving and transmitting aeriels' direction etc. One way of overcoming that effect is by beam if it is required to be stopped, and then the signal, if the beam is powerful enough, may traverse right round the world and cause an echo, as others have suggested. Then, of course, if it is an ultra power station signals may break through the Heavyside layer, and be reflected as suggested by Professor Stormer.—Yours, etc.,

Preston. CHRIS. RAINBOW (VK3JR.)

Too Much Music

Dear Sir,—What are wanted to improve programmes of all stations are more descriptions of things and events taking place from the spot. There is far too much music—music—music. Oh Heavens! Look at the programmes. And, honestly, I am fond of music.—Yours, etc.,

Borenore.

"BUSH."

In Defence of Banjos

Dear Sir,—I have just finished reading Lewis Hazell's little letter in this week's "Safety Valve." Now, sir, Lewis says he dislikes banjos. Why? I can see no reason to hate the banjo at all. It's a good instrument, I think, and the lively, lilting tunes generally put over the air on a banjo make one sparkle up a bit; as for no music in them, well, Lewis could never have listened to a banjo played properly.

Now poor ole "Haze" has a grouch about 3LO, too. He does not like their dance music. Well, if he doesn't like it, why can't he tune 3LO out while it's on and pick up another station? There are about 12 to pick from in Australia, and surely he can find one that will suit, one that doesn't play banjos and dance music, but only waltzes and schotische.

Furthermore, Mr. Hazell wants chess put in "Wireless Weekly." Well, well, now! Fancy having chess in such a good journal as "Wireless Weekly." The Editor may as well have a cricketing page and score the first run or have a page for bowls. Ah, Bowls! That's it! I think that would just about suit L.H. down to the ground. With his old-fashioned ideas on bowls and chess he would be a happy old man; but, unfortunately, I think he would be the only one, though. So I think it would be wise to leave chess, etc., well out of "Wireless Weekly," and give us room for more technical matter, which would be appreciated by every reader of this journal. Just fancy! Chess!—Yours, etc.,

St. Marys.

J. J. VINCENT.

G. E. Tests

Dear Sir,—I wish to inform short wave enthusiasts through your valuable paper that the General Electric Company's station KGO is conducting a series of Saturday evening programmes from 9 o'clock till 12 midnight (American time), which corresponds with 3 o'clock till 6 o'clock Sunday afternoon (Sydney time), and they are working on about 21 or 22 metres. They are very clear and strong. I worked them this afternoon myself on my three-valve set, which is the H.M. D.X. circuit broadcast from 2BL about two years ago as a two-valve circuit, to which I added second stage of audio. I have had very good results from this set. Stations heard are as follow:—WLW, 2XAD, 2XAF, 2XAL, 2XG, RFM, RFN, PCJ, PCL, 5SW, 2NM, ANE, ANH, GC, Parl, JHBB, VPD, Suva. New England Amateurs 2ZAG, 23AJ, 23AU, 23AR, and many foreign stations, but I cannot get their call signs. KGO is sending out a fine programme—no gramophone records.—Yours, etc.,

Mayfield.

F. J. REDHOUSE.

The Listeners' Safety Valve [Continued from previous page]

Pim and Pam

Dear Sir.—Letters appear in your paper from week to week complaining about announcers and artists. Now what about that "Advertising Talk and Nonsense" given at 2BL each night. It's a disgrace to any station.

Why not have "Mr. Pim and Miss Pam" from, say, 7.10 to 7.25 p.m., and from then on until 8 o'clock have market reports and late news service for country listeners.

Cremorne.

Yours, etc.

"FED UP."

Apologies

Dear Sir.—I would like to offer my sincere apologies to "Constant Reader" through the "Safety Valve" for not being able to guess in my foolishness and brainlessness that he meant just the opposite to what he wrote about the Theosophical station.

I am also sorry I presumed upon his knowledge in telling him about something which happened about two years ago when apparently he has known of it for the last four years.

Yours, etc.,

S. H. EAST.

Mascot.

Inter-State Programmes

Dear Sir.—Quite frankly, we don't like the way the inter-State programmes are now laid out. Of course, we understand that you are hard pushed for space, and that to enlarge the programmes would require the reduction of the amount of space devoted to more interesting matter.

But why don't you publish the night sessions only of the inter-State stations, just giving a schedule of the day sessions? This would enable you to space out the inter-State programmes, and I am sure no one will be inconvenienced, as very few people tune-in the day sessions of the inter-State stations, with the exception perhaps of 3LO and 4QG.

Yours, etc.,

L. REDDLEMAN.

Orange.

(The Editor would be glad to hear from other readers on this subject. How many people listen-in to the day sessions of the inter-State stations and require a programme?)

"Go-Getter" Got There

Dear Sir.—I am writing to let you know of the results I have obtained on the Go-Getter short-wave receiver, published in December 27 "Radio." I have not been able to build it until now, but the results are all you claim. I completed it 'two weeks ago, and tried it out on Monday, January 28. I logged that night PLE, Java; PCLL, Holland; PHY, Huizen, Holland; at loud-speaker strength. Last Wednesday I had 2ME testing with PLE, and PLE with PCLL, PHY and 2FA. I have also received R*N on 66 metres very strongly. The set is easy to tune and there is hardly any body capacity.

I am using UX-201A's, the detector the same. It oscillates all over the coil ranges with 24 volts on plate. In fact, on the 'phones two valves give sufficient volume, the third giving speaker strength. I have heard several short-wave sets, also those using the screen-grid valve, but the Go-Getter is hard to beat.

Yours etc.

V. T. DUGGAN.

Albert Park, Victoria.

No Say, Thank Goodness

Dear Sir.—If "Fedup 2" ("Safety Valve," 15/2/29) wants to get rid of

that fedup feeling, let him try liver pills; he is fond of using V.E.; if HE would scratch his brains a bit, he would remember the result of the most popular item ballot some time ago. The 'A' class stations broadcast approximately 6152 hours a year, about 130 of those are given to church services. He says that "most religious people go to church." Well, the same could apply to sporting, dancing, etc., so why broadcast at all? There must be a lot of listeners not fedup, and a lot hungry. What about the renewal of licenses, and new licenses? There are two things I am grateful for. Firstly, the good class of programmes we get, and, secondly, "Fedup 2" has not got a say in them.

Yours etc.

LICENCE NO F9331.

Glebe.

Constructive Comment

Dear Sir.—Having recently noted with interest several of the statements in your columns, I would like to add a few opinions of my own.

Replying to Fedup 2, I would like to shake hands with him for writing that paragraph under "We are Not Wowers," though I am afraid a few of us do belong to that category. I would like to correct one word in Mr. Fedup's letter, viz., "dead," in line 6. The sermons inflicted upon a long-suffering public are mostly worse than dead. Their demise occurred some time ago, and they are now in an advanced state of putrefaction. I suppose there are some people who like this high stuff, just as there are people who like "high" venison. But it is all a matter of taste. What would we say if "Wireless Weekly" devoted half its space to photography or some other hobby? It would suit some of us admirably, but it is far better to leave photography to be discussed by the papers which already specialise in it. If a butcher sells bad meat with the good, who will then patronise him? If a broadcaster "puts over" good stuff, with a sprinkling of the bad variety, or vice versa, who will tune him in? Practically nobody. Those who don't mind a heterogeneous mixture may find joy in listening, but we, the majority, will tune to a station which delivers the goods, or, alternatively, we will switch off. But those who like hot air won't tune in to such a mixed programme as I have suggested because there is too much decent matter with it, and, conversely, people who like good items will tune in another station rather than bother about sorting out the mush.

I hereby second the motion proposed by Fedup, i.e., that the soft-soapers, wowers, etc., should have their hot-air diet from one or two stations, thus allowing the others—the majority—to listen in peace.

Being consistent, I will allow the wower one small concession. There is too much horse racing and cricket being broadcast. Don't misunderstand me. I am quite in sympathy with the followers of these sports, but those who listen, e.g., to horse racing on Saturday afternoons only possess ordinary receiving sets, I presume. By this I mean sets which will only tune in one programme at a time. Therefore, those who listen to race descriptions are only able to tune in one station at a time, either 2FC or 2BL, and the other station's power is going to waste, for all the racing enthusiasts could tune to one of these stations, and let the other broadcast something else, e.g., music.

I, like many others, no doubt, find it very

annoying sometimes to turn my tuning dial and find that two stations are broadcasting the same, when one of them could be catering for others than racing enthusiasts.

If these two stations were rival business concerns, instead of co-operative, I could understand each of them broadcasting the same programme, because racing undoubtedly is one of the most absorbing topics. Perhaps it is economy—though of an objectionable kind—to broadcast the same programme as another station, and to go fifty-fifty in the cost of production, but surely it doesn't increase the number of licenses sold, and, in any case, when we pay for the service of two stations we want two programmes to choose from. Now we find that one or two stations which used to cater for the music-lover have gone over to the puritanical side, which says "Church before enjoyment."

Some of my friends, the clergy, will reply, "But church is enjoyment." I dare say it is to a lot of us, but there is no reason why some people should have to choose between church and switching off when they could easily be given another choice. Anyhow, nobody needs to listen to church twice a day, and if they do need to, surely about half of the broadcasters would be sufficient to cater for the main denominations, leaving the others to cater for:—

1. Those who went to church in the morning, or who intend to go at night.
2. Those who find it undesirable for one reason or another to listen to church.

And why should the N.S.W. Broadcasting Company add to its present "small income" by broadcasting.

It is excusable in the case of the "B" stations, but if the N.S.W. Broadcasting Company cut out advertising it would not be necessary to raise our license fees. In the case of a paper such as "Wireless Weekly," it is different, for the very great majority of us utilise the advertisement service, and it certainly would be necessary to raise the price of "Wireless Weekly" if it could not advertise, because that is a totally different matter.

Now to reply to "Disillusioned." This gentleman (or possibly lady) is quite right, even if a little extreme in some of his opinions, as I know from some of my own observations of children, and a lot of the wasted time could be better spent in educating the children in taste for music, literature, sport, and the many other things that mean more to a child than does the birthday greeting which only comes once a year, and which, when it does come, only concerns one or two people, while the others sit around the loud-speaker yawning. I would like to see improved children's hours.

But, here again, why should all stations do likewise? From 5.30 p.m. there is children's entertainment (?) until about 7.30 p.m., and at a later hour the so-called "dinner music" commences. Unfortunately, just a little too early to lull us to sleep, by which I mean to imply that probably the average Australian has finished the evening meal before the "dinner music" commences. Why not let a couple of stations co-operate (say, 2BL and 2FC), to give us dinner music, and, perhaps, a little news to provide table-talk, from 6 p.m. till 7 or 7.15 p.m. It would then still be possible to fit in a Children's Hour for each station in such a way as to suit the great majority of homes.

Thanking you for your space.

Yours etc.

"OMEGA."

Glebe Point.

Install these Accessories and have perfect Radio reception

Everything
for the
Radio
Enthusiast



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- „ A & B Charger
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ELIMINATOR, 372.

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Price £7/15/-

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

PRICE £9/15/-



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On the "RENOWN SPECIAL THREE" Valver
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USERS OF THIS CIRCUIT REPORT AMAZING RESULTS
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PHILIPS VALVES FOR "THE RENOWN."

PHILIPS A409 .. 13/6
PHILIPS A 415 .. 15/-
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RENOWN COIL KITS.
Wound on Natural Bakelite Formers EXACTLY to specification, and doped with best Aeroplane Varnish.

Price per Kit 13/6

UX SOCKETS FOR EVERY SET.

Pilot Plain Sockets 1/3
Pilot Cushion Sockets 3/3
A.W.A. Cushion Sockets 3/
Eco Cushion Sockets 2/6

	s.	d.
1 Luzerne Polished Hard Rubber Panel, 21 x 7 x 3-16	7	6
2 Pilot .0005 Capacigrad Condensers, at 14/6	29	0
1 Pilot .00025 Capacigrad Condenser	12	0
1 Diora Bakelite Vernier Dial	6	3
1 Renown Special Coil Kit (impregnated)	13	6
2 Bakelite Arrow Knobs for Condensers, 1/-	2	0
3 Eco Cushioned UX Valve Sockets, 2/6	5	0
1 A.W.A. Ideal 5 to 1 Transformer	18	0
1 A.W.A. Ideal 3½ to 1 Transformer	18	0
1 Pilot Indicating Toggle Switch	2	9
1 B.M.S. Single Circuit Jack	1	7
1 Pilot Bakelite 30 ohm Rheostat	3	6
1 Pilot Bakelite 10 ohm Rheostat	3	6
1 Pilot Isograd .00025 Grid Condenser, with clips	2	9
1 2 megohm Gridleak	1	0
1 5-ply Wooden Baseboard, 20 x 8 x ¾	2	3
9 Engraved Bakelite Terminals, at 3d	2	3
1 Dozen Round Tinned Copper Buswire	0	11
2 Bakelite Terminal Strips (drilled)	0	9
2 Pewi Clips, for Coil Connectors, at 4d	0	8

TOTAL £6/13/2 COST

THIS IS THE 3 VALVE SET WITH THE 5 VALVE PERFORMANCE

ALL PARTS IN THE "RENOWN 3" ARE GUARANTEED TO BE OF THE BEST QUALITY

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THE CRESCENT (guaranteed), ratios, 6 or 3½ to 1

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79/6 FOUR "B" TAPS. **79/6**

Voltages to 150.

Complete, and ready for operation,

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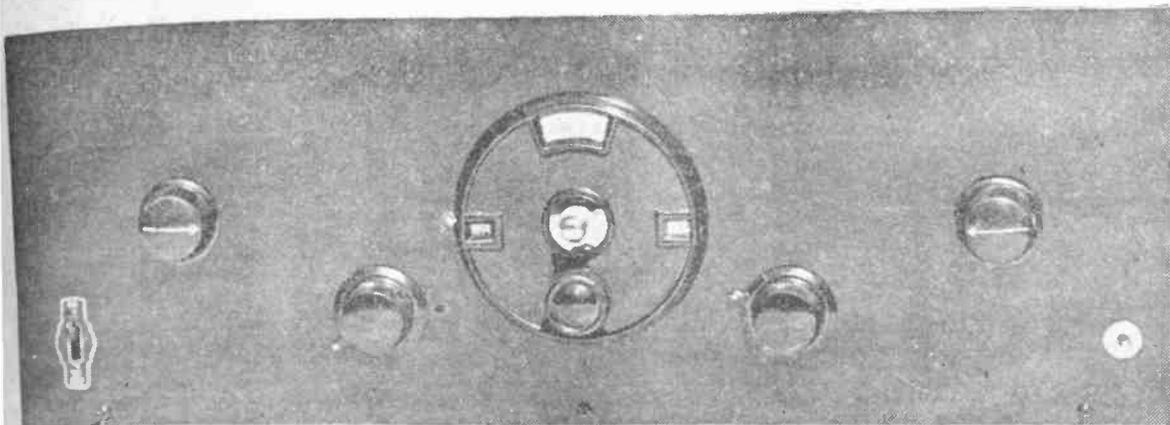
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The RENOWN SPECIAL 3

This receiver represents the very maximum in simplicity and efficiency ever obtained with 3 valves. On Interstate as on local stations, it gives astounding results, and what can only be described as five valve set performance.

THE greatest problem confronting the radio designer to-day is that of selectivity. No matter how excellent are the tonal qualities of a receiving set.

its value is lost unless it has the ability to cut through the "blanketing" effect experienced by set owners in the shock excitation area of one of our big broadcasting stations.

In the earlier days of broadcasting the chief aim was to produce a set which would give pure reproduction with ample volume. Thanks to improved and perfected apparatus and our better knowledge of the general design and "balance" of receiving sets this was achieved, and radio began to be appreciated at its true value. This very appreciation and popularity, however, brought with it a new bugbear. The demand for better and more varied programmes was met by the erection of more and more broadcasting stations until it was found that the old and hitherto satisfactory types of sets were no longer able to cope with the new conditions.

Lower and finely divided broadcast wavelengths resulted in programmes from several stations being heard at one and the same time. The hydra head of interference had appeared, and the old set was no longer selective; no more could the harassed listener revel in the delights of "pulling in" those distant stations at will. What was a commonplace matter became a virtual impossibility, except for those happily situated well outside the interference belt. Where a good three-valve set had been all that was necessary to bring in even the most distant interstate stations five valves, at least, were now required, and even consistent long distance reception was very rarely obtained.

Clearly something had to be done. Here was a problem big enough to engage the best radio engineering brains the world over. It was, of course, known that if the selectivity of sets would be improved we could win back to the old standard of efficiency and simplicity. Many and varied have been the designs and suggestions put forward, and cer-

tainly a great deal has been done to mitigate the nuisance. Generally, however, to obtain even a fair degree of selectivity and break through that baffling fog of high-power local stations a multi-valve set is still essential.

From time to time we have placed before our readers constructional details of simpler and less expensive sets, which could fairly claim to have improved selectivity of tuning. Each new design has been considered to mark an advance upon its predecessors, but not until the development of the Renown Special Three, which is the subject of this article, have we been able to describe a set which has so convincingly demonstrated its title to be called the truly hyper-selective radio set.

We submit the Renown Special Three to our readers in the firm belief that it will amply repay the little care and trouble involved in building it, and that by its amazing performance—its superb volume and clarity, allied to its truly astounding distance getting ability, it will prove to be the solution of the troubles of those who have

hitherto been unsuccessful in obtaining the full benefits of radio reception.

Our high opinion of this set is justified by the exceptional results observed on actual test, and is more than corroborated by the enthusiasm of those who have already built it. It will be of interest to print extracts from some of the reports we have received.

As to its selectivity one builder says:—"It is by far the most selective set I have ever heard, irrespective of the number of valves or the type of circuit used." Another:—"The Renown surprised me. With only three valves in the set and using it within a quarter of a mile of 2FC there is not a four or five valve set around here better."

And on the matter of long-distance reception this letter is typical of many received:—

"With the Renown Three I have tuned in 3LO, Melbourne, in daylight at full loud-speaker strength, and enjoyed the full programme. At night time I can get every station in Australia and New Zealand easily."

And now, upon what does the efficiency of this receiver depend? Upon the correct selection of parts and accessories, and carefully-planned panel and baseboard layout. It is as well to remind intending builders at the outset that strict adherence to the following specifications is absolutely essential to get the best results from the Renown Three, and departure from them will inevitably lead to disappointment.

On looking at the theoretical circuit a general resemblance to the well-known three-valve Reinartz diagram will be noticed. There are the three valves, the usual Reinartz re-action condenser, and the components which go to make up the orthodox three-valve set. Closer inspection of the coil design, however, will reveal several entirely novel features, simple in themselves; but in their correct application they will mean all the difference between the mediocre and the set of superior merit. We will commence the detailed description with an explanation of the coil and tuning system.

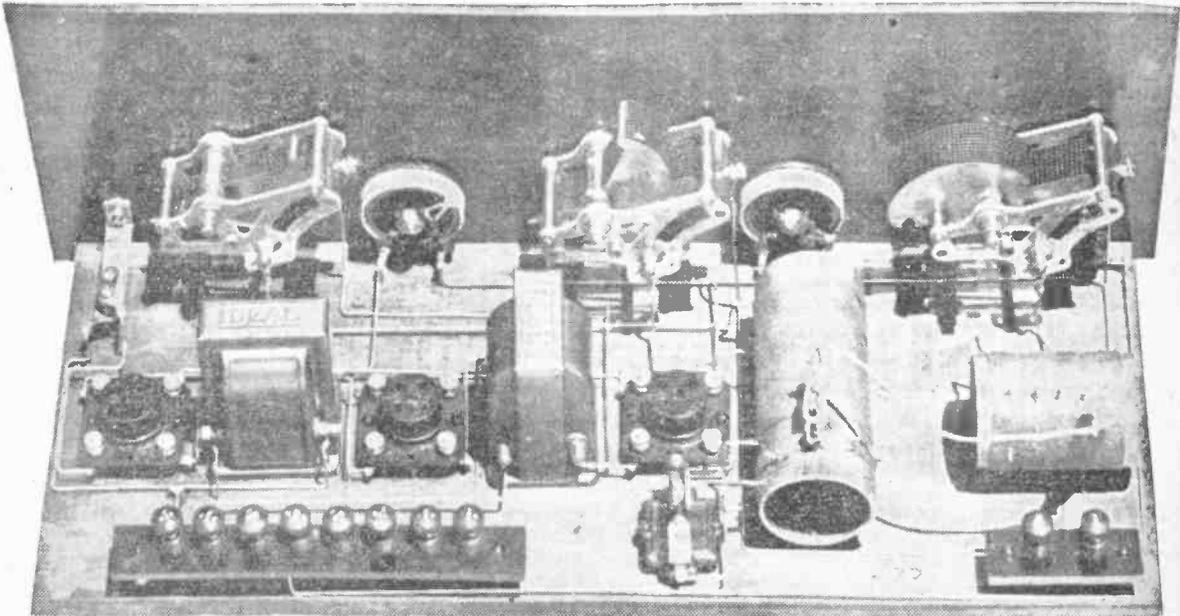
It will be seen that there are three separate coils—L1, L2, and L3; coils L2 and L3 being wound on one former and L1 on a special former. As placed in the completed receiver these two formers must be at right angles to each other, separated by about two inches. Coil L1 will consist of 70 turns of No. 26 D.C.C. wire, wound on a 2in. former, and with a tap taken off at every fifteenth turn.

(Continued on Page 20.)

THE FOLLOWING PARTS WERE USED IN THE CONSTRUCTION OF THE RECEIVER DESCRIBED IN THE ARTICLE:—

- 1 Luzerne polished hard rubber panel, 21 x 7 x 3-16 inches.
- 2 Pilot 0005 Capacigrad condensers, at 14/6.
- 1 Pilot 00025 Capacigrad condenser.
- 1 Diora bakelite vernier dial.
- 2 Bakelite arrow knobs, 1/.
- 1 Renown coil kit.
- 3 Eco cushioned UX valve sockets, at 2/6.
- 1 A.W.A. Ideal 5/1 transformer.
- 1 A.W.A. Ideal 3/1 transformer.
- 1 Pilot indicating toggle switch.
- 1 B.M.S. single circuit jack.
- 1 Pilot bakelite 30 ohm rheostat.
- 1 Pilot bakelite 10 ohm rheostat.
- 1 Pilot Isograd 00025 grid condenser and clips.
- 1 2 or 3 megohm grid-leak.
- 1 five-ply baseboard, 20 x 8 x 1/2 inches.
- 9 engraved bakelite terminals, at 3d.
- 1 bakelite terminal strip.
- 1 dozen round tinned copper bus bar.
- 2 Phoi clips for coil connectors, at 4d.

Combination Wave-trap-aerial-coupling Provides Extreme Selectivity



To commence the winding make two small holes, close to each other at one end of the former, and thread the wire tightly through these, leaving about 6 inches free. Wind on the wire carefully, turn by turn, make a loop about one inch long in the wire, and twist to form a kind of spike. Without breaking the wire continue the winding, and make a similar tap at every fifteenth turn until the full 70 turns are in place. Secure the end by means of two small holes as at the beginning, and again leave about 6 in. free. You should now have a

tightly wound coil with five taps and the two free ends.

Now clean the cotton covering from the wire at each tap, and coil L1 will be completed. Coil L2 will be wound on the other former in exactly the same manner, except that the total number of turns will be ten of 20 D.C.C. wire, with a tap at every second turn. Coil L3 will now present no difficulties. It will consist of 110 turns of No. 26 D.C.C., wound as one continuous coil, but with a tap at the 75th turn. Coil L3 will begin at $\frac{3}{8}$ in. apart from the last turn of L2.

Having completed all the coil windings give

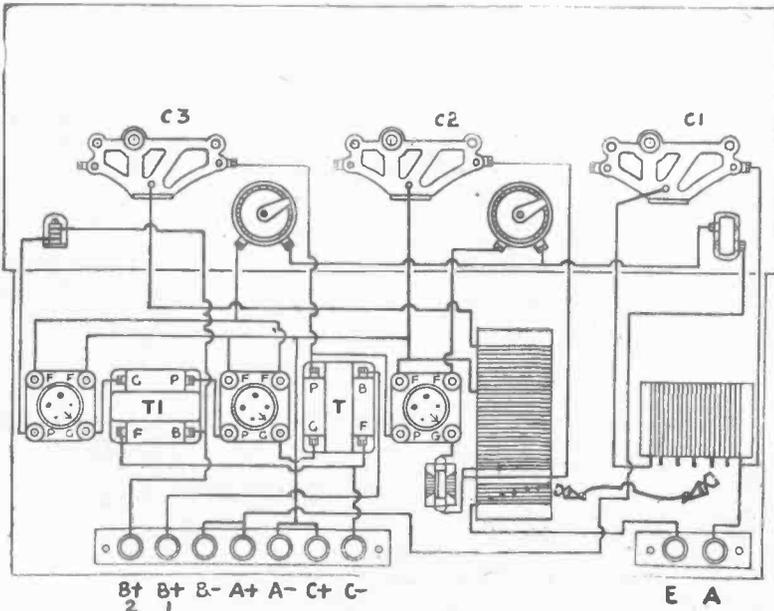
each coil a good coat of aeroplane varnish. This will serve both to keep the turns closely together, and to preserve them from damp and atmospheric moisture.

The next step is to mark off and drill the panel for mounting the tuning condensers and rheostats, etc. Reference to the panel-drilling diagram will show the correct distances for the various holes, and this part of the work will be quickly done. Now mount all the panel parts, and fit the dial to the tuning condenser C2. As condensers C1 and C3 will not very often be moved after the correct setting has been arrived at plain rheostat knobs will be suitable, instead of the regular type of tuning dial.

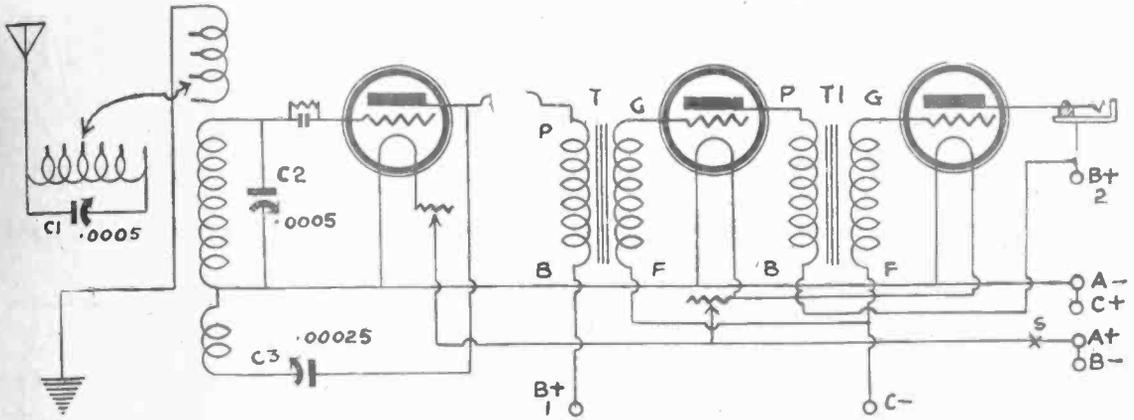
Having mounted all the panel parts place the baseboard components in their respective positions as shown on the layout diagram. As above mentioned, the two coil formers will be placed at right angles and at least 2 in. apart. The two transformers and the three valve sockets are all in line, and it will be seen that the transformers are, like the coils, at right angles to each other. This is very important in order to avoid any interaction between the audio frequency circuits. No radio frequency choke is used in this circuit, as it was found that the A.W.A. transformers gave perfect results with no "feed back" of high frequency currents from the aerial or detector circuit.

After a careful study of the diagram of connections the actual wiring will present no very serious difficulties. Tinned copper bus-bar should be used throughout, and this will make a solid and neat job. Always take care to see that each connection is tight and clean—bar joints spell ruin to efficiency. It is a good plan to test every joint on completion by giving it a good hard tug with the pliers. All grid and plate wires should be kept as far apart as possible, and they must never run parallel to each other.

When the last wire has been placed, the last connection made, and a final check over ensures that nothing has been missed, the actual testing can be proceeded with. This will be the pleasing culmination of the whole work, but do not allow your eagerness to get the set working to lead you to carelessness.



Constant Reaction Circuit Greatly Improved; Knife-edge Tuning



A mistake now may result in delay and disappointment, perhaps the expensive necessity of buying new valves.

On actual test it was found that a Philips A415 valve gave by far the best results as detector, whilst A409 and a B406 performed splendidly as first and second amplifiers. The detector will need about 30 volts for test operation, and the amplifiers 90 or even more. It must not be forgotten that the "C" battery plays a very important part in the operation of any set. Incorrect "C" battery voltage is responsible for most of that harsh, noisy reception we so often hear, but when it is correctly used it aids very greatly in imparting a pure, mellow tone. In the present case it was found that nine volts gave excellent results.

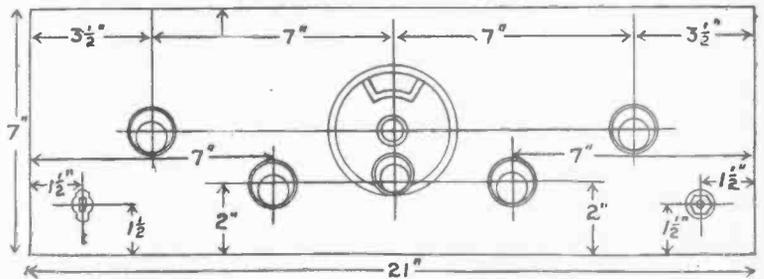
Before going into details of the actual tuning a few words on the most suitable type of aerial will be necessary. Very few of us are so fortunate as to have space available to erect the ideal aerial, but we can all spare a little trouble to take the fullest advantage of the facilities we have.

The best aerial for the Renown Three would be from 25 to 40 feet high and 60 to 75 feet long. Let the lead in be well insulated, and brought in well clear of all surrounding objects. The water pipe will make the most efficient earth, and a clean, well-soldered

connection should be made. Always use as short an earth lead as practicable, and use a good thick wire. For best long-distance reception the aerial should, if possible, lay nearly north and south with the lead-in taken from the north end. Aerials frequently have a pronounced directional effect, and as, in this case, we are looking for consistent inter-State reception, we must take full advantage of their effect.

It will be found that tuning with the Renown Three is delightfully smooth and easy. Once the dial positions of the various stations have been found there will be no difficulty in turning to them at will. Condenser C1 and

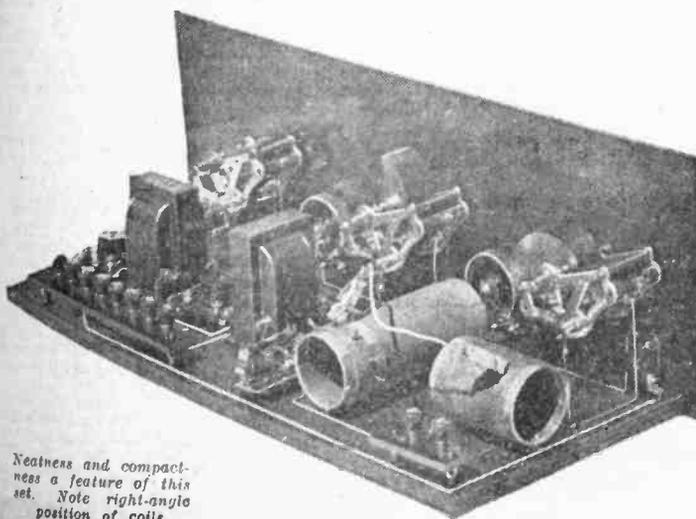
coil L1 are intended to act as a special form of wave-trap. The coupling between L1 and L2 is made between the two sets of taps by means of a short flexible lead fitted with a small clip at each end. The best tap for maximum volume and selectivity will depend upon the locality where the set is to be used, and when a suitable position is found the coupling clip need not be moved again. If any interference is experienced an adjustment of condenser C1 will suffice to tune out the unwanted station. Condenser C2 is the wave-length condenser, and it will be found that the vernier dial is essential for fine tuning. Tuning will be so sharp that even one



degree on the dial will be sufficient to tune a station in or out. C3 is the usual type of reaction condenser. A little experience with this will show that it can generally be left at a setting which will give just the right amount of regeneration for all stations.

More Titles

A 2BL listener thinks that the various artists who broadcast must have a feeling of resentment at the custom adopted of not giving the prefix Mr., Miss, or Mrs. before their names. The company points out that it is not the custom in musical circles to use titles before artists' names, suggesting Mr. Caruso and Mr. Kreisler as illustrations of the absurdity. Moreover, they say: "When artists are in the foremost rank they are simply known by their surnames, and artists generally prefer to be given their full Christian names and surnames without any prefix." We think this is quite right; in fact, we think it better taste to drop the prefix in the circumstances than to use it. Often you may see us calling an artist "Mr." or "Miss," or "Mrs." or "Madame"; but this is only because we have no sense of decency. Or because we are downright contrary. We are not sure which.



Neatness and compactness a feature of this set. Note right-angle position of coils.

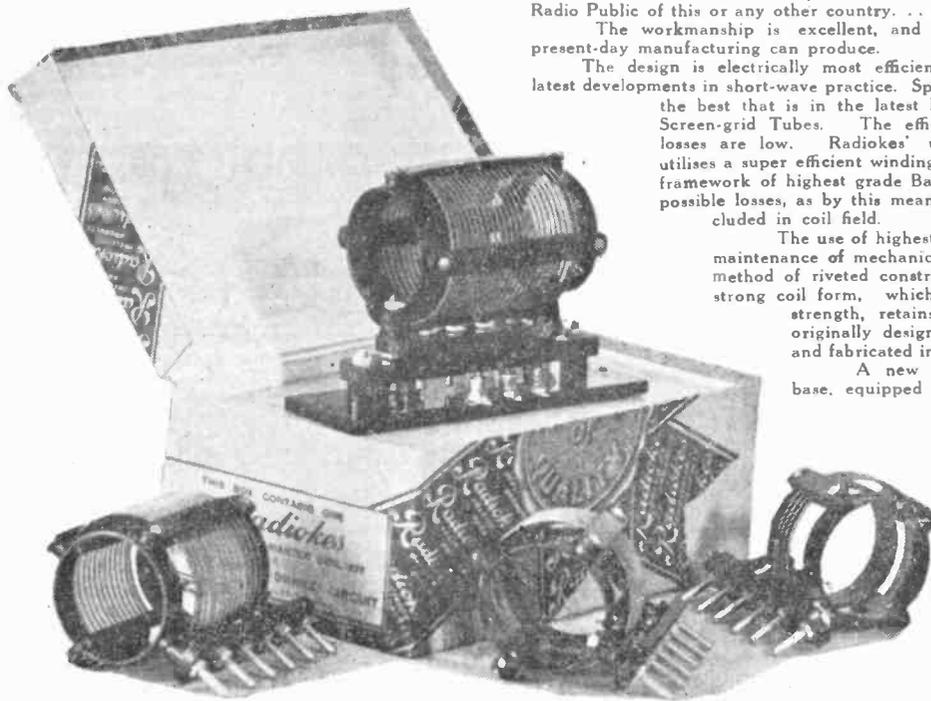
SHORT WAVE SCREEN-GRID FOUR

demands above all else a high grade coil kit

HOME BUILT COILS ARE NOT SATISFACTORY

Low R.F. Resistance, accurate calibration, permanence of characteristics, ease of interchangeability, and PERPETUAL GUARANTEE are essential.

RADIOKES SCREEN-GRID SHORT WAVE COIL KIT embraces these features and has the smoothest interchanging action of any kit in the world.



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 RADIO FREQUENCY CHOKES

are the only chokes on this market which are suitable for use in a universal receiver, such as the Short Wave Screen-grid Four.

These Chokes are so designed and manufactured as to be equally efficient on the 15 Metre Band as on the 545 Metre Wave Band. They are small in size, ruggedly constructed, and sell for the moderate price of 8/6 each. 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

:: COPPER SHIELDING FOR RADIO ::

Practical Suggestions for the Use of Sheet Copper in Shielding Copper Radio Receiving Sets

THE THEORY OF SHIELDING

WHEN an electric current runs through a wire, magnetic lines of force are set up about the wire creating what is known as a magnetic field. If the wire is wound into a coil, the magnetic field is increased, and if iron is inserted into the coil, the field is still further increased. This field is not confined to the centre of the coil or the iron core, but spreads out around the coil in the form of magnetic flux in accordance with the shape of the coil. In coils of the solenoid type, the field is most intense along the axis of the coil, but flux lines spread outside the coil from its ends. The toroidal or doughnut type coil, which is a solenoid bent in the form of a ring, is designed to confine these stray flux lines, as the coil has no free ends. The binocular type of coil has approximately the same characteristics. These special coils, however, together with basket-weave and spider-web types, all have fields extending outside the coils to some distance. It will be seen then that if these coils are inserted in a radio receiver, and are not spaced sufficiently far apart, the free fields will interlink so that the radio-frequency currents in one coil will set up interfering currents in another coil, producing what is known as feed-back or radio-frequency inter-stage coupling. This manifests itself in the form of whistles in the loud speaker attached to the set being affected by the fields from waves brought into resonance by means of the dials on the tuning condensers. There is another form of feed-back due to electrostatic coupling between the grid and plate elements of the valves. This coupling, in most radio-frequency receivers, is neutralised by means of small feed-back condensers called "neutrodons." This method of neutralising was invented by Prof. Hazeltine, and is known as the neutrodyne principle.

Electro-magnetic shielding is employed to screen these stray coil fields from the adjacent tuning transformers, and confine these fields to their respective stages of radio-frequency amplification. This is known as inter-stage shielding. In addition, there is another type of shielding employed in a few receivers to prevent the inductances of the set being affected by the fields from waves of super-power stations in the direct vicinity of the receiver. This type of shielding is essential in congested localities where there are a great number of broadcasting stations, and consists of surrounding the complete receiver by a metal-lined cabinet so that waves radiated by the stations can enter the receiver only by way of the aerial connection.

In the present-day receivers of the better type, both forms of shielding are employed by enclosing the inductances with their associated apparatus in individual copper cans to comprise a completely shielded and individual radio-frequency amplification unit.

PRACTICAL SHIELDING.

Electro-magnetic shielding to be effective must be complete. The smallest crack or opening is sufficient to spoil the whole receiver, and it is imperative, therefore, that great pains be taken with the work, and that plenty of time be allowed for the process. The problem is not one for a beginner in radio. It should be undertaken by those experimenters only who have had some experience in building sets, and who are acquainted at least with typical commercial broadcast receiver circuits. It should be

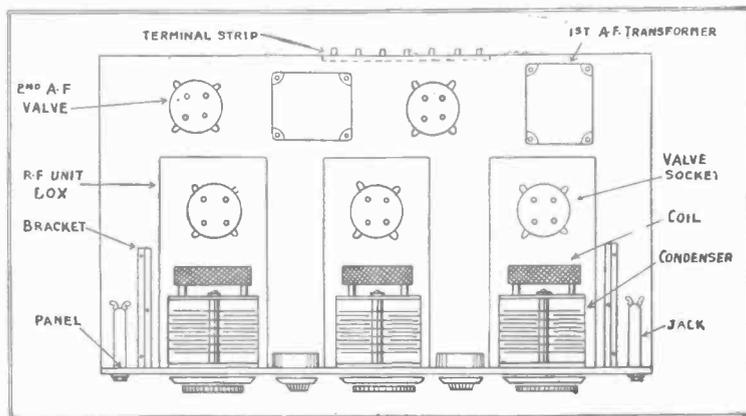


Fig. 1.

Layout of typical shielded receiver, showing radio frequency unit cans or boxes mounted on shielded sub-panel.

borne in mind that shielding is not purely a mechanical operation, as it requires technical design as well, based on the action of the radio-frequency circuits in the set. The design of the receiver that is to be shielded must be thoroughly studied, electrically as well as mechanically, before satisfactory results may be obtained.

It is especially difficult to shield receivers already designed and built without shielding, and the most satisfactory and practical method is to tear down and rebuild the receiver with shielding as the basis of the new design. In many five-valve receivers, for instance, the radio-frequency valves are not placed directly behind their inductances and condensers. Instead, they are placed beside the condenser-inductance unit, and are staggered with the audio-frequency valves. For this reason, it is difficult to make a can to surround the condenser-inductance and associated valve of each radio-frequency stage. It is better to re-design the set with the radio-frequency valves directly behind their respective inductances (which as a rule are mounted on the condenser frames) and build rectangular cans to hold the complete units.

WHY COPPER IS USED.

The ideal theoretical shielded receiver is one in which the inductances are so widely spaced that their fields cannot interlink. Because of size limitations and feed-back due to wiring, etc., this condition is impracticable, if not impossible, and it is therefore, necessary to sacrifice efficiency slightly for practicability by using a shielding material that will dissipate these stray fields in the form of small eddy current losses. As the efficiency of this dissipation is proportional to the conductivity of the shielding material, copper is found to be the most practicable material for the purpose.

DESIGNING THE SET.

In laying out the design of the shielded receiver, the size of the can for the radio-frequency unit must be considered first. This is determined by the equipment it is to hold—the condenser, inductances, and

valves being the essential factors. The most important of these is the inductance, which must have sufficient clearance to the walls of the can. In general, it is best to make these cans just as large as possible, while taking into consideration that large radio-frequency units require correspondingly larger main and sub-panels to hold them.

After the radio-frequency unit cans have been designed, make up a lay-out plan of the set to scale, similar to that shown in Figure "1." Design the sub-panel to set 1-16in. behind the main panel, and locate the centre can on the centre line of the set, laying out the rheostats, volume control, jacks, and mounting brackets approximately as shown. Allow room enough between the cans for rheostats and volume controls that are usually mounted on the main panel, and design these to be mounted on the panel between the cans. It is not necessary that these be shielded, provided the wires go directly into the shielded box below the sub-panel, or into one of the inter-stage cans directly adjacent to the controls. As a rule, the set will wire best if the jacks are mounted on the panel below the sub-panel so that they project into the sub-panel box.

This lay-out will determine the length of the main panel and sub-panel. Now lay out the audio valves and transformers to determine the depth of the sub-panel and make a front view of the set and cans to determine the necessary main panel height. If it is found that the panel will be too long, rearrange the jacks to be located directly under the rheostat and volume control, and, if necessary, decrease the width of the cans a little to gain space.

Make a schematic diagram, and from it work out a full scale working wiring diagram, rearranging the parts to make the leads as short and direct as possible. The negatives of both A and B batteries may be soldered directly to the cans, thus saving a lot of wiring. The shielding should be connected to the ground binding post of the set. Plan on insulating the parts, etc., where necessary, with bushings or blocks of hard rubber.

MATERIAL.

The most practical shielding material will be found to be 16oz. soft copper sheet, which may be procured from any tinsmith, plumber, or hardware dealer, as it is a standard size which is invariably carried in stock. It is best to use sheet that has not been coiled to keep the surfaces as flat and true as possible.

In working the copper, bear in mind that it is soft and is, therefore, easily dented and stretched out of shape. Never hammer it with the face of a hammer or hard instrument. Always use a hard wood block underneath the sheet with another block on top to distribute the hammer blow over a comparatively large area. Always work from a paper or cardboard pattern, scratching working lines on the copper sheet with a scriber. Do not sandpaper the work until all the bending is finished, or it will be difficult to see the working lines.

In cutting, it is best to clamp one jaw of the snip in a bench-vice. This will allow of holding the copper sheet steadier and cutting more accurately to the lines. Never try to cut the details of a pattern from a large sheet exactly to size. It is best to cut out the pattern roughly, leaving a working margin, and then trim down accurately to size.

Pieces of oak of several different sizes will be found invaluable in bending. The edges of these should be cut straight and true on a table or mitre saw. Clamp the sheet between two such blocks held together in the jaws of the vice and bend by hammering down to the working line, using a similar block against the copper to hammer on. Never clamp the copper in the vice without the blocking, as it will slip. In bending to a line, set the work between the blocks in the vice with the edge of the blocks flush with the working line. The sheet may then be bent over as far as possible by hand and then hammered down flush to the top of the blocks to complete the right angle. Do not use pliers except on very small pieces where blocks cannot be used. Pliers are apt to stretch or bend the copper out of shape, put kinks in it, etc., which are very difficult to work out.

In soldering, be sure to have the copper clean and bright. Use a very hot iron as large surfaces of copper dissipate heat rapidly. Use as little flux as possible, and take pains to wipe off all excess flux with alcohol after the work is complete.

SHIELDING A FIVE-VALVE SET.

The following specifications for shielding a typical five-valve set are intended merely as suggestions for the experimenter to follow. They should not be adhered to rigidly but used rather as a basic principle in the design of shields for the particular set under consideration.

Commercial receivers vary greatly in layout, and, therefore, no one set of specifications will be entirely practicable for all types. The experimenter should use his ingenuity in design after carefully taking into consideration the principles in shielding here outlined.

GENERAL PROCEDURE.

A rectangular can should be made up for each stage of radio-frequency and for the detector stage, all stages being identical. The audio valves may be mounted directly on the sub-panel with their transformers behind the radio-frequency units with all wiring, except the grid wires, which should be run directly to the sockets, being run through holes in the sub-panel shield to the shielded box beneath.

The terminal strip should be hung by means of small brackets underneath the sub-panel inside the copper box, the shield being cut away to clear the binding posts.

In making up the cans or boxes, a paper pattern should be made up first. The pattern should be laid out on a copper sheet, which should be scored to show the cutting

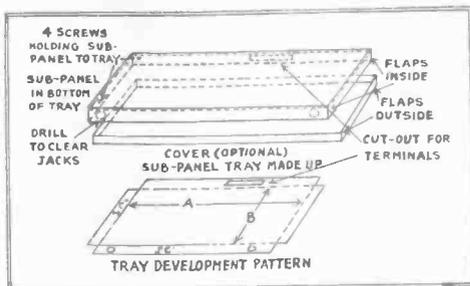


Fig. 3.

- A: Length of sub-panel.
B: Width.
C: Depth of tray to cover by-pass condensers, jacks, etc., and to hold terminal strip in rear.

and bending lines, after which the form may be cut out with a pair of snips, and the sides and flaps bent to shape between blocks of wood in a vice. The flaps should then be soldered thoroughly to the sides of the box. When the cans have covers, the flaps should go on the inside of the cans, while the covers the flaps should go on the outside. Careful measurements must be made to allow for the thickness of the metal in order to assure a good fit of the top on the bottom can.

THE RADIO-FREQUENCY UNITS.

Each radio-frequency unit should consist of two rectangular boxes practically the same size one forming the cover for the other. As shown in Figure 2, make a rectangular copper box big enough to hold the variable condenser, inductance, and valve, with a small amount of room additional for a neutralising condenser, if the set employs them. This box should be of a depth "A" equal to the distance from the sub-panel to a point just clearing the bottom of the condenser-shaft. The other half or cover of the box should be identical, except that it should be enough larger in size to allow of its fitting down over the edges of the bottom box. The dimension "A," or depth, of this cover box will depend upon the type of condensers used. It should be made great enough to clear the condenser plates comfortably when overlapping the lower box by an inch, where it should rest on screws or rivets soldered to the side walls of the lower box, as shown. Careful measurement should be made for a slot with

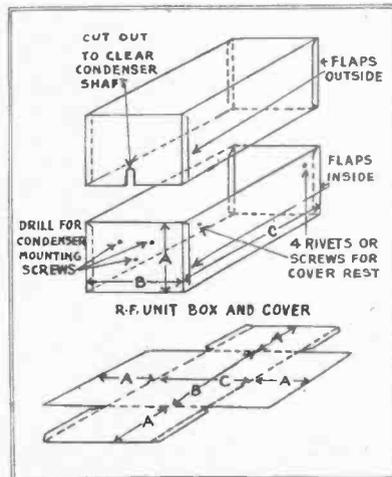


Fig. 2.

- A: Height from sub-panel to bottom of condenser shaft.
B: Width to clear inductance by at least one inch in all directions.
C: Length to clear condenser inductance and valve in line one behind the other.

a rounded top and wide enough to clear the condenser shaft, which should be cut in the front centre of the cover. Develop paper patterns for the cans and covers, as shown in the sketch.

THE SUB-PANEL TRAY.

The sub-panel should next be covered with a sheet of copper. It is well, though not essential, to bend the copper over the edges of the sub-panel to a depth sufficient to hold the wiring and by-pass condensers, which may be fastened underneath the sub-panel, thus forming a coverless box or tray with the sub-panel in its top, as shown in Figure 3.

A paper pattern should be made for the purpose, laid out, and developed as shown in the sketch where "A" and "B" are the length and breadth of the sub-panel respectively, and "C" is the depth of the tray. Note that a slot should be cut in the centre of the back of the tray edge to clear the binding posts of the terminal strip, which should be at least an inch longer than the slot and may be fastened to the sub-panel by means of small brackets, or to the tray wall by means of two machine screws and nuts through its ends. The sub-panel should be fastened to the bottom of this tray by means of four machine screws and nuts, one in each corner. Holes should be laid out and drilled in the front wall of the tray to clear the jacks.

If more complete shielding is desired, a cover may then be made to fit on the bottom of this tray. This will be, of course, the same size as the sub-panel tray, except that it will be larger in area by twice the thickness of the copper, in order to fit over the tray edges. The depth may be only about 1/2 in., and the flaps should be soldered on the outside instead of on the inside.

MOUNTING.

Each radio-frequency unit should be screwed to the sub-panel shield with brass machine screws and nuts, with the front of the box flush with the edge of the sub-panel. The main panel should be drilled in the usual way to hold the condensers, rheostats, jacks, and sub-panel mounting brackets. Holes should be drilled in the front of the copper cans to line up with the mounting holes for the condensers in the main panel. Screws should be passed through the main panel and the front of the can to hold the condenser inside the can, one-sixteenth-inch spacer washers being first slipped over the screws against the panel to separate the cans from the panel. This clearance allows for putting on the top can.

The inductance units should be fastened to the back of the condenser frames in the usual way or to the base of the cans by means of machine screws and nuts. It is imperative, however, that they be kept away from the copper walls by at least an inch in all directions. If they are to be fastened to the bottoms of the cans, mount them on posts of insulating material. The valve-socket should be screwed to the sub-panel back of the inductance in like manner. It is well to put a piece of rubber or other insulating material underneath the socket before screwing it down, in order to obviate any chance of short-circuiting the contact springs of the socket on the copper shield.

WIRING.

Practically all circuits can be altered slightly so that the rotors of all the condensers may be grounded on the cans. This is accomplished in the case of the detector circuit by returning the grid of the valve through the grid condenser and inductance to A minus, instead of A plus, with the grid-leak connected to A plus instead of across the grid condensers.

PROVING RADIO

No. 13 In which we are enlightened on some of the mysteries of skip distance, deflection angle, fading, distortion, and other subjects that sound very technical but are not. Then we begin to learn the Morse Code.

NOW, how many of us know what "skip distance" is, and how it is caused?

Reference to Fig. 1 will give you some idea of the way a radio wave may "skip" certain spots near the transmitter and be heard loudly in locations further away. These so-called "skip distances" vary according to the season of the year and the time of the day, for the Heaviside Layer comes nearer to, and goes further away from, the earth, depending upon whether the atmosphere is more or less ionised by the action of the sun's rays, because the heat of the sun causes the Heaviside Layer (or anything for that matter) to expand, whilst exactly the opposite is the case during cold weather. Thus, in summer the Heaviside Layer is lowest because the sun has pushed it towards the earth, and skip distances are greater in winter. Likewise, the layer recedes from the earth's surface at night, and becomes lower during the day.

Fig. 2 shows how the skip distance depends upon the height of the Heaviside Layer above the earth, though the difference in height has been greatly exaggerated for the sake of clearness. The angle at which the radio wave enters the layer is in every case equal to the angle at which it emerges and returns to the earth. Thus, if a radio wave is sent into the air at an angle of 45 degrees, it will strike the Heaviside Layer and be reflected back to the earth at the same angle. This phenomenon explains why the signals of a station are seldom heard five hundred miles away, but may be steadily heard at a distance of a thousand miles.

In the foregoing paragraph we considered only one single wave sent out, i.e., "radiated," by the broadcasting station, but we must not forget that the station is radiating waves in all directions. Certain waves, known as "earth-bound waves," travel fairly close to the earth's surface, and these are the ones from local stations that are made audible in our sets. You will now see why it is that reception is still possible (according to the strength of the earth-bound wave) if one is in a spot not served by a wave reflected by the Heaviside Layer.

If we are receiving a distant station, it may so happen that the earth-bound wave and the wave reflected from the Heaviside Layer may meet at or near our receiving aerial. If there is no fluctuation in the strength of either wave, we may get slight or even no distortion. But should one reinforce the other, at times we get the phenomenon known as fading. Should it "buck" the other, we get either fading or distortion. Both fading and distortion have other causes as well, but they have no place in this article yet.

Scientists are still not entirely agreed about the Heaviside Layer (sometimes called the Kennelly Layer or Kennelly-Heaviside Layer), but the foregoing ideas have won wide acceptance.

This week's chat has been probably a little more technical than usual, but it will be necessary for you to understand this phenomenon before you can understand your experiments, and, of course, I do not want to tell you a few points about a subject upon which volumes could be written. You may rest assured that the points contained in this article are the most important as far as our requirements are concerned. I have some interesting experiments for you next week.

Underline (to be used before and after words to be underlined) ---

The best way to learn the code is to learn the dot letters first, i.e., E 1 dot, I two dots, S three dots, H four dots; then the dashes, T one dash, M two dashes, O three dashes. Then the opposites, A dot dash, N dash dot, G dash dash dot, U dot 'dot dash, and so on. When referring to dots, call them "dit," and term dashes "dah." This will get you used to the sound of the letters. Thus you would term letter A—dit dah.

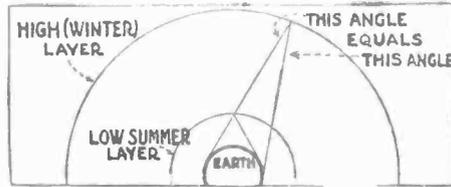


Fig. 2.

Morse Code

YOU will see by the club reports (of which there are many) that two Morse classes have been started, and that these classes are a great success. Any club member is welcome. For the benefit of those members who would like to learn the code and conventional signs, they are given here.

Practise the code carefully, making each dash three times as long as a dot, and leave plenty of space between each letter, and even more space between each word. Whilst waiting for your copy of "W.W." you can learn the code, and you will then be ready for furthering your knowledge in radio.

The Morse Code is as follows:—

A ---	T ---
E ----	U ---
C ----	V ---
D ----	W ---
E ---	X ---
F ---	Y ---
G ---	Z ---
H ---	
I ---	And the numerals:—
J ---	1 ---
K ---	2 ---
L ---	3 ---
M ---	4 ---
N ---	5 ---
O ---	6 ---
P ---	7 ---
Q ---	8 ---
R ---	9 ---
S ---	0 ---

The following conventional signs will prove useful:—

- Period
- Comma ---
- Semi-colon ---
- Apostrophe ---
- Exclamation ---
- Hyphen or dash ---
- Quotation marks (beginning and ending) ---
- Parenthesis (before and after words) ---
- Bar to indicate fraction ---

Proving Radio Club Notes

CREMORNE Group is in process of formation. The first meeting will be held at Mr. S. R. D. Sherwood's residence, flat 2, 117 Milson Road, Cremorne, at 7.30 p.m. on Friday, March 22. See letter appearing in Query columns. Welcome Mr. Stan Johnson as a new member. As you are at Cremorne, you will be expected at Mr. Sherwood's house on the 22nd!

Welcome also G. Williamson and C. Campbell, of Erskineville and South Kensington, respectively; Mr. A. Fry, of Concord West; Mr. Tarlington, of Stanmore; Mr. Vesper, of Croydon Park; Mr. Catterson, of Concord West; Mr. E. Worswick, and Mr. A. Fry, also of Concord West. Finally, welcome the Cremorne Group and the Concord West Group.

Club members will be pleased to hear that "WIRELESS WEEKLY" has been able, through the courtesy of the Radio Exhibition authorities, to secure Exhibition tickets (for members only) at 9d each. Members desiring tickets should let their secretary know at once, in order that the list may be in as soon as possible.

Several clubs suggested a picnic at Pennant Hills on Easter Saturday, when permission might be obtained to view the Pennant Hills Radio Station. They will be disappointed to hear that leave is not usually granted to view the station, but permission has been granted for 60 members of the club to look over the station on certain dates (see below), though these dates are not so suitable as that previously chosen. The reason is that the staff is very small on all days but those mentioned, and, owing to the extremely high voltage in the station, it would be very indiscreet to allow any number of sightseers to view the apparatus, or electrocution would be a common matter! As things are, the club members are to be divided into parties of twelve, who will be under the guidance of some responsible person, i.e., their secretary or some other officer, who is to see that nothing is touched on any account. As there are four dates made available to the club, it is requested that they help the A.W.A. as far as possible in arranging for all members to attend on the same day. The second date seems to be the best of those mentioned.

- (1) Thursday, March 21.
- (2) Thursday, April 18.
- (3) Thursday, May 16.
- (4) Thursday, June 20.

Those are the dates made available. Thursday is an awkward day we know, but we must be thankful for small mercies. Few people ever get the opportunity to view Pennant Hills Radio Station.

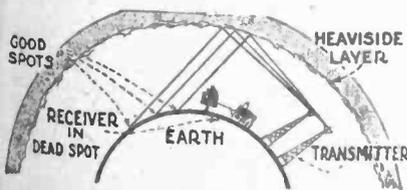


Fig. 1.

A Country Club is being formed at Coff's Harbor. Welcome to the Coff's Harbor Group. How about some more country clubs?

Quotations have been received by the hon. secretary for coat badges, which will be in the form of the club's seal (red). It is hoped to finalise this matter at the meeting of executives which will take place on Friday, March 15. The rest of the good news must be held over till next week, though I must mention that the club is arranging to have its own notepaper headings.

WILLOUGHBY GROUP

THE meeting held on Wednesday, March 13, was a great success. Each experiment was performed in turn, and members were asked questions, which were answered satisfactorily. All members became very enthusiastic over the magnetic needle experiment, especially when Mr. Meadows caused the needle to float in water, then sink, float, and sink again, alternately, being able by means of the magnet to cause the needle to float at will without holding the magnet near the glass as a holding power. Present were Mr. Meadows, hon. secretary; Mr. Burgess, secretary of the club; Mr. Slemmett, sen., Mr. Slemmett, jun., Mr. Webster, and Mr. Ellis. It was decided to hold the next meeting at the same place—i.e. c/o Mr. Slemmett, Blytheswood Avenue, Turramurra, at 8 p.m. on Wednesday, March 20, though in the meantime arrangements would be made for a more central meeting place. We should like some more members.

CITY GROUP

EXPERIMENT WITH FIXED MAGNET.—A galvanometer was fixed across the terminals of a coil, and a bar magnet was inserted in the centre of the coil, with the result that the needle of the galvanometer was deflected, demonstrating that there was an induction of magnetic power from the magnet to the coil.

DECOMPOSITION OF WATER.—This experiment was arranged as described, and was satisfactorily demonstrated, but owing to the fact that only 4½ volts were used the process of decomposition was very slow. Another fact observed was that in the tube which was setting free the hydrogen (the Cathode), a film of yellow substance was seen. We suggest that this substance has something to do with chlorine being liberated from the sodium chloride (salt). Is this presumption correct? (No, it is not correct. An acid must be present to liberate the chlorine. The cause of the yellow substance was the use of impure water).

stance was the use of impure water, which may have cause dby mixing brine with metal object, or in metal dish.—R.M.)

TRANSFER OF POWER.—On experiment relating to Fig. 4, issue of February 1, it was found that on removing the coil the same results were obtained with magnet and galvanometer.

ELECTROPLATING EXPERIMENT.—With a solution of two parts copper sulphate to one of water a piece of German silver was placed on negative terminal and a copper plate on positive terminal. After applying four volts the silver plate became coated with copper. It was noticed that the coating was not durable, and could easily be rubbed off. Was this due to shortness of the experiment, low voltage, or both? (Neither; it was due to the fact that either your water was not pure, or the articles had not been previously cleaned with sodium bicarbonate or vinegar, as suggested.—R.M.)

CONDUCTIVE POWER OF EARTH.—The experiment was set out as in issue 11. No result was obtained with voltmeter, but with headphones experiment proved a success. (Not enough amperage in your battery, or earth too dry.—R.M.)

EASTERN SUBURBS GROUP.

THIS group held its initial meeting at 10 o'clock a.m., Sunday, March 10, at 8

Stephen Street, Randwick. The morning was devoted to general discussion and introduction. Mr. William Tregilgas was elected secretary by popular vote. Members present were Miss Joy Morgan, Messrs. O'Dea, Barker, Pidgeon, and Tregilgas. Owing to lack of gear no experiments were demonstrated, but a start will be made next Sunday morning at the address mentioned, when new members will be made welcome.

SUMMER HILL GROUP.

A MEETING of this newly-formed club was held on Sunday, March 10. Four members were present. It was the general opinion of those present that, owing to their attending Dulwich Hill Group on the previous Friday, the next meeting would be held on Sunday, March 17. After a general discussion it was agreed that a start be made on static electricity, so as to give new members the opportunity of group work. There was a keen desire on the part of all those present to organise an outing to one of the "A" class stations.

DULWICH HILL GROUP.

MARCH 8, 7.30 p.m. Owing to executive meeting being held here to-night, group decided to devote the evening to electrical mathematics. What with resistances in parallel, in series, and condensers in series and in parallel, the club enjoyed the most fruitful night it has yet experienced. Before adjourning it was decided to make a new departure—namely, a novice night would be formed for Morse lessons, which would take place at 29 Blairgowrie Street, Dulwich Hill, on each Tuesday evening from 7 till 9. Mr. C. Y. Hook, secretary of this club, advises that an advanced class is already operating each Wednesday. These activities are open to all members, who are welcome.

NOVICE MORSE NIGHT.—Six members were present. The evening's work was the conquering of the first seven letters of the alphabet, and members were satisfied to leave further letters to future meetings. This meeting was held on Tuesday.

ADVANCE MORSE NIGHT.—Meeting held Wednesday. Seven members were present. Good work being done.

The Movies Experiment With Sound.

(Continued from Page 6.)

But the difficulties implied here in the creation of pictures with sound that might be compared with the best of the silent drama, are as child's play when the sound-proof studio must be left behind and an outside location is necessary. Then there must be the varied noises of the untamed city to consider and control besides those made by the curious crowds eternally attracted by the movie camera. In a short comedy called "The Family Picnic," made by the Fox Case Studios, it is said that a whole detachment of police had to be requisitioned to keep beyond the sound area those who would intrude into the microphones their unwanted syllables.

It is because of all these limitations placed on action by dialogue and the necessity of building a new technique as one can and not as one wills that the sound pictures are viewed apprehensively by many of the leaders. For while movie magnates with eyes on box office receipts predict all pictures will be "talkers" within five years, the conservative directors shake their heads gloomily, oppressed by the complexities of the synthetic art.

The Captain to His Comradios

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

"The Captain's" Thanks

HOW am I to say "Thank you" to all the boys and girls of New South Wales for the wonderful and cheery notes of greeting which are pouring in to 2FC since it was announced that there was to be a special little weekly session for those interested in school life? Just by asking the Editor of "Wireless Weekly" to put this paragraph at the top of my notes this week. How else? If I tried to answer everybody separately I should be in for a perfectly splendid example of writer's cramp, and who wants to walk about with one's arm in a sling in this great weather? Seriously though, comradios, thank you very much; and that includes many parents, who have not forgotten their own ripping time at school. Bless them!

Queries

ONCE again let me tell you that all questions or notes should be addressed to "The Captain," 2FC, Sydney. Sign your name always, although I never give a name over the air; only initials or a nom-de-plume, in giving any boy or girl information.

In Confidence

THAT keeps all questions and answers in confidence; anyway, who wants their name broadcast to the world on a purely personal matter? Just send along your little problems, and I shall do my best to give you the answer to put you on the right track. And don't be shy about it! The very point which may be troubling you may be worrying dozens of others, so that by answering you I am helping them, too. And, what is more, I might not have thought of the point unless you had jogged my memory. For goodness' sake, don't think "The Captain" is setting up as a "know-all." But I happen to be in a position to find out for you practically any information you wish to be given in the wide realms of school sport and general pastime.

School Cricket

I SUPPOSE everyone, girls and all, are greatly interested in the G.P.S. cricket this year. I have been to several games, and had a quiet look on. It is fine to see the success of schools which have had a pretty lean time of it in recent years. Scots College, for example, taking down the mighty T.K.S. for the first time in history. That is the big thrill of the year, so far. Very good for the Scots and very good for T.K.S. also. Generally, as an onlooker, what has impressed me most is the batting failure, because the wickets have been almost uniformly batsmen's carpets. The bowling has been very good, but at times as poor as sawdust.

Our Australian Poem

THIS week I suggest "A Bush Christening," by A. B. Paterson, popularly known as "Barajo." You will find it in his volume called "The Man From Snowy River." It's very funny, and I'll tell it to you next Sunday morning from 2FC.

Greeting

AND now the Editor cuts me off! So until next issue of "Wireless Weekly" appears good wishes to you all. Cheerio, comradios! "THE CAPTAIN."

HITTING BELOW the BROADCAST BELT



LIKE a baby with a jam pot, I have been enjoying myself to my heart's content in my ramblings around the short-wave dials. Whether I have had a good receiver or a merely indifferent one, it matters but little, for the outcome has been the same. Both in weeding out the distant telephony stations and yarning away with brother "hams" in remote parts of the world, I have been blessed with a period of really good signal strength.

How many of you short-wave listeners have heard PHL, Huizuin, Holland, 16.88 metres, and KGO, Oakland, California, U.S.A., on 18 metres? Quite a number I feel certain, after the phenomenal signal strength from these two stations during the last week! Using the original GO-GETTER PHL has been heard with loud-speaker strength equal to a local broadcasting station, and my experience with the new AIR KING receiver on KGO caps the lot. This receiver, which I have designed specially for "Wireless Weekly" readers, has been appropriately dubbed "Air King." It was intended to use an untuned stage of SG RF before a tuned stage, and this was tried, with disheartening results. Subsequently both RF stages were tuned, and, when the description appears in print, readers will have something well worth going through with.

On Sunday afternoon, March 10, this receiver was driving two Magnavox dynamic speakers at full blast on the Saturday evening's programme from KGO. One could have sworn that the transmission was local until the announcements came along. Without and fading or imperfections of any kind, this reception went steadily on from 3 to 6 p.m. Sydney time. The dance orchestra supplying jazz at intervals was Mr. Frank Ellis's Californians, whom many Sydney readers will remember at the Palais Royal.

And now, having made your hearts glad with expectancy, you may look out for this wonder receiver the moment I have recovered sufficiently from the strain of building it to talk about it. Here is Mr. Russell Crane's excellent short-wave broadcast log from March 1 to 3. These logs really give short-wave enthusiasts an idea of the activity in the realms below the normal broadcasting channels.

RECEPTION DURING THE WEEK-END, MARCH 1 to 3.

STATION G5SW, Friday, March 1, 10.30. Very weak, a good deal of static, and almost constant Morse interference. Dutch telephony only fair strength to-night.

STATION PHL, HUIZUIN, Saturday, March 2, 12.10 a.m.

The first announcement was: "Ladies and gentlemen of our English-speaking audience, PHL calling. Experimental transmission of our crystal control short-wave transmitter, situated at Huizuin, in Holland, practising on a wave-length of 16.88 metres. We would highly appreciate reports on the reception of our transmission strength and quality, and detailed accounts of fading. We will continue our programme until 17 G.M.T. You will hear the performance of our light orchestra from our Amsterdam studio."

12.12 a.m.: Magnificent music, full strength, slight fading at 12.25, or, rather, temporary diminution of the enormous volume.

12.35: Item started a little under previous volume.

12.50: Announcement rather marred by extraneous noises. I could copy 100 per cent.

Short-wave and Amateur Notes by VK2NO

but not so free of background noises as earlier. A certain amount of high-speed fading during the record item, which finished at 1.4, but the volume throughout was tremendous. The item, which finished at 1.6, was more free of high-speed fading. The following was very good. 1.8: Very good item, free of fading, but during the Barcarolle high-speed fading was noticeable; the following item, finishing at 1.14, almost free of high-speed fading.

1.15: New item started very loud, but a little flat, owing to high-speed fading, and very short periods of ordinary fading. The whole of "Rose Marie" was perfect. Finished at 1.27. I have never heard better overseas transmission.

1.30: Announcement. A few words were missed, as if in fading period. Certainly not up to the last announcement. Distinct fade during part of the English speech.

1.32: Music of tremendous strength and purity, surging slightly. Very bad fade at 1.45. I then re-tuned the set, and found it very patchy, but was able to get loud and strong music. Earlier I was able to swing the controls through the various degrees, and not upset the tuning, now much more agreeable.

2 a.m.: The announcement poor. Could not copy and re-tune. Music at 2.4 much stronger, but inclined to surge and fade—not much high-speed fading.

Note: In reporting a long transmission, allowance has to be made for (1) the first thrill of satisfaction in getting a good station, tending to color one's opinion; (2) the fact that, as one gets weary, the critical faculties become more difficult to please. However, in this instance there is no doubt that since 1.45 reception has not been so good as before that time.

The outstanding item of the transmission was undoubtedly "Rose Marie." The time is now 2.5, and fading is very noticeable and frequent. For instance, the periods of alternate strength and fading seem to be as follows:—

Five seconds strength, 5 seconds fade, 4 seconds strength, 10 seconds fade, and the fading is only partial, and rather a reduction of strength than a fade-out.

12.12 a.m.: Item started in a fade, only just audible. Found it necessary to re-tune to get the air. "My True Love," from "Girl Friend." Surging badly; ended at 2.15 a.m.

Next item, high-speed fading bad; almost impossible to get the air, although there is still plenty of strength; item finished at 2.20.

At 2.24 we had a violent rainstorm, and the music came up very strongly again, with less high-speed fading. The improvement did not last long. A Dutch station was transmitting on about the same wave-length. He was only just audible, indicating that conditions were bad at the time. From 2.25 to 3 a.m. reception was very poor, patchy, and weak with occasional improvements, but at no time good. A little more than a jumble of sounds, with the set tuned almost to oscillation. Impossible to recognise any air, owing to high-speed fading. Concluding announcement was impossible to copy.

STATION 7LO, NAIROBI.

This station should have been on the air at 3 a.m., but could not hear it. There was some good music through, with a little Morse background—evidently a commercial station

sending nothing but figures. There was an announcement from which I caught the words, "Paul Whiteman and his Orchestra." It sounded like an American station, but could not clear him up.

At 4 a.m. looked for PCJ and G5SW. They were either not transmitting or were inaudible.

STATION PCJ, at 4.15 a.m.

Excellent strength, but a good deal of background "mush." They were about as loud as Huizuin at its best. Every word of the announcement was copyable. They did not refer to Australia. The next item was announced "Policeman's Holiday" one-step and "Wee MacGregor Patrol." The music was now, if anything, louder than Huizuin, but more mush and slight Morse interference. The volume was tremendous, and the "Patrol" was very loud (loud-speaker strength), and using ear phones was very good with the set right out of oscillation.

STATION KGO.

National Broadcasting Co., Oakland, San Francisco, about 18 metres. At this time they were giving some sort of lecture, and suggesting a personal budget for expenditure. They were at full strength, with a little Morse background. The announcer, Mr. Harry Waters, was very breezy and easy to copy. Piano item followed, which was perfect, and women's voices singing what appeared to be a sort of winding-up or goodbye chorus. This was of tremendous strength, and would work any size speaker. The station now switched over, apparently to another circuit, and a woman and a man gave a patter item at tremendous strength, but there appeared to be a bad breakdown at 4.31. Unfortunately, throughout there was a background of Morse which was annoying. A patter negro song and music followed at excellent strength, the Morse interference, however, getting worse. The announcer then said there would be "request" numbers played for twenty minutes. The first number, "I'll Get By," was splendid music. A verse was sent in by Mr. J. W. Henderson that the announcer said he would like to pass on to us at once. The item followed. Another item by request was, "When You and I Were Young." The request came from a couple who were celebrating the fiftieth anniversary of their wedding.

STATION G5SW, 5.5 a.m.

This station was now at good strength. Talk on Schumann's works. General discussion of music which had been recently played in London. Rather a bad background surge right down out of oscillation from pleasant ear-tone strength. No Morse interference.

STATION PCJ, 5.25 a.m.

This station still very good, but the drumming in the background referred to in previous notes still troublesome. Music excellent.

STATION 7LO, NAIROBI.

Sunday morning, March 3, 3 a.m.: This station came through at full strength—modulation excellent. No fading of any sort for about half an hour, but static was bad. Particularly good items noted: "O, My Warrior," sung by Peter Dawson, and compositions of Chopin and Rubenstein, the latter with organ.

Note: On no occasion have I heard better transmission than from these stations.



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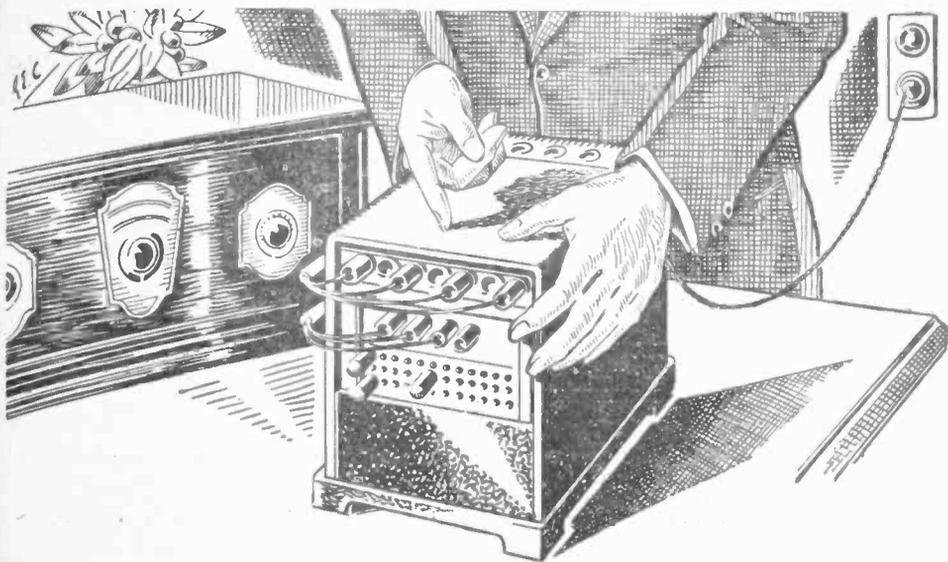
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Local Programmes, Friday, March 22

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.

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. 10.45: 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.

Announcer: A. S. Cochrane.

12.0: "Big Ben" and announcements. 12.1: Stock Exchange, first call. 12.3: Official weather forecast; rainfall. 12.5: Studio music. 12.10: Summary of news, "Sydney Morning Herald." 12.15: Rugby Wireless News. 12.18: A reading. 12.30: Studio music. 12.45: Cricket scores, England v. West Australia, played at Perth. 1.0: "Big Ben." Weather intelligence. 1.3: "Evening News" midday news service. Producers' Distributing Society's report. 1.20: Studio music. 1.28: Stock Exchange, second call. 1.30: Popular studio music. 1.57: Cricket scores. 2.0: "Big Ben." Close.

AFTERNOON SESSION.

Announcer: Laurence Halbert.
Accompanist: Ewart Chapple.

2.30: Programme announcements. 2.32: Educational Session, for the schools. Musical recital. A reading. 3.0: "Big Ben." Pianoforte reproduction. 3.15: Popular music. 3.30: Irene Duncan, soprano, (a) "Villa" (Lehar), (b) "The Asra" (Rubinstein). 3.37: Studio music. 3.45: Cricket scores, England v. West Australia, played at Perth. 3.47: A reading. 4.0: "Big Ben." Ethel Law, contralto. 4.7: Studio music. 4.17: Irene Duncan, soprano, (a) "Whatever is Best" (Lohr), (b) "Annie Laurie" (Scott). 4.24: Popular items. 4.37: Ethel Law, contralto. 4.45: Stock Exchange, third call. Cricket results, England v. West Australia, played at Perth. 4.48: Popular music. 5.0: "Big Ben." Close.

EARLY EVENING SESSION.

Announcer: A. S. Cochrane.

5.40: The chimes of 2FC. 5.45: The Children's Session, conducted by the "Hello Man." Letters and stories. Music and entertainment. Madame Ada Baker's Pupils. 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: Special recital of Dinner Music Records.

EVENING SESSION.

Announcer: Laurence Halbert.
Accompanist: Ewart Chapple.

7.40: Popular music.
7.45: Programme announcements.
7.48: Cricket results, England v. West Australia, played at Perth.
7.50: Studio items.
8.0: The Castle Palais Band.
8.12: Wally Baynes, comedian.
8.13: Horace Keats, novelty pianoforte solos—
(a) "Keyboard Kapers" (Steele).
(b) "All-of-a-Twist" (Mayerl).
8.26: Amy Firth, soprano, winner of the soprano section in the recent Radio Elsteddfod, conducted by the N.S.W. Broadcasting Co.—
(a) "A Summer Night" (Thomas).
(b) "Organgerinder's Song" (Carey).
8.33: Clyde Thorpe, violinist.
8.40: Frederick Todd, basso, winner of the

bass section in the recent Radio Elsteddfod, conducted by the N.S.W. Broadcasting Co.—

- (a) "The Great Adventure" (Fletcher).
- (b) "Tommy Lad" (Margetson).
- 8.47: Weather report.
- 8.48: The Castle Palais Band.
- 9.0: "Big Ben." Wally Baynes, comedian.
- 9.7: Horace Keats, novelty pianoforte solos—
(a) "To a Wild Rose" (Macdowell).
(b) "Will of the Wisp" (Macdowell).
(c) "To a Water Lily" (Macdowell).
(d) "From Uncle Remers" (Macdowell).
- 9.14: Amy Firth, winner of the soprano section in the recent Radio Elsteddfod, conducted by the N.S.W. Broadcasting Co. Ltd.—
(a) "The Red Sarafan" (Whishaw).
(b) "Adelai" (Spurin).
- 9.21: Clyde Thorpe, violinist.
- 9.28: Frederick Todd, basso, winner in the recent Radio Elsteddfod—
(a) "Sea Fever" (Ireland).
(b) "A Chip of the Old Block" (Sanderson).
- 9.35: The Castle Palais Band.
- 9.57: To-morrow's programme and late weather.
- 10.0: "Big Ben." The Castle Palais Band.
- 10.30: National Anthem. Close.

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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.

MID DAY 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, talk on "Diet and Health," by Miss Dorothea de Clegborne. 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. West Australia, played at Perth. 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; close down.

AFTERNOON SESSION.

Announcer: A. C. C. Stevens.

3.45: G.P.O. chimes; cricket scores, England v. West Australia, played at Perth; popular music. 4.0: Novelty mouth organ items by L. Moore, (a) "My Blue Heaven" (Whiting), (b) "Till We Meet Again" (Whiting), (c) "Aloha Oe" (Earle), (d) "Barcarolle"

(Offenbach). 4.7: A talk, by Captain A. C. Stevens, in My Anecdoteage. 4.22: Studio items. 4.33: Popular melodies by L. Moore, mouth organ, (a) "Killarney," (b) "Plantation Chorus Medley" (Various), (c) "Irish Jig." 4.40: "Sun" news service. 4.45: Popular music. 5.0: G.P.O. chimes; pianoforte reproduction. 5.10: "Sun" news service. 5.15: Popular music. 5.30: Racing resume; Producers' Distributing Society's poultry report; 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: Specially selected recital of dinner music records. 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. Plm and Miss Pam in advertising talks and nonsense. 7.55: Programme and other announcements.

EVENING SESSION

Announcer: Basil Kirke.

Accompanist: G. Vern Barnett.

8.0: G.P.O. chimes.

Topical Chorus.

Through the courtesy of J. C. Williamson Ltd., a theatrical transmission will be arranged and listeners will have an opportunity of hearing an act from one of the leading theatres.

- 9.0: From the Studio, weather report.
- 9.1: Charles Lawrence and Rae Foster (duets).
- 9.18: C. R. Dexter will give last minute sporting information.
- 9.25: From the Arcadia Theatre, Chatswood, Nicholas Robins at the Wurlitzer organ.
- 9.55: From the Studio, Charles Lawrence and Rae Foster (duets).
- 10.5: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
- 10.25: From the Studio, late weather and announcements.
- 10.30: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
- 10.57: To-morrow's programme.
- 10.59: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams.
- 11.30: National Anthem; close.
- Note: "Sun" news service will be broadcast during dance intervals.

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. 5.30: Children's Session by Uncle George. 7.0: Music. 7.30: Feature story. 8.0: Mr. Austin Punch, baritone. 8.7: Mr. Gregory Valentine, violinist. 8.8: Gwen Selva, soprano. 8.25: Instrumental music. 8.35: A humorous interlude by Mr. Jack Win and Mr. Heath Burdock. 8.40: Mr. Robert Scott, tenor. 8.50: Mr. Gregory Valentine, violinist. 9.0: Weather report. 9.3: Address. 9.15: Miss Gwen Selva, soprano. 9.25: Instrumental music. 9.35: A humorous interlude by Mr. Jack Win and Mr. Heath Burdock. 9.40: Mr. Austin Punch, baritone. 9.50: Miss Ada Brook, pianiste. 10.0: Mr. Robert Scott, tenor. 10.10: Dance music 10.30: Close down.

2UW

MIDDAY SESSION.

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

EVENING SESSION.

5.30: Children's Hour, conducted by Uncle Jack. 6.30: Close down. 7.0: G.P.O. clock and chimes; music. 8.0: To-day's anniversary; music. 9.0: G.P.O. clock and chimes. Comments on foreign affairs by Mr. J. M. Prentice. 9.10: Music and request numbers. 10.30: Close down.

Interstate Programmes, Friday, March 22

3LO

EARLY MORNING SESSION.

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

MORNING SESSION.

11.0: 3LO's different dainties for the daily dinner. To-day's Radio Recipe: Fish Scallops. 11.8: Grace Tyers will speak on "Great Russian Writers—and Their Stories"—Turgeniev—"A Noblieman's Gess." 11.20: Musical interlude. 11.25: "Au Fait" will speak on "Fashions—Wedding Clothes." 11.40: Musical interlude. 11.45: Under auspices of the Health Department, Dr. Vera Scantlebury will speak on "Some Aspects of Infant Welfare."

MIDDAY SESSION.

Announcer: Renn Millar. Accompanist: Agnes Fortune. 12.0: Melbourne Observatory time signal. Express train information. 12.1: Prices received by the Australian Mines and Metals Association from the London Stock Exchange this day. British official wireless news from Rugby. Reuters's and the Australian Press Association cables. "Argus" news service. 12.15: Newmarket stock sales; special report by the Associated Stock and Station Agents, Bourke Street, Melbourne. 12.20: The Station Orchestra: "Festive Overture" (Loth). 12.30: Gaby Du Valle, soprano: "There's Something About a Rose" (Pain). "By the Waters of Mnnetonka" (Leuridan). 12.37: Stock Exchange information. 12.40: The Station Orchestra: "Pantale, Pantale, Beaux" (Fanchey). 12.50: Spencer Ward and Gertrude Long: "Just a Piano and Us." 12.57: The Station Orchestra: Selection, "The Magic Ring" (Levy). 1.7: Meteorological information; weather forecast for Victoria, New South Wales, South Australia, and Tasmania; ocean forecasts; river reports. 1.15: Gaby Du Valle, soprano: "Giannina Mio" (Friml). Request item. 1.22: The Station Orchestra: Selection, "Philemon and Baucis" (Gounod). 1.32: Spencer Ward and Gertrude Long: "Just a Piano and Us." 1.39: The Station Orchestra: "Cannonetta" (Nicode). "Music Box" (Friml). 1.45: Close down.

AFTERNOON SESSION.

Announcer: Renn Millar. Accompanist: Agnes Fortune. 2.15: The Station Orchestra: Nautical overture, "Plymouth Hoe" (Ansell). 2.25: Signor Torre, tenor: "Caro Mio Ben" (Giordani). "Toreador," from "Carmen" (Bizet). 2.32: The Station Orchestra: Selection, "Merry Wives of Windsor" (Nicola). 2.40: Millie McCormack, mezzo-soprano: "The Old Refrain" (Kreiser). "Siesta" (Besley). 2.47: Tasma Tierman, cello: "Serenade" (Drigo). 2.54: The Station Orchestra: "Three Songs from Eiland" (Von Flieitz). 3.0: Miss Frances Fraser will speak on "Lake Lucerne and Its Story." 3.15: J. Howard King, bass baritone: "The Hero" (Flegler). "The Last Hour" (Kreier). 3.22: The Station Orchestra: "Suite of Four" (Saenger). 3.30: Beryl Holt, contralto: "Slave Song" (Del Riego). "Everywhere I Look" (Carew). 3.37: Guildford Bishop, violin: "Berceuse" (Jarnfeldt). "Serenata" (Toselli). 3.54: The Station Orchestra: "Requiem from Eva" (Massenet). "Prayer" (Gosmar Franck). 4.0: Victor Stephensen, piano: "Hark! Hark! The Lark!" (Schubert-Liszt). "Arietta" (Grieg). "Valse in A Major" (Liszt). "Intermezzo in E Flat" (Brahms). "Scherzo in E Minor" (Brahms). Selected. 4.18: Signor Torre, operatic tenor: "The Hero" (Flegler). "The Station Orchestra: Selection, "The Blue Paradise" (Romberg). 4.37: Percy Code, trumpet: "For You Alone" (Deeh). By request. 4.42: J. Howard King, bass baritone: "Trade Winds" (Keel). "Three" (Aylward). 4.49: The Station Orchestra: "Le Regne de Terpsichore" (Hosmer). 4.50: Beryl Holt, contralto: "Joy Be Thine" (Sanderson). "The Silver Ring" (Chaminade). 5.3: "Herald" news service: Stock Exchange information. 5.13: Close down.

EVENING SESSION.

Birthday greetings and stories by "Billy Bunny." 8.0: Answers to letters and birthday greetings by "Billy Bunny." Musical interlude. 8.30: "Billy Bunny" will entertain the kiddies.

NIGHT SESSION.

6.50: Madame Soward: "French Without Tears." 7.5: Stock Exchange information. 7.15: Official report of the Newmarket Stock sales by the Associated Stock and Station Agents, Bourke Street, Melbourne. Latest truck orderings for meat, milk, and eggs. Fish market reports by J. R. Borrett, Ltd. Rabbit prices. River reports. Market reports by the Victorian Producers' Co-operative Company, Ltd. Poultry, grain, hay, straw, jute, dairy produce, potatoes, and onions. Market reports of fruit by the Victorian Fruitgrowers' Association. Retail prices. Wholesale prices of fruit by the Wholesale Fruit Merchants' Association. Citrus fruits. 7.30: News session. 7.43: Birthday greetings. 7.45: Out of the Past. 7.48: Under the auspices of the Department of Agriculture, W. R. Jewell, Agricultural Research Chemist, will speak on "Composition of Mineral Stock Licks." 8.0: A Maker of History. 8.1: H. K. Love will speak on "Technicalities." 8.10: Collingwood Citizens' Band: Selection, "The Vagabond King." 8.20: Adele Crane, soprano: "She Is Far From the Land" (Lambert). "Blackbird's Song" (Cyril Scott). 8.27: Collingwood Citizens' Band: Brass Quartet, "Hymn to Music." 8.34: Signor Torre, operatic tenor: A selection of Excerpts from

Opera. 8.41: Collingwood Citizens' Band: Selection of Sir Henry Bishop's songs. 8.51: Mary Mack, contralto: "O, What Comes Over the Sea" (Coleridge Taylor). "Unmindful of the Roses" (Coleridge Taylor). Transmission from Melba Hall, University Symphony Orchestra (conductor, Bernard Heinze, Ormond Professor of Music): Orchestra: Overture. "Iphigenia in Aulis" (Gluck); vocal, Phyllide" (Duparc)—Lillian George, soprano. Orchestra: Concerto for Piano and Orchestra in B Flat—1st Movement (Beethoven). Pianist, Helen Speeding. Orchestra: (a) "Valse Triste" (Sibelius). (b) "Shepherd's Hey" (Grainger); vocal, "Secrecy" (Wolf) "Damon" (Strange)—Lillian George, soprano. Orchestra: (a) "Le dernier Sommeil" (Massenet); (b) "Overture Oberon" (Weber). 10.0: Adele Crane, soprano: Request items. 10.7: Eric Welch will speak on tomorrow's races at Moonee Valley. 10.17: Signor Torre, operatic tenor: Request Numbers. 10.25: Collingwood Citizens' Band: Fox-trots, "Four Walls," "Sonny Boy." 10.29: Mary Mack, contralto: "O Soul of Mine" (Barns). "Down Here" (Brahe). 10.36: "Argus" news service; British official wireless news from Rugby; meteorological information; road notes supplied by the Royal Automobile Club of Victoria; announcements. 3LO's weekly seasonal gardening reminders, compiled by Leslie Brunning. 10.48: Our Great Thought for to-day. 10.47: The Radio Revelers: "I'm Sorry, Sally" (Kahn). "Honey" (Simons). "Alabama Stamp" (Creamer). "When the Right One Comes Along" (Gilbert). "One Alone" (Romberg). "The Desert Song" (Romberg). "It Goes Like This" (Caesar). "Under the Stars of Havana" (Coleman). "The Dance of the Blue Danube" (Fisher). "Roses of Yesterday" (Berlin). Selected. "Mexican Serenade" (Terese). 11.30: God Save the King.

EVENING SESSION.

Announcer: John Stuart. 8.0: Beautiful ballads. 6.16: Spencer Ward and Gertrude Long in "A Piano and Just Us." 8.23: Beautiful ballads. 8.48: The Imperial Russian Trio (Vassill Ister piano, Arved Norit violin, Ivan Berzinsky cello): "Trio in F Major" (Schumann). (a) Molto animato. (b) Con espressione intima. "The Rosary" (Nevin). 7.10: News service; announcements. 7.20: Spencer Ward and Gertrude Long: "A Piano and Just Us." 7.27: Gramophone records.

NIGHT SESSION.

Announcer: John Stuart. 8.15: Eric E. Aikens: "To-morrow's Events at the Motor-drome." 8.30: Community Singing. Transmission from Malvern Town Hall (conductor, G. J. Mackay). 10.30: Road notes as supplied by the Royal Automobile Club of Victoria; news service; announcements. God Save the King.

5CL

MORNING SESSION.

Announcer: C. J. O'Connor. 11.0: G.P.O. chimes. 11.1: Morning melodies. 11.15: Kitchen craft and menu talk. 11.30: Sonora. 11.45: Mr. L. G. Cain will speak on "The St. John Ambulance Association."

MIDDAY SESSION.

12.0: G.P.O. chimes. 12.1 Columbia recordings. 12.15: General news service. 12.30: British official wireless news. 1.35: Sonora. 1.52: G.A. Railway information. 12.53: C. Ward and Co.'s Stock Exchange information; meteorological information; international cricket scores, England v. West Australia, at Perth. 1.0: G.P.O. chimes. 1.1: Lunch-hour results. 7.57: Meteorological information. International cricket scores, England v. West Australia, at Perth. 2.0: G.P.O. chimes. Close down.

AFTERNOON SESSION.

Announcer: C. J. O'Connor. 3.0: G.P.O. chimes. 3.1: International cricket scores, England v. West Australia, at Perth. 3.2: Station quartet. Selection "Faust" (Gounod). 3.10: Mrs. Keith Steward, soprano, "Of the Greenwood" (Brahm). "Wert Thou a Slave" (Kilner). 3.16: Vern Rogers, trumpeter. 3.22: Station Quartette—"Dance of the Hours" (Ponchielli). 3.28: Reg Harris, tenor—"Beyond the Dawn" (Sanderson). "You in a Gondola" (Clark). 3.34: Syd Hollister, comedian, in merry moments. 3.40: Station Quartette—Novlette "Blue Blossom" (Logan). Oriental, "Desert Caravan" (Zamecnik). 3.48: Norah Shirley, contralto—"A Song of Sunshine" (Bunning). "Cradle Song" (Austin). 3.54: Dave Howard, saxophonist—"Saxonia" (Dour). "If I Might Come to You" (Squire). 4.0: G.P.O. chimes. 4.1: International cricket scores, England v. West Australia, at Perth. 4.2: Station Quartette—"Vision of Salome" (Joyce). "Supplication Passione" (Elliot). 4.12: Mrs. Keith Steward, soprano—"The Market" (Carew). "Can't Remember" (Gostley). 4.18: Syd Hollister, comedian, in more comicities. 4.24: Station Quartette—"Kilnyrd" (Eisenberg). 4.32: Reg Harris, tenor—"Vale" (Russell). "O Sole Mio" (Di Capua). 4.38: Dave Howard, saxophonist—"Barcarole" (Thompson). "Only a Smile" (Zamecnik). 4.44: Norah Shirley, contralto—"Compensation" (Bolt). "Slow Horses, Slow" (Mallinson). 4.50: Station quartet. Selection "Maccoco" (Massoni). 4.55: S. C. Ward and Co.'s Stock Exchange information. International cricket scores, England v. West Australia, at Perth. 5.0: G.P.O. chimes. Close down.

EVENING SESSION.

Announcer: J. L. Norris. 6.0: G.P.O. chimes. 6.1: Birthday greetings, correspondence, songs, and stories by "Billy Bunny." 6.3: "The King of the Hill" will give a "Zoo Talk for the Kiddies." 6.45: Dinner music. 6.58: International cricket scores, England v. West Australia, at Perth. 7.0: G.P.O. chimes. 7.1. S. C. Ward and Co.'s Stock Exchange information. 7.6: General market reports. Dalgely and Co.'s Wool and Grain reports. Retail Grocers' Association's dairy produce report. 7.18: 5CL's sporting service, by "Silvius," including a review of to-morrow's races at Victoria Park and Moonee Valley. 7.27: "Willow" will speak on Cricket. 7.45: Leo Thielston, "First Lesson on the Fort Trot."

NIGHT SESSION.

Announcer: J. L. Norris. 8.0: G.P.O. chimes. 8.1: Studio orchestra—Overture, "Raymond" (Thomas); Novlette, "Rosemary" (Reynard). 8.10: Mrs. Leslie Matthews, contralto—"Carissima" (Pontet). "Caro Mio Ben" (Giordani). 8.16: Dave Howard, saxophonist—"Valse" (Bourne). "My Dear" (Sanderson). 8.22: Holden's Male Voice Choir—"Breeze of the Night" (Lamothe). "Down in the Depths" (Linders). 8.30: Studio Orchestra—"Lucia di Lammermoor" (Donizetti). 8.38: Walter Wood, tenor—"The Dream of My Heart" (Bevan). "Sigh No More, Ladies" (Stevens). 8.44: Syd Hollister, comedian, in comedy numbers. 8.50: Studio orchestra—Fox Trot, "Hollywood." 9.0: G.P.O. chimes. 9.1: Meteorological information, including Semaphore Tides. 9.2: Overseas grain report. 9.3: International cricket scores, England v. West Australia, at Perth. 9.4: Linda Wald, soprano—"Heard You Singing" (Goates). "Heart's Desire" (Simpon). 9.10: Williams and Smith, banjoists—"Whistling Rufus" (Mills). "Darkies Awakening" (Lansing). 9.15: P. H. Nicholls, assisted by Beata Francis, will present "A Twelfth Night." 9.30: Studio Orchestra—"Madrigals" (Donatelli). 9.36: Walter Wood, tenor—"The Message" (Blumenthal). "Bonny Mary of Arlyle" (Nelson). 9.42: Dave Howard, saxophonist—"Carolyn Melodie" (Thompson). Serene (Wiedorf). 9.58: Mrs. Leslie Matthews, contralto—"Sleep, My Love, Sleep" (Sullivan). "To Myself" (Schubert). 9.64: Studio Orchestra—"Spanish chefs d'oeuvre." 4.30: Close down.

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3AR

MORNING NEWS SESSION.

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. 10.59: Weather forecast.

MORNING MUSICAL SESSION.

11.0: The Radio Revelers (conductor, Ern Hill): "Rio Rita" (Tierney). "The Kink-a-Jink" (Tierney). "Next to Me I Like Me Next to You" ("Bito"). "Down Where the Sun Goes Down" (Jones). "Can You Blame Me" (Goodwin). "I Want to be Alone With Mary Brown" (Leslie). 11.20: Beautiful ballads. 11.30: The Radio Revelers: "Tea Leaves" (Nichols). "Forty-seven Ginger-headed Sailors" (Sarnoy). "You Ought to Hear Olaf Laff" (Baer). "A Bungalow, a Radio, and You" (Dempsey). "Back in Your Own Backyard" (Jolson). "My Heart Slood Still" (Rodgers). 11.50: Beautiful ballads. 12.0: The Radio Revelers: "Give Your Baby Lots of Lovin'" (Burke). "When You Know Me" (Baden). "I'm Sorry, Sally" (Kahn). "My Blackbirds Are Bluebirds Now" (Friend). "Get Out and Get Under the Moon" (Tobias). "Oh, Isabella" (Schuster). 12.20: British official wireless news; announcements. 12.30: Close down.

AFTERNOON SESSION.

Announcer: Maurice Dudley. 3.0: Beautiful ballads. 3.8: The Imperial Russian Trio (Vassill Ister, piano; Arved Norit, violin; Ivan Berzinsky, cello): "Trio in F Flat Major" (Beethoven); (a) Andante cantabile. (b) Allegro moderato. Frantz Bourne (Handel). Selected. 3.33: Beautiful ballads. 3.45: Announcements. 3.50: Orchestral and vocal

Waltz" (Prinz). 10.0: Linda Wald, soprano—"The Cuckoo Clock" (Schaefer), "Sing Merrily To-day" (Phillips). 10.5: Williams and Smith, banjoists—"Romping Rossie" (Rowster), "Annie Laurie" (Tradition). 10.10: Studio Orchestra—Oriental, "The Sun Dance" (Friedman). 10.15: General news service. Meteorological information. SCL's sporting service, by "Silvius," including selections for races at Victoria Park and Moonee Valley. 10.30: Modern dance numbers by the Radio Revellers. 11.0: Close down.

6WF

12.10: Progress scores of cricket match, England v. W. Australia; description of play will be broadcast each half-hour until stumps. 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. 1.3: Programme from the studio. Items by the Studio Trio, comprising Miss Audrey Dean, piano; Miss Edna Waterman, cello; Miss Vera Waterman, violin. 2.0: Close down. 3.30: Tune in. 3.35: Afternoon tea programme, relayed from the Primrose Cafe de Luxe; vocal numbers from the studio. 4.30: Close down. 6.45: Tune in. 6.48: Bedtime stories for the kiddies by Uncle Duff. 7.30: Commercial and general information. 7.45: Racing anticipations by the sporting editor of the "Truth" Newspaper Co. 8.0: Time signal. 8.1: First weather bulletin. 8.3: Instrumental duo from the S.S. "Klondike" in solos and duos. 8.30: "To-day's Cricket" by Mr. S. B. Gravenall. 9.0: Late news items, by courtesy of the "Daily News" Newspaper Co., Ltd.; station announcements; ships within range announcement; late weather bulletin. 9.15: Description of wrestling match by the sporting editor of the "Truth" Newspaper Co., Ltd., relayed from the ring-side, Subiaco Oval. 10.30: Close down. 10.4 metres transmission, simultaneous broadcast on 10.5 metres of programme given on 1250 metres, commencing at 6.45 p.m.

7ZL

MIDDAY SESSION

Announcer: Jack Broadbent. 11.30: Records. 11.4: Midlands weather forecast. 11.35: Records. 11.45: Tasmanian station's 9 a.m. weather report. 12.0: G.P.O. clock chimes the hour. 12.1: Shipping information; ships within wireless range; mail notices; housewives' guide; commercial news. 12.2: Records. 12.11: British official wireless news. 12.20: Records. 12.29: Announcements. 12.33: Records. 12.55: News service; railway auction produce sales, held at railway. 1.10: Records. 1.30: Close down.

AFTERNOON SESSION

Announcer: Jack Broadbent. 3.0: G.P.O. clock chimes the hour. 3.1: Records. 3.4: Weather information. 3.5: Records. 3.15: An all-star programme by the Discus Ensemble, Jacques Jacobs Ensemble, "España" (Waldteufel), "L'Estudiantina" (Waldteufel); Muriel Brunsell, contralto, "O Lovely Night" (Tschumacher), "Kathleen Mavourneen" (Griffard); the J. H. Squire Celeste Octet, piano concerto, "1812" Overture, "Memories of Tschakowsky," parts 1 and 2 (arr. Sear); Signor Lenghi-Cellini, tenor, "Marie, My Girl" (Aiken), "I Hear You Calling" (Marshall); Eddie Thomas Collegians, solo, "Beautiful Ohio" (Earl); Columbia Symphony Orchestra, "March of the Toys" (Herbert); duet, Dame Clara Butt and Kennerley Rumford, "The Keys of Heaven" (traditional), "Friendship"; Lester Sing Quartet, "Quartet in E Minor," parts 1 and 2 (Suetana); handbells, played by the famous Bernardo musical boys, "The Legend of the Bells," "Chiming Bells of Long Ago" (Christobel); mandolin band, 65 performers, Giuseppe Verdi, of Leghorn, "Les Millons d'Arlequin," "Carmen," act 4 (Bizet); Joseph Sziget, violin solo, "Tambourin Chinois" (Kreisler), "Menuet" (Debussy). 4.15: Readings from the "Weekly Courier." 4.30: Close down. During the afternoon progress results will be given of the cricket match, English XI. v. West Australia, at Perth.

EARLY EVENING SESSION

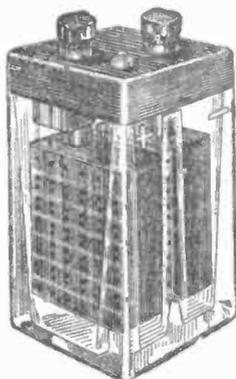
Announcer: Jack Broadbent. 6.15: Records. 6.30: "The Story Lady" will tell a story to the wee lads. 6.45: Selections. 6.48: "The Story Lady" and "Uncle David" will entertain the little ones. 7.5: Basil Sproule, pianist, will play to the children, "Ripples" (Elkin), "Melody in F" (Rubenstein).

EVENING SESSION

Accompanist: Lella Read. 7.15: A. M. O'Leary will speak on "Cricket Activities." 7.30: A studio concert by the "Discus Ensemble and 7ZL artists. Lella Read, pianist, selected. 7.35: Rene Dyer, contralto, "Ma Curly Headed Baby" (Clutans), "My Dear Soul" (Byron). 7.42: J. Rogers, mouth organ, "The Double Eagle." 7.46: Daisy Walters, soprano, "Sine-Joyous Bird" (Phillips), "Shall We Remember" (Rayners). 7.53: J. Rogers, mouth-organ solo, "In a Little Spanish Town." 7.57: Harry Guy, baritone, "Gray Days" (Johnson), "A Son of the Desert" (Phillips). 8.4: Guitar duet, "Hawaiian Waltzes" 8.7: Rene Dyer, contralto, "Lackaday" (Crumpston), "Lilac Tree" (Gartman). 8.14: J. Rogers, mouth-organ solo, "Estudiantina." 8.18: Daisy Walters, soprano, "The Blackbird" (Elliott), "When Song is Sweet" (Sans Souci). 8.20: W. H. Squire, cello solo, "Andantino, song of the soul (Lemare). 8.28: Harry Guy, baritone, "Can't You Hear Me Calling" (Caro Roma), "Morning" (Speck). 8.35: J. Rogers, mouth-organ solo, selected. 8.39: International Concert Orchestra, "The Spicers" (Waldteufel), "Estudiantina" (Waldteufel). 8.45: J. M. Counsel, "An Hour with the Old Masters" "The History and Development of Music." 9.45: News service; British official wireless news; mail notices; railway auction produce sales, held at railway; weather information; Robert Stock Exchange quotations; market reports from Messrs. Roberts and Co.; Wise and Stirling and T. Thorpe and Co.; railway week-end information. 10.0: G.P.O. clock chimes the hour. 10.1: Close down.

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Local Programmes, Saturday, March 23

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; meal quotations; wool sales; breadstuffs markets; Inter-State markets; produce markets. 7.40: Studio music. 8.0: "Big Ben." Close.

MORNING SESSION.

Announcer: Eric Bessemer.

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

MIDDAY SESSION.

Announcer: A. S. Cochrane.

12.0: "Big Ben" and announcements. 12.1: Stock Exchange, first call. 12.3: Official weather forecast; rainfall. 12.5: Studio music. 12.10: Summary of news. "Sydney Morning Herald." 12.15: Rugby wireless news. 12.18: A reading. 12.30: Studio music. 12.45: Cricket scores, England v. Western Australia, played at Perth. 1.0: "Big Ben"; weather intelligence. 1.3: "Evening News" midday news service; Producers' Distributing Society's report. 1.20: Studio music. 1.28: Stock Exchange, second call. 1.30: Popular studio music. 1.57: Cricket scores. 2.0: "Big Ben." Close.

AFTERNOON SESSION.

Announcer: Laurence Halbert.

Accompanist: Ewart Chapple.

2.30: Programme announcements. 2.32: The Smart Set Trio—(a) "I'm In Love Again" (Porter), (b) "Lolita" (Stoneham), (c) "My Message" (D'Hardelot), (d) "Symphony" (Marshall), (e) "On Wings of Song" (Mendelssohn), (f) "Minuet" (Becherini). 2.50: Cricket results, England v. West Australia, played at Perth. 2.52: Popular music. 3.0: The Smart Set Trio—(a) "It Goes Like This" (Friend), (b) "Moonlight on Danube" (Gay), (c) "Was It a Dream" (Spier), (d) Selected. 3.10: Studio items. 3.15: Studio Dance Band, conducted by Cec. Morrison. 3.45: Studio items and announcements. 4.0: "Big Ben"; Studio Dance Band, conducted by Cec. Morrison. 4.15: Cricket scores. 4.22: Studio items. 4.30: Studio Dance Band. 4.45: Studio Dance Band. 5.0: "Big Ben." Close.

EARLY EVENING SERVICE.

Announcer: A. S. Cochrane.

5.40: The chimes of 2FC. 5.45: The children's session, conducted by the "Hello Man"; letters and stories; music and entertainment. 6.30: Dalgety's market reports (wool, wheat, and stock). 6.40: Fruit and vegetable markets. 6.43: Stock Exchange information. 6.45: Weather and shipping news. 6.48: Rugby wireless news. 6.50: Late sporting news. 7.0: "Big Ben"; late news service. 7.10: The 2FC Dinner Quartette, conducted by Horace Keats—(a) "Sonny Boy" (Henderson), (b) "Full Moon" (Woolmer), (c) "Samson and Delilah" (Saint-Saens), (d) "Sally of My Dreams" (Kernell), (e) "On the Way to



TOMMY MAULIFFE, the armless golfer, who will talk from 2FC at 7.48 to-night.

Kew" (Clarke), (f) "By the Fireside" (Phillips).

EVENING SESSION.

Announcer: Laurence Halbert.

Accompanist: Ewart Chapple.

7.40: Popular music. 7.45: Programme announcements; cricket results, England v. West Australia. 7.48: A talk by Thomas McAuliffe, the armless golfer. 8.0: From the Conservatorium of Music—The Welsh Choral Society presents "Hiawatha's Wedding Feast" (Longfellow) (Colebridge-Taylor), and miscellaneous programme. Mr. Robert Harper, the eminent tenor, will sing the world-famous aria in this work, "Onaway! Awake Beloved." This will be Mr. Harper's last of his many appearances with the society, prior to his departure for America. Mr. W. J. Grieves, leader of orchestra. Mr. W. J. Caspers at the piano. Mr. Harper and other eminent artists will take part in the miscellaneous programme. 9.0: From the Studio—Weather report; xylophone solos by Lisle Lea. 9.10: From the Conservatorium: Concert programme, arranged by the Welsh Choral Society, to which Robert Harper, Bryce Carter, and other well-known artists will contribute. 10.15: From the Studio: Studio Dance Band, conducted by Cec. Morrison. 10.25: Bernice Patterson, popular vocalist. 10.32: Late weather report. 10.34: The Castle Palais Band. 10.46: Bernice Patterson, popular vocalist. 10.53: To-morrow's programme. 10.55: The Castle Palais Band. 11.30: National Anthem. Close.

2BL

MORNING SESSION.

Announcer: A. C. C. Stevens.

8 a.m.: G.P.O. chimes; metropolitan weather report. 8.1: State weather report. 8.2: Studio music. 8.15: G.P.O. chimes; news from the "Daily Telegraph Pictorial." 8.30: G.P.O. chimes; news service. 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. A. C. Stevens.

Accompanist: Kathleen Roe.

11.0: G.P.O. chimes; women's session, conducted by Mrs. Cranfield; "What's on at the Pictures and Theatres." 11.30: Advertising hints. 11.40: Talk on "Gardening," by Mr. Cooper, Park Superintendent, City Council. 12.0: G.P.O. chimes; special ocean forecast and weather report. 12.3: Pianoforte reproduction. 12.30: "Sun" news service. 12.40: Studio music. 12.45: "Sun" news service. 12.50: From Warwick Farm, description of the A.J.C. meeting in the running, by the New South Wales Broadcasting Company's racing commission; during intervals a musical programme will be given from the Studio by "The Idlers," and dance music from Romano's Cafe, the Romano's Dance Orchestra, conducted by Bennie Abrahams; vocal items by Frank Martin, (a) "Sally of My Dreams" (Kernell), (b) "Waiting for Ships That Never Come In" (Olman), (c) "Sonny Boy" (Jolson), (d) "Jeannine" (Shilkret).

EARLY EVENING SESSION

Announcer: Basil Kirke.

5.40: Childrens session; music and entertainment; letters and stories. 6.30: "Sun" news and late sporting. 6.40: 2BL Dinner Quartette, (a) "Summer Showers" (Logan), (b) "Brown Eyes I Love" (Coates), (c) "Petite Mazurka" (Sapellnikoff), (d) "San Toz" (Jones), (e) "Humoreske" (Dvorak), (f) "How About Me?" (Flynn). 7.7: Complete sporting and racing resume. 7.30: Mr. Pim and Miss Pam in advertising talks, handy hints, and nonsense. 7.55: Programme and other announcements.

EVENING SESSION.

Announcer and Accompanist: J. Knight Barnett.

8.0: G.P.O. chimes and Topical Chorus. 8.2: The Troubadours. 8.15: Billie Cresswell, popular vocalist. 8.22: The Troubadours. 8.30: Popular studio programme. 9.30: The Troubadours. 9.45: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 9.55: From the Studio, Billie Cresswell, popular vocalist. 10.2: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 10.14: From the Studio, Billie Cresswell, popular vocalist. 10.19: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 10.30: From the Studio, late weather and announcements. 10.35: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 10.57: From the Studio, to-morrow's programme. 10.59: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 11.30: National Anthem; close.

2GB

3.0: Musical session. 5.30: Children's Session by Uncle George. 7.0: Dance music. 8.0: Request evening. 9.0: Grown-up Bedtime stories. 10.0: Close down.

2UW

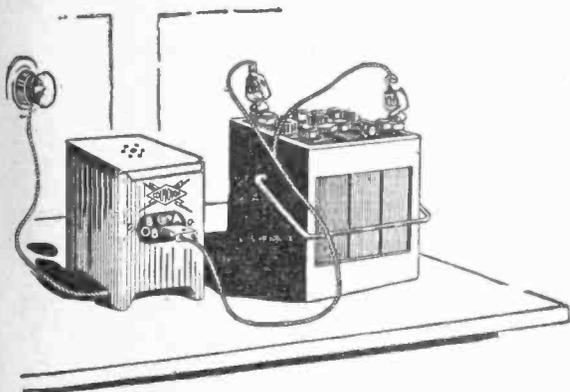
5.30: Children's Hour, conducted by Uncle Jack. 6.30: Close down. 7.0: Musical programme. 10.30: Close down.

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2 Pilot .0005 Capacigrad Condensers	1	9	0	1 A.W.A. Ideal 3 1/2/1 Transformer	0	18	0
1 Pilot .00025 Capacigrad Condenser	0	12	0	1 Pilot Indicating Toggle Switch	0	2	9
1 Emmco Bakelite Vernier Dial	0	5	0	1 B.M.S. Single Circuit Jack	0	1	7
2 Bakelite Arrow Knobs	0	2	0	1 Pilot Bakelite 30-ohm Rheostat	0	3	6
1 Reinartz Coil Kit, Radiokes	0	10	6	1 2 or 3 ohm Grid Leak	0	1	3
1 A.W.A. Ideal 5/1 Transformer	0	18	0	1 Five-ply Baseboard, 20x 8 x 3/4in.	0	3	0
1 Pilot Isograd .00025 Grid Condenser and Clips	0	2	6	1 Bakelite Terminal Strip	0	0	6
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Interstate Programmes, Saturday, March 23

3LO

EARLY MORNING SESSION.

7.15 to 8.15: See Friday.

MORNING SESSION.

Announcer: Renn Millar. 11.0: The Radio Revelers: "That's What You Mean to Me" (Davis). "All by Ourself in the Moonlight" (Wallis). "Just Like a Melody" (Donaldson). 11.9: Gaby Du Valle, soprano: "An Old Adobe" (Schertzingler). "It Must Be Love" (Fisher). 11.16: The Radio Revelers: "Querida" (Simon). "Falling in Love with You" (Mayne). "I Love to Dink with a Hunk of Sponge Cake" (Castill). 11.25: Eric Welch will speak on to-day's races at Moonee Valley. 11.35: The Radio Revelers: "I Just Jog Along" (Rose). "I Can't Do Without You" (Berlin). "My Heaven is Home" (Collins). 11.45: Signor Torre, operatic tenor: Two Italian folk songs. 11.53: The Radio Revelers: "Dream House" (Fox). "Mother, I Still Have You" (Jolson). "Out of the Dawn" (Donaldson).

MIDDAY SESSION.

Announcer: Renn Millar. Accompanist: Agnes Fortune. 12.0: Melbourne Observatory time signal. Express train information. 12.1: Metal prices received from the London Stock Exchange this day by the Australian Mines and Metals Association. British official wireless news from Rugby. Reuters and the Australian Press Association cables. "Argus" news service. 12.20: The Radio Revelers: "I'm Sorry, Sally" (Kahn). "The Prune Song" (Crumit). "Sincerely I Do" (Davis). 12.29: Spencer Ward and Gertrude Long: "Just a Piano and Us." 12.36: Stock Exchange information.

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12.40: The Radio Revelers: "Sally Rose" (Friend). "Rio Rita" (Tierney). "The Kipka-Jou" (Tierney). 12.49: Gaby Du Valle, soprano: "To be Near You" (Cootle). "La Paloma" (Aparisi). 12.56: The Radio Revelers: "Next to Me I Like Me Next to You" (Bito). "Down Where the Sun Goes Down" (Jones). "Can You Blame Me" (Goodwin). 1.5: Signor Torre, Tenor: Request numbers. 1.12: Meteorological information; weather forecast for Victoria. New South Wales, South Australia, and Tasmania; ocean forecasts; river reports; rainfall. 1.19: The Radio Revelers: "Mexican Serenade" (Terese). "I Want to be Alone with Mary Brown" (Leslie). "Tea Leaves" (Nichols). 1.28: Spencer Ward and Gertrude Long: "Just a Piano and Us." 1.35: The Radio Revelers: "Forty-seven, Ginger-headed Sailors" (Saroni). "You Ought to Hear Olaf Laif" (Baer). "A Bungalow, a Radio, and You" (Dempey). 1.45: Close down.

AFTERNOON SESSION.

1.58: Description of Pannathorn Hurdle Race, two miles, by Eric Welch, at Moonee Valley races. 2.5: Description of Pennant cricket match, Melbourne v Hawthorn-East Melbourne, at M.C.C., by Ead McGregor. 2.18: Brunswick City Band: Musical comedy selections. 2.28: Description of Gallipoe Handicap, 5½ furlongs, Moonee Valley races. 2.35: Description of Pennant cricket match, Melbourne v Hawthorn-East Melbourne, at M.C.C. 2.48: Brunswick City Band: "Scottish Melodies." 2.58: Description of Rothwell Steeplechase, 2 miles and 8 chains, Moonee Valley races. 3.5: Description of Pennant cricket match, Melbourne v Hawthorn-East Melbourne, at M.C.C. 3.28: Brunswick City Band: Gems from Opera. 3.38: Description of Moonee Ponds Handicap, 1¼ miles, Moonee Valley races. 3.45: Description of Pennant cricket match, Melbourne v Hawthorn-East Melbourne, at M.C.C. 4.8: Brunswick City Band: Modern Melodies. 4.18: Description of Trial Mile, Moonee Valley races. 4.25: Description of Pennant cricket match, Melbourne v Hawthorn-East Melbourne, at M.C.C. 4.35: Brunswick City Band: Selected and request numbers. 4.45: Description of Sherwood Highweight Handicap, 6 furlongs, Moonee Valley races. 4.52: Description of Pennant cricket match, Melbourne v Hawthorn-East Melbourne, at M.C.C. 5.10: "Herald" news service. 5.20: Description of pennant cricket match, Melbourne v Hawthorn-East Melbourne, at M.C.C. 5.30: Close down.

EVENING SESSION.

5.50: Sporting results. 6.0: Answers to letters and birthday greetings by "Little Miss Kookaburra." 6.25: Musical Interlude. 6.39: "The Miss Kookaburra" will tell you what happened to Robinson Crusoe after he left the island. Where were his old friends? Did they know him?

NIGHT SESSION.

Announcer: Frank Hatherley. Accompanist: Agnes Fortune. 7.5: Stock Exchange information. 8.5: Market reports. 7.30: News session. 7.40: Birthday greetings. 7.45: Out of the Past. 7.46: Dr. J. A. Leach will speak on "Thrushes." 8.1: The Station Orchestra: Overture, "Maid of Orleans" (Rawlins). 8.11: Adele Crumit, soprano: "I Was Dreaming" from "Ma Mie Rosette" ("Morning" (Speaks). 8.18: The Station Orchestra: Selection, "Maid of the East" (Neale). 8.26: Thos. George, bass: "The Two Grenadiers" (Schumann). "Tally Ho" (Leoni). 8.33: The Station Quartet: "Drink to Me Only" (Pochon). "Sally in Our Alley" (Pochon). "Scottish Dances" (Pochon). 8.41: Gaby Du Valle, soprano: "La Partida" (Alvarez). "Prayer to the Moon" (specially written for Miss Du Valle) (Loaiza). 8.48: The Station Orchestra: "The Evolution of Dixie" (Lake). 8.54: The Song Feature of the Week. 8.58: Eric Welch will describe to-night's events at the Stadium. 9.15: The Station Orchestra: Overture "Chal Ramano" (Ketybel). 9.23: The Sundowners' Radio Revue Co.: Present a Burlesque Sketch specially written and produced for radio by J. Harcourt Bailey. 9.55: The Station Orchestra: Fantasia, "The Barber of Seville" (Rossini). 10.0: Eric Welch will continue his description of to-night's events at the Stadium. 10.15: Thos. George, bass: "Rip Van Winkle" (Carroll). "Music When Soft Voices Die" (Besley). 10.22: The Station Orchestra: "Italian Scenes" (Brand). 10.30: Gaby Du Valle, soprano: "The Kiss Waltz" (Arditi). "My Heart Will Tell Me So" (Loaiza). 10.37: The Station Orchestra: Selection, "High Jinks" (Friml). 10.46: Late sporting results of cricket match, England v. W.A. 10.50: Our Great Thought for To-day is: The gods cannot help a man who loses opportunities. (Chinese proverb). 10.51: The Radio Revelers: "Nebraska" (Sissel). "Little Irish Rose" (Zamenik). "Counting the Milestones" (Tilsley). "Daybreak" (Evans). "Toy Town Artillery" (Carlton). "Ready for the River" (Moret). "I'm Sorry, Sally" (Kahn). Selected "Mexican Serenade" (Terese). 11.30: Close down.

3AR

MORNING NEWS SESSION.

Announcer: Maurice Dudley. 10.0 to 10.50: See Friday.

MORNING MUSICAL SESSION.

11.0: Gramophone recital. 11.50: British official wireless news; rates of exchange as supplied by Messrs. Thos. Cook and Sons. 12.0: Close down.

AFTERNOON SESSION.

Announcer: Maurice Dudley. 3.0: The Station Orchestra: Overture, "Chal Romans" (Ketybel). 3.10: Spencer Ward and Gertrude Long: "A Piano and Just Us." 3.17: The Imperial Russian Trio (Arved Nordt, violin, Vassili Ister, piano, Ivan Berzinsky, cello); Trio, "Barcarolle"; Vassili Ister, piano,

"Valse"; Arved Nordt, violin, "Cabanetta"; Ivan Berzinsky, cello, "Nocturne"; Trio, "Andante" from Symphony. 3.47: Spencer Ward and Gertrude Long: "A Piano and Jus Us." The Station Orchestra: "Dehos from the Opera" (Tobani). "Prelude Dramatique" (Frederick Hall). 4.9: Announcements. 4.12: Victor Baxter, tenor: "Pale Moon" (Logan). "Waters of Minnetonka" (Lieuance). 4.20: The Station Orchestra: A Nautical Overture. "Plymouth" (Ansell). 4.33: Victor Baxter, tenor: Selected. 4.42: The Station Orchestra: Selection, "Two Little Girls in Blue" (Youmans). 4.50: Gramophone records. 5.0: Close down.

EVENING SESSION.

Announcer: John Stuart. 6.0: Gramophone recital. 7.10: News service; announcements; results of Moonee Valley races. 7.30: Gramophone recital continued.

NIGHT SESSION.

Announcer: John Stuart. 8.0: All sporting results. 8.05: Coburg City Band: Selection, "Pirates of Penzance." 8.40: Rinaldo Torre, tenor: "Operatic Selections." 8.47: Coburg City Band: Buxtehude music from "Coppella" (Delibes). 8.57: Jessie Batchelor, dramatic-contralto: "Arise, Oh Sun" (M. C. Hay). "The Little Hills" (Gleason). 9.4: Coburg City Band: March, "St. Kilda" (Trussell). "Idyll." "Creakle" from "David Copperfield" (Dickens). 9.29: Coburg City Band: Waltz, "Waltz Dream" (Strauss). 9.39: The Imperial Russian Trio (Arved Nordt, violin, Vassili Ister, piano, Ivan Berzinsky, cello). Ivan Berzinsky, cello, "Guitare" (Popper). "Sondven" (Ordla). "Serenade" (Ordla). Arved Nordt, violin, "Le Cygne" (Saint-Saens); Trio, "Serenade" (Drigo). Selected. 10.9: Jessie Batchelor, dramatic-contralto: "My Ships" (Barrett). 10.12: Coburg City Band: Request item. 10.17: Rinaldo Torre, tenor: "Baccara" (Piripi). (Verdi). 10.20: News service; announcements. Our Shakespearian Good-night Quotation is from "Othello": "Come, come; good wine is a good familiar creature, if it be well used." God Save the King.

5CL

MORNING SESSION.

Announcer: J. L. Norris. 12.0: G.P.O. chimes. 12.1: Selections for Moonee Valley Races by Mr Eric Welch, of 3LO Melbourne. 12.2: Probable starting order for Victoria Park Races, by "Silvius". 12.23: 5CL's sporting calendar. 12.24: General news service. British official wireless news. 12.35: From Victoria Park Racecourse: Probable riders and starters for Torrens Hurdle Race (two miles), 12.40: Interlude of dance music. 12.45: From Victoria Park: Running description of Torrens Hurdle Race by Mr. Arnold Treloar. 12.50: Sonora. 1.10: From Victoria Park. Riders and positions for the Park Trial (one mile). 1.15: Sonora. 1.25: From Victoria Park. Running description of Park Trial. 1.30: Moonee Valley race result. Yannathan Hurdle Race. 1.40: From Victoria Park. Probable riders and positions for Richmond Park Stakes (5½ furlongs). 1.55: Sonora. 2.4: Moonee Valley result. Calliope Handicap. 2.5: Running description of Richmond Park Stakes. 2.10: From Victoria Park. Sonora. 2.30: From Victoria Park Racecourse. The Governor's Handicap (one mile and three furlongs). 2.35: Rothwell Steeplechase, Moonee Valley result. 2.36: Sonora. 2.45: Running description of the Governor's Handicap. 2.50: Sonora. 3.0: G.P.O. chimes. 3.1: Resume of previous race results and include the 10. From Victoria Park. Probable riders, starters and positions for Torrens Steeplechase (two miles). 3.15: From the Studio: Moonee Ponds Handicap result. 3.16: Miscellaneous numbers. 3.25: Running description of Torrens Steeplechase. 3.30: Sonora. 3.50: From Victoria Park Racecourse: Probable riders, starters, and positions for Magill Welter—First division (one mile). 3.55: From the Studio: Trial Mile, Moonee Valley result. 3.56: Dance numbers. 4.3: Resume of previous race results. 4.5: Running description of the Magill Welter, First Division. 4.55: Military band. 4.55: Moonee Valley race result. Sherwood Highweight Handicap. 4.56: Sonora. 4.30: From Victoria Park Racecourse. Probable riders, starters, and positions for Magill Welter, Second Division (one mile). 4.55: Musical interlude. 4.55: Running description of the Magill Welter, Second Division. 5.0: Popular songs. 5.10: From Victoria Park Racecourse: Probable riders, starters, and positions for Brownhill Handicap, 6½ furlongs. 5.15: Musical interlude. 5.25: Running description of Brownhill Handicap. 5.30: G.P.O. chimes, and resume of racing. Close down.

EVENING SESSION.

Announcer: J. L. Norris. 6.0: G.P.O. chimes. 6.1: Resume of sporting. 6.2: International cricket scores, England v. West Australia, at Perth. 1.4: Birthday greetings, correspondence, songs, and stories by "The Wattle Lady." 6.30: Nicola the world's greatest magician, will tell you "How to become a Magician." 6.45: An interlude of dinner music. 7.0: G.P.O. chimes. 7.1: S. C. Ward and Co.'s Stock Exchange information. 7.5: More music. 7.10: Rev. G. E. Hale, B.A., will give an interesting talk on "Hamlet's Problem." 7.25: "Wattle" will speak on "Cricket." 7.35: G. Riley, talk on "Items of Interest." 7.45: 5CL's sporting service, by "Silvius," including Victoria Park Moonee Valley race results, Victoria Park.

NIGHT SESSION.

Announcer: J. L. Norris. 8.0: G.P.O. chimes. 8.1: Holden's Silver Band—"Song of Australia."

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selection, "Lilac Time" (Schubert). 8.10: Arnold Matters, baritone—"My Home" (Schubert), "The Erl King" (Schubert). 8.16: Sylvia Whittington, violinist—"Concerto 1st Movement" (De Bériot), "Lullaby" (Scott). 8.22: Holden's Silver Band, fantasia—"Fox and Hounds" (Rimmer). 8.30: A one-act sketch, entitled "The Dancer." Characters: Honorable Richard White, Lloyd Taylor; Edward Roxburg, Jack Burgess; Nita (Mrs. Roxburg), a dancer at the Folies; Ben Alfors; Scene: The Honorable Richard White's well-furnished bachelor's chambers, table laid for supper for two, White discovered in evening dress. 8.45: Holden's Silver Band.—Dance, "Jazzina" (Hume); March, "Blencathra" (Rimmer); Song, "Adieu" (Schubert). 8.54: Gwen Collett, contralto—"The Enchantress" (Hastton). 9.0: G.P.O. rhimes. 9.1 Meteorological information, including Semaphore tides. 9.2: International cricket scores, England v. West Australia, at Perth. 9.3: Winifred Lavis, the Girl at the Piano—"But Why" (Logan), "My Violet" (Thompson). 9.9: Holden's Silver Band—Selection, "Musical Snapshots." 9.16: Syd Hollister, comedian, in humorous numbers. 9.22: Arnold Matters, baritone—"Thou Hast Bewitched Me" (Coleridge-Taylor), "Friendship" (Lohr). 9.28: Holden's Silver Band, "Leannine" (Shikret); Morceau, "White Heather" (Phillian). 9.36: Sylvia Whittington, violinist—"Andantino" (Kreisler), "Liebesfreud" (Kreisler). 9.42: Winifred Lavis, the Girl at the Piano—"Out of the Dawn" (Donaldson), "Dream House" (Alford). Holden's Silver Band—Popular, "Dancing Tambourine" (Greer); March, "The Vanished Army" (Alford). 9.54: Syd Hollister, comedian, more fun. 10.0: Owen Collett, contralto—"Annie Laurie" selected number. 10.6: Holden's Silver Band—"Reconciliation" (Pletcher); Solo, "Garden of Happiness" (Wood); "The Cuckoos" (Lithgow). 10.15: General news service. Meteorological information. Late sporting results. International cricket scores, England v. West Australia, at Perth. 10.30: Modern dance numbers by the Radio Revellers 11.0: God Save the King. Close down.

6WF

12.0: Tune in. 12.5: Racing anticipations repeated for the benefit of our country listeners. 12.7: Musical programme, including pianoforte solos by the station pianist, Miss Audrey Dean. 12.40: Progress scores of cricket match, Western Australia v. England; description of the play will be broadcast each half-hour. 12.44: Markets, news, etc. 1.0: Time signal. 1.1: Weather Bulletin, supplied by the Meteorological Bureau of Western Australia. 1.2: Close down. 2.30: Sporting session—cricket, racing, and other sporting results will be broadcast each 15 minutes during the afternoon. 3.30: Approx. Close down. 6.45: Tune in. 8.48: Bedtime stories by Uncle Duffy. 7.12: Sports results. 7.30: Commercial and general information. 7.45: Talk, "To-day's Cricket," by Mr. S. B. Gravenall. 8.0: Time signal. 8.1: First weather bulletin. 8.3: Dance music, relayed from the Y. A. ballrooms. Ron Moyes' Orchestra. 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—simultaneously broadcast on 104.5 metres of programme given on 1250 metres, commencing at 6.45 p.m.

7ZL

MIDDAY SESSION.

Announcer: Jack Broadbent. 11.30 to 1.30: See Friday. 1.30: Close down. 2.0: Running description of Yannathan Hurdle Race, 2 miles, run at Moonee Valley Racecourse, Melbourne, Victoria. 2.5: Close down. 2.30: Running description of Calliope Handicap, 5 1/2 furlongs, run at Moonee Valley Racecourse, Melbourne, Victoria. 2.35: Close down.

AFTERNOON SESSION.

Announcer: Jack Broadbent. 3.0: Running description of Rothwell Steeplechase, 2 miles 8 chains, run at Moonee Valley Racecourse, Melbourne. 3.5: Transmission from the T.C.A. Ground, cricket match, Sandy Bay v. South Hobart, described by A. M. O'Leary. 3.40: Description of Moonee Ponds Handicap, 1 1/2 miles. 3.45: Cricket match. 4.20: Description of Trial Mile, at Moonee Valley. 4.25: Description of Sherwood Highweight Handicap, 6 furlongs, at Moonee Valley. 4.55: All sporting results to hand. 5.0: Close down. During the afternoon progress results will be given of the cricket match, English XI v. West Australia, played at Perth.

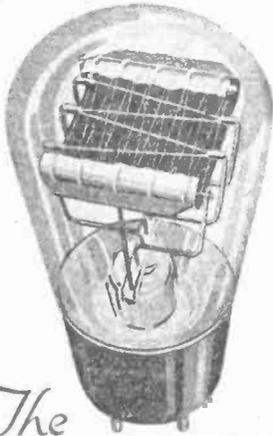
EARLY EVENING SESSION.

Announcer: Jack Broadbent. 6.0: All sporting results to hand. 6.15: Records. 6.30: "Uncle David" will entertain the wee folk. 7.0: Answers to letters and birthday greetings by "Uncle David." 7.5: Records. 7.15: News service; British official wireless news; Hobart Stock Exchange quotations; to-day's sporting results; "Mercury" late sporting results; results of Homing and Bowling.

EVENING SESSION.

Announcer: Jack Broadbent. 7.30: Roy Johnson will speak on "Manual Training." 7.45: J. M. Counsel will speak on "European Affairs." 8.0: G.P.O. clock chimes the hour. 8.6: Transmission from the City Hall, Macquarie Street, Hobart, Theo Pipkin and his orchestra. 10.20: All sporting results to hand: News service; British official wireless news; Tasmanian district weather report. 10.50: Close down.

Local Programmes, Sun., March 24



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2FC

MORNING SESSION.

Announcer: A. S. Cochrane.

- 10.0: "Big Ben" and announcements.
- 10.2: Studio music.
- 10.15: "The Captain to His Comrades."
- 10.30: The Comrades' bookshelf.
- 10.35: Studio music.
- 11.0: From the Fullerton Memorial Church, Crown and Albion Streets, Sydney, the morning service conducted by Rev. G. Gowie, B.A.
- 12.15: Close.

AFTERNOON SESSION.

Announcer: C. R. Hall.

- 2.30: Programme announcements.
- 2.32: A chat about the "Cheer-up" Society, by Uncle Frank.
- 3.0: Organ recital from St. John's Church of England, Balmain.
- 4.40: A talk by W. F. Kay: "Life on the Early Gold Fields."
- 5.0: "Big Ben." Close.

EVENING SESSION.

Announcer: Laurence Halbert.

- 6.0: "Big Ben" and programme announcements.
- 6.2: Scraps from the Log of a Wayfarer.
- 6.20: From Petersham Congregational Church: Organ recital by Ambrose Gibbs.
 - (a) "Grand Offertoire in D" (Batiste).
 - (b) "Stabat Mater" (Rossini).
 - (c) "Ave Maria" (Gounod).
 - (d) "Lost Chord" (Sullivan). Cathedral chimes.
- Two vocal numbers by Mr. Sydney James, basso.
- 7.0: Evening service from Petersham Congregational Church, conducted by Rev. A. P. Doran.
- 8.30: From the Studio: Dagmar Thomson, violiniste—
 - (a) "Serenade" (Schubert-Elman).
 - (b) "Chanson Louis XIII. and Pavane" (Kreislner).
- 8.37: Virginia Bassetti—
 - (a) "Evening Prayer" (Costa).
 - (b) "Snow Fairies" (Forsyth).
- 8.44: Leo Rowan, tenor—
 - (a) "Here in the Quiet Hills" (Carne).
 - (b) "The Crown" (Rae).
- 8.51: Kathleen Roe, pianoforte solos.
- 9.0: "Big Ben." Duets by Ambrose Bourke and Mary M'Cormack—
 - (a) "Vale" (Russell).
 - (b) "Chanson De Florian" (Godard).
- 9.10: Dagmar Thomson, violiniste—
 - (a) "Ave Maria" (Schubert-Wilhelmj).
 - (b) "Moto Perpetuo" (Rico).
- 9.17: Virginia Bassetti—
 - (a) "Goin' Home" (Dvorak).
 - (b) "Thoughts Have Wings" (Lehman).
- 9.24: Leo Rowan, tenor—
 - (a) "June Music" (Trent).
 - (b) "A Dream" (Bartlett).
- 9.31: Kathleen Roe, pianoforte solos.
- 9.40: Duets by Ambrose Bourke and Mary M'Cormack—
 - (a) "I Did Not Know" (Geehl).
 - (b) "Carmena" (Wilson).
- 9.50: Programme announcements.
- 9.55: Recital of selected records of world-famous artists.
- 10.27: To-morrow's programme.
- 10.30: National Anthem. Close.

2BL

MORNING SESSION

Announcer: A. C. C. Stevens.

- 11.0: G.P.O. chimes.
- From the Newtown Methodist Mission, morning service, conducted by Rev. A. E. Walker—
- Hymn 212 (Methodist Hymn Book).
- Prayer.
- Hymn 615 (Methodist Hymn Book).
- Psalm responses.
- Solo—Bassett Evans.
- Children's talk.
- Children's choir.
- Scripture reading.
- Announcements and offering.
- Anthem by choir.
- Hymn 32.
- Address—Rev. A. E. Walker.

Hymn 463.

Benediction.

12.15: From the Studio, "Sun" news service.

12.30: Studio Music.

2.0: G.P.O. chimes; close down.

AFTERNOON SESSION.

Announcer: Jack Barnett.

- 3.0: G.P.O. chimes; Studio music.
- 3.30: From the Band Rotunda, Manly Beach, the Manly Municipal Military Band, conducted by James Pheloung.
- 5.0: G.P.O. chimes; close down.

EVENING SESSION.

Announcers: Jack Barnett, G. Vern Barnett.

Accompanist: G. Vern Barnett.

6.0: G.P.O. chimes; children's session, conducted by Uncle Peter.

From St. Jude's Church, Randwick, evening service, conducted by Canon Cakebread.

Organist: Arnold Mote.

Bells of St. Jude's.

7.5: Organ prelude.

7.10: Litany and Intercessions; announcements.

7.20: The Sacred Cantata, "Olivet to Calvary."

Soloists—

Miss Olive Uren, soprano.

Dr. F. R. Crouch, tenor.

Mr. D. Hardy, baritone.

Part 1—

(a) "On the Way to Jerusalem"—Chorus.

(b) "Before Jerusalem"—Recitative tenor.

—Recitative baritone.

(c) "In the Temple"—Recitative tenor.

—Recitative baritone.

—Chorus.

(d) "The Mount of Olives"—

Solo (tenor).

Chorus.

Solo (baritone).

Chorus.

Hymn, "Just as I am without one plea"

Congregation and choir.

Address—Canon Cakebread.

Part 2—

(e) "A New Commandment"—Recitative

(baritone).

(f) "Gethsemane"—Recitative (baritone).

Hymn, "Thy Will be Done"—

Congregation and choir.

(g) "Betrayed and Forsaken"—

Chorus.

Recitative (tenor).

Air.

(h) "Before Pilate"—Chorus.

(i) "The March to Calvary"—Chorus.

(j) "Calvary"—Recitative (baritone).

Chorus.

Hymn, "Rock of Ages, Cleft for Me"—

Congregation and choir.

8.30: From the Band Rotunda, Manly Beach, the Manly Municipal Band, conducted by James Pheloung.

9.30: From the Studio, Lance Jeffree, tenor.

(a) "Ingemisco" (Verdi).

(b) "Wait Her, Angels" (Handel).

9.37: Pianoforte solos by G. Vern Barnett—

(a) "Coronach" (Barrett).

(b) "Water Wagtail" (Scott).

9.44: Lance Jeffree, tenor—

(a) "A Song Remembered" (Coates).

(b) "The Quest" (Phillips).

(c) "Our Birth is But a Sleep" (Stephenson).

9.51: Late weather and announcements.

10.0: National Anthem; close.

2GB

10.15: Organ music from St. Alban's Church.

10.30: Morning service from St. Alban's Church.

12 noon: Close down.

5.30: Children's Session by Uncle George.

7.0: Lecture from Adyar Hall.

8.0: Music from studio.

8.15: Sacred concert from Adyar Hall.

Rosenkranz piano solos. 8.23: Miss

Thelma Lansdowne, contralto. 8.30: Mr.

Cecil Houghton, tenor. 8.37: Mr. Leonard

Brewer, violinist. 8.45: Mr. Clement Hosking,

baritone. 8.52: Rosenkranz piano. 9.0: Miss

Thelma Lansdowne, contralto. 9.7: Mr. Cecil

Houghton, tenor. 9.15: Mr. Leonard Brewer,

violinist. 9.25: Mr. Clement Hoskin, baritone.

9.30: Rosenkranz piano. 9.35: Close down.

Local Programmes, Sunday, March 24

3LO

MORNING SESSION.

Announcer: John Stuart. 10.30: Bells from St. Paul's Cathedral, Melbourne. 10.45: Express train information. British official wireless news from Rugby. News from yesterday's papers. 11.0: Morning service from Scots' Church, Collins Street, Melbourne. Preacher, Rev. W. Borland, M.A. Hymn 24, "O God of Ever." Prayer: Prose Psalm, 51. "Have mercy upon me O God." Chants. Old Testament Lesson, Isaiah 42, 1-9. Hymn 533. Prayer of Intercession. New Testament Lesson, St. Luke 14, verses 25-35. Anthem. The Lord's Prayer (the congregational standing, will unite). Sermon. "Edification Through Cross-bearing" (St. Luke 14, verse 27). Prayer. Intimations. Offering. Offertory. Hymn 439. Benediction. 12.15: Close down.

AFTERNOON SESSION.

Announcer: John Stuart. 2.0: Sonora recital of the world's most famous records. 1. Instrumental. Plozsky Quartet, "Quartet No. 8, D Major" (Mozart). 2. Choral. "Blessed by the God and Father" (Wealey). Choir of St. Temple Church, London. Organist, G. Wilbur Bell. Paris 1 and 2. 3. Violin and cello, "Arioso, Intermezzo" (Blizet, arr. Kreisler). Fritz Kreisler and Hugo Kreisler. 4. Flute. "Flute Concerto, Andante" (Mozart). John Amadio. 5. Orchestral. "Secret of Susanna, Overture" (Mozart). Don Juan. The Song of the Nightingale (Napravnik). Members of La Scala Orchestra, Milan. Conductor, Ettore Panizza. 3.0: Pleasant Sunday Afternoon, transmitted from Wesley Church, Central Mission, Lonsdale Street, Melbourne. Chairman, Rev. E. H. Cain. Hymn No. 45. "Hear the Voice of Jesus Say." Prayer. Orchestral Selection, Mr. G. M. Williams, conductor. Hymn No. 59, "O Love That Will Not Let Me Go." Quartette, the Stonnington Quartette. Party. Orchestral. Quartette. The Stonnington Quartette Party. Offering, offering, and orchestra. Address, Senator E. J. M. Payne. "How Europe Impressed Me." National Anthem, orchestra, benediction.

EVENING SESSION.

5.45: Shipping information. 5.47: Answers to letters and birthday greetings, by John, the Piper's Son. 6.25: "Brother Bill" will speak to the children. 6.45: Adult greetings and programme announcements. 6.47: Bells from St. Paul's Cathedral, Melbourne.

NIGHT SESSION.

Announcer: John Stuart. Accompanist: Mabel Nelson. 7.0: Evening service from the Cairns Methodist Presbyterian Church. Invocation. Hymn 51, "O Lord and Master of Us All." Reading. Prayer. Intimations and Offering. Hymn 70, "We Sing the Praise of Him Who Died." Sermon, Rev. P. A. Hazenauer. M.A. Selections from Spohr's Oratorio, "Calvary." Organist, Miss F. F. Thurman. Soloists, Louise Thornton, Mrs. Abery, A. J. Etheridge, Frank R. Thomas, Conductor, H. J. Oehr. Chorus, "Gentle Night. O Descend." Recitative (tenor). "Ye Faithful Followers." Air (bass). "Woe, Horror, Grief." Recitative (soprano). "What Tone Remains." Recitative (tenor). "Follow Me, and Let Us Instantly Seek the Palace." Air (bass). "Tears of Sorrow, Shame, and Anguish." Air (soprano). "Though All Thy Friends Prove Faithless, and chorus, Air (soprano). "Thou, Thou, Thou." Recitative. "Al! Mary." Quartet. "Thou, Lord, Art Our Refuge." Recitative (tenor). "To Me He Seem'd a Prophet of the Lord." Chorus, "Shame! Shame! Shame!" Recitative (bass). "To the Dust My Spirit Sings." Chorus. "Woe! Woe! Woe!" Recitative (bass). "Who Enthroned in Moses' Holy Seat." Recitative (tenor). "The King's Guard." Recitative (bass). "Sirs There No Pity in Their Cruel Hearts." Chorus. "Upon Us Be His Blood." Quartette. "O Look Not Down." Chorus. "Beloved Lord, Thine Eyes We Close." Hymn 621, "Now May He Who from the Christ, Our King and Head, All our souls in safety lead." Benediction. Threefold Amen. 8.30: The Strad Trio (Cecil Parkes, violin; Frank Johnstone, cello; May Broderick, piano). "Trio, op. 70, D Major" (Beethoven). Allegro con Brío. Largo Assai. Presto. 8.45: Eisy Treweck (soprano). "I Will Extol Thee" (Costa). "There is a Green Hill" (Gounod). Special request. 8.56: May Broderick (piano). "Ballade" (Brahms). "Presto from Sonata" (Beethoven). 9.2: Lance Fairfax (baritone) selections from his repertoire. 9.9: Cecil Parkes (violin). "Vogue in A Major" (Tartini). "Nocturne in E Flat" (Chopin-Sarasate). "The King's Guard" (Sarastate). 9.21: Eisy Treweck (soprano). "I Know That My Redeemer Liveth" (Handel). "Aide With Me," special request (Liddle). 9.28: Frank Johnstone (cello). "Melody" (Chaprentier). "Guitar" (Mozzowski). 9.33: Lance Fairfax (baritone) selections from his repertoire. 9.46: The Strad Trio (Cecil Parkes, violin; May Broderick, piano; Frank Johnstone, cello). "Abendlied" (Schumann). "Gavotte from Mignon" (Thomas). "Menuet" (Shields). "Scherzo E Flat" (Schubert). 9.50: "Argus" news service. Announcements. 10.0: God Save the King.

3AR

MORNING SESSION.

Announcer: Frank Hatherley. 10.45: Morning service from St. Paul's Cathedral, Melbourne. Palm Service. Matins (choral). Sentence, Exhortation. General Confession, Absolution, The Lord's Prayer. Versicles and Responses. The Venite, Psalm 62, First

Lesson, The Te Deum (Noble, in B Minor). Second Lesson, Benedictus—Chant, The Apostles' Creed, The Collects, anthem "Hosanna to the Son of David" (Gibbons). Prayers, hymn (A. and M.) 99 "Ride On! Ride On! In Majesty," sermon, the Dean, hymn 98 "All Glory, Laud, and Honor," the Benediction. 12.10: British official wireless news. 12.15: Close down.

AFTERNOON SESSION

3.0: Transmission from the Freemasons' Homes, South Yarra, concert by Aberfeldie Lodge Choir No. 309, assisted by Mrs. F. Penny, Miss A. Richards, and Bro. Chas. Breen, choirmaster. Bro. E. W. Sleep; accompanist, Bro. Dr. John Fleming. Aberfeldie Lodge Choir, part-song, "The Image of the Rose" (Reichardt); Mrs. Frank Penny, contralto. "Abide with Me" (Liddle); Bro. E. (John) Tenor, "How Lovely Are Thy Dwellings" (Liddle); Bro. F. Conquest, bass, "Behold I Stand at the Door" (W. H. Jude). Bro. L. Walsh, tenor, "A Dream of Paradise" (Hamilton Gray); Aberfeldie Lodge Choir, part-song, "Stars of the Summer Night" (Hatchell); Miss A. Richards, soprano, "Life's Weaving" (Alfred Wooley); Bro. Chas. Breen, recitation, "The Road of Ten Thousand Crosses" (Hayes), "Atoms" (Herle); Bro. W. Hamilton, tenor, "Mary" (T. Richardson); Bro. R. Watson, baritone, "God Be With You" (Gounod); Aberfeldie Lodge Choir, "The Martyrs of the Arena" (Le Rille), by special request. Mrs. F. Penny, contralto, "O Rest in the Lord" (O'Eliahan); Bro. N. V. Shute, tenor, "The Crown"; Bro. Chas. Breen, recitation, "Bush Memorials" (Eden); Bro. F. Penny, baritone, "The Living God" (O'Hara); Aberfeldie Lodge Choir, part-song, "Rolling Down to Rio" (German); Miss A. Richards, soprano, "Lead, Kindly Light" (Barnard); Bro. H. R. Phillips, baritone, "The Pirate" (Maley); Bro. H. Wensor, tenor, "The Lord is My Light" (Allister); Bro. F. Conquest, bass, "Out of the Deep I Call" (E. Martin); Aberfeldie Lodge Choir, part-songs, "Night" (Schubert), "Evening" (Abt). God Save the King. 4.45: Close down.

EVENING SESSION

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

NIGHT SESSION

Announcer: Frank Hatherley. Accompanist: Vera Howe. 7.0: A recital of specially selected gramophone records. 8.0: Brunswick City Band, overture, "If I Were King" (Herold). 8.15: Colin Crane, baritone. "Trees" (Rasbach). "Mellside in the Wood" (Goetz). 8.22: Brunswick City Band, cornet solo "Alexandra" (White), hymn "It is Well." 8.30: One act play, "Hearts Enduring" (John Erskine), produced by Winifred Moverley; He. T. Bernard Lambie; She, Winifred Moverley; scene, far away; time, long ago. 8.42: Brunswick City Band, anthem, "The Grey Cloister" (Rimmer). 8.45: The Jubilee Singers. 8.59: Brunswick City Band, selection, "Maritana." 9.9: Colin Crane, baritone, selected. 9.16: George Findlay, piano. "An Old Gavotte" (anonymous). "Waltz in G Flat" (Chopin). "Study in E Major" (Chopin). "To a Watteau Landscape" (Godowsky). "The Butterfly" (Lavedez). 9.31: The Jubilee Singers. 9.38: Brunswick City Band, march, "The King's Guard" (Keith). 9.48: The Jubilee Singers. 9.55: News session; "Age" news service; announcements. "God Save the King."

5CL

MORNING SESSION.

Announcer: D. J. O'Connor. 10.45: Carillon of bells from Adelaide Town Hall. 11.0: G.P.O. chimes 11.1: Divine Service, from Rose Park Congregational Church. 12.15: British official wireless news. 12.20: Close down.

AFTERNOON SESSION.

Announcer: C. J. O'Connor. 3.0: G.P.O. chimes. 3.1: A pleasant Sunday afternoon service from Maughan Church, Franklin Street. Preacher: Rev. W. H. Cann.

EVENING SESSION.

Announcer: J. L. Norris. 5.0: G.P.O. chimes. 6.1: S.A. railway information. 6.3: Birthday greetings, correspondence, songs and stories by "Miss Wholesome." 6.30: "The Bird Lady" and "The Sunshine Songsters" will entertain the children. 7.0: G.P.O. chimes. 7.1: A religious service from Malvern Methodist Church. Choral service. "The Crucifixion" (Stainer). The soloists, Messrs. John Jessop and Lewis Dawe. Bass soloists: Messrs. Arnold Matters and Ray Wood.

NIGHT SESSION.

Announcer: J. L. Norris. 8.30: Hilda Reimann (violinist); "Viennese Folk Song" (Kreisler), "Le Gitano" (Kreisler). 8.38: Walter Wood (tenor); "Angels Guard Thee" (Godard); "Wer! Thou a Sinner" (Kilmer). 8.44: Beryl Alford (elocutionist). Selected numbers. 8.49: Hilda Gill (contralto), accompanied by John Horner; "Peace" (Schubert), "The Young Nun" (Schubert). 8.56: A pianoforte recital, by John Horner. P.R.C.O. (L.R.A.M.). "Chorale" (Bach-Rummel), "Nocturne in E (Schumann), "Berceuse" (Chopin), "Scherzo in F Minor" (Brahms). 9.16: Hilda Gill (contralto), accompanied by John Horner; "Siesta" (Bely). Oh, Men From the Fields, (and die song) Herbert Hughes. "Fair House of Joy" (Rodger Quilter). 9.32: Hilda Reimann (violinist); "Spanish Dance" (Sarasate). "German Dance" (Mozart). 9.28: Beryl Alford

(elocutionist). Selected numbers. 9.34: Walter Wood (tenor); "The Distant Shore" (Sullivan), "Serenade" (Schubert). 9.40: Mr. P. H. Nichols in one of his interesting talks: "What is a Good Man?" 9.52: "The Advertiser" general news service. 10.0: G.P.O. chimes; close down.

6WF

10.25: Tune in. 10.30: Special half-hour for the enthusiastic listener. 11.0: Morning service, relayed from St. George's Cathedral, Perth. 12.15: Close down. 3.30: Tune in. 3.35: Musical programme from the studio, including vocal and instrumental numbers. 4.30: Close down. 7.0: Tune in. 7.3: Talk on "Band of Hope Matters," by Mr. E. Dent. 7.30: Evening service, relayed from Lake Street Church of Christ. 8.48: Band concert, relayed from the Government Gardens, Perth; Perth City Band, conducted by Mr. Les. Price. 10.5: Close down. 104.5 metre transmission—simultaneous broadcast on 104.5 metres of programme given on 1250 metres, commencing at 6.45 p.m.

7ZL

MORNING SESSION.

Announcer: J. M. Counsel. 10.45: Transmission from the Trinity Church, Hobart. 11.0: Transmission from St. David's Cathedral, Murray Street, Hobart. 12.30: Close down.

AFTERNOON SESSION.

Announcer: J. M. Counsel. 3.0: Children's Story, by Miss Amy Rowntree, M.A., Inspector of Infant Schools. 4.0: An Organ Recital by the Discus Ensemble. 4.30: Close down.

EARLY EVENING SESSION.

Announcer: J. M. Counsel. 6.15: Chorus Singing conductor, Trevor M. Morris, of the Children's Special Service Mission). 6.45: Bertha Southey Beamwell will read a Parable for Mothers.

EVENING SESSION.

Announcer: J. M. Counsel. 7.0: Davey Street Methodist Church; Anniversary Service. 8.25: A Sacred and Classical programme arranged by J. M. Counsel. 9.45: News service; British official wireless news; ships within wireless range; English affairs and news. 9.50: Close down.



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Local Programmes, Monday, March 25

2FC

Announcer: A. S. Cochrane.

EARLY MORNING SESSION.

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, milling snare markets, 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 Commissioner; 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.

MID-DAY 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: Wireless News. 12.18: A reading. 12.30: Studio music. 1.0: "Big Ben," weather intelligence. 1.3: "Evening News" mid-day news service. Producers' Distributing Society's market report. 1.20: Studio music. 1.28: Stock Exchange, second call. 1.30: Studio music. 1.50: Last minute sporting information by the 2FC. Racing Commissioner. 2.0: "Big Ben." Close down.

AFTERNOON SESSION.

Announcer: Laurence Halbert.
Accompanist: Ewart Chapple.

2.30: Programme announcements. 2.32: Educational session, for the Schools: A short musical recital; a reading. 3.0: "Big Ben." Pianoforte reproduction. 3.15: Popular music. 3.30: Gladys Lohden, contralto—(a) "Melisande in the Wood" (Goetz), (b) "When Song is Sweet" (San Souci). 3.37: Studio items. 3.45: A reading. 4.0: "Big Ben." Madeline Hall, mezzo—(a) "Song of the Soul" (Brell), (b) "A Song Remembered" (Coates), (c) "Good Morning, Brother Sunshine" (Lehmann). 4.7: Popular music. 4.11: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 4.21: From the Studio: Gladys Lohden, contralto—(a) "Danny Boy" (Weatherly), (b) "A Request" (Finden). 4.28: Studio items. 4.33: Madeline Hall, mezzo—(a) "Forest Echoes" (Phillips), (b) Selected. 4.40: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 4.50: From the Studio: Stock Exchange, third call. 4.52: Popular music. 5.0: "Big Ben." Close.

EARLY EVENING SESSION.

Announcer: A. S. Cochrane.

5.40: The Chimes of 2FC. 5.45: The Children's Session, conducted by the "Hello Man"; letters and stories; music and entertainment. 6.30: Dagey'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) "Moraima" (Espinoso), (b) "Liebesgarten" (Schumann), (c) "Nocturne" (Grieg), (d) "L'Enfante Prodigue" (Wormser), (e) "Gipsy" (Signorelli), (f) "Liebestraum" (Von Blon), (g) "Blue Night" (Rollin).

EVENING SESSION.

Announcer: Laurence Halbert.
Accompanist: Ewart Chapple.

7.40: Popular music.
7.45: Programme announcements.
7.48: Studio items.
8.0: The Light Music Four—
(a) Selection, "Dinorah" (Meyerbeer),
(b) "After Twilight" (Steindler).

8.15: Victor Evans, baritone—
(a) "Till Death" (Angelo),
(b) "Sittin' Thinkin'" (How).
8.22: Stewart Jarbo (Kipling stories).
8.28: Gladys Fimister (soprano).
8.35: From the Victory Theatre, Chatswood.
Leslie Harvey at the Christie organ.
8.50: Tales of a traveller, told by Rev. F. H. Raward.
9.5: Weather report.
9.6: The Light Music Four—
(a) "From the Canebroke" (Gardner),
(b) "Romance" (d'Ambrosio).
9.20: Gladys Fimister (soprano).
9.27: Kipling tales told by Stewart Jarbo.
9.37: From the Victory Theatre, Chatswood.
Leslie Harvey at the Christie organ.
10.0: "Big Ben." From the Studio: Victor Evans (baritone)—
(a) "The Ballad Monger" (Easthope),
(b) "Lullaby" (Strickland).
10.7: The Light Music Four—
(a) "Moskowskiana" (arr. Langley),
(b) Selection, "Madame Pompadour" (Fall).
10.27: To-morrow's programme.
10.30: National Anthem; close.

2BL

MORNING SESSION.

Announcer: A. C. C. Stevens.

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

MIDDAY SESSION.

Announcer: A. C. C. Stevens.

11.0: G.P.O. chimes; 2BL Women's Sports Association session, conducted by Miss Gwen Varley. 11.30: Advertising hints, talk on "Diet and Health," by Miss Dorothy de Clegborne. 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. 1.30: Talk to children and special entertainment for children in hospital. 2.0: G.P.O. chimes; close down. Note: Race results of the trots will be broadcast by courtesy of the "Sun" Newspapers.

AFTERNOON SESSION.

Announcer: A. C. C. Stevens.
Accompanist: Kathleen Roe.

3.45: G.P.O. chimes; popular music. 4.0: Teodora Stephens, pianist, (a) "Improvisata" 1 and 2 (Grieg), (b) "Le Murmure du Vent" (Sauer). 4.7: A talk by Captain Fred Aarons, "Leon Alberti." 4.22: Gertrude Grey soprano. 4.29: "Sun" news service. 4.35: Teodora Stephens, pianist, Carnaval Mignon (Schutt)—(a) "Prelude," (b) "Serenade d'Arlequin," (c) "Tristesse de Colombine," (d) "Pierrot Reveur." 4.45: Gertrude Grey, soprano. 4.52: "Sun" news service. 5.0: G.P.O. chimes; pianoforte reproduction. 5.10: Popular music. 5.27: Results of the trots. 5.32: A studio item. 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: 2BL Dinner Quartette, (a) "Maresque Caprice" (Borcalari), (b) "Kitty" (Forster), (c) "Nocturne"

(Widor), (d) "Samson and Delilah" (Saint-Saens), (e) "La Gitana" (Kreisler), (f) "Liebestraum" (Liszt). 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. Plim 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 and Topical Chorus.
8.2: From the Haymarket Theatre, the Haymarket Theatre Orchestra, conducted by Stanley Porter.
8.20: From the Studio—Theodore Atkinson, baritone; winner of the baritone section in the recent Radio Eisteddfod, conducted by the N.S.W. Broadcasting Co. Ltd.
(a) "The Wheel Tapper's Song" (Charles).
(b) "The Somerset Farmer" (Wilson).
8.27: Sketches by Zena and James Kendall.
(a) "Pause" (Furber)
(b) "Lizh and Algy" (Gibb).
8.40: Eleanor Stanton, contralto—
(a) "Island of Dreams" (Adams).
(b) "The Bells of Twilight" (Forster).
8.47: The Savoyans' Dance Band.
9.0: Weather report. Frank Ryan, comedian.
9.7: Theodore Atkinson, baritone—
(a) "Glorious Devon" (German).
(b) "Yeoman's Wedding Song" (Poniatowsky).
9.14: Sketches by Zena and James Kendall, "Kitty Clive" (Gibb).
9.27: Eleanor Stanton, contralto—
(a) "The Garonne" (Adams).
(b) "Dream Boat" (Novello).
9.34: From the Haymarket Theatre, the Haymarket Theatre Orchestra, conducted by Stanley Porter.
9.54: From the Studio, Frank Ryan, comedian.
10.2: The Savoyans' Dance Band.
10.20: Late weather and announcements.
10.25: The Savoyans' Dance Band.
10.45: To-morrow's programme and announcements.
10.50: The Savoyans' Dance Band.
11.30: National Anthem; close.

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: Music. 7.30: Feature story. 8.0: Miss Lorraine Lincey, contralto. 8.7: Miss Mollie Jones, pianiste. 8.15: Mr. Leslie Herford, baritone. 8.22: Instrumental music. 8.30: Mr. Heath Burdock, Shakespearean recital. 8.40: Miss Gladys Edwards, soprano. 8.50: Miss Mollie Jones, pianiste. 9.0: Weather report. 9.3: Address. 9.15: Miss Lorraine Lincey, contralto. 9.25: A humorous interlude by Mr. Jack Win and Mr. Heath Burdock. 9.30: Mr. Leslie Herford, baritone. 9.40: Instrumental music. 9.50: Miss Gladys Edwards, soprano. 10.0: A humorous interlude by Mr. Jack Win and Mr. Heath Burdock. 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 Uncle Jack. 6.30: Close down. 7.0: G.P.O. clock and chimes; music. 7.45: Wireless talk; hints and advice by Mr. E. Homfray. 8.0: To-day's anniversary; music. 9.0: G.P.O. clock and chimes. Comments on foreign affairs by Mr. J. M. Prentice. 9.10: Music and request numbers. 10.30: Close down.

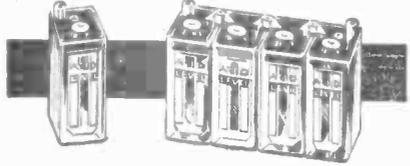
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N.Z. STATIONS

NEW ZEALAND stations controlled by the Radio Broadcasting Company of New Zealand, Limited, are in operation only six days per week, and, in the case of 4YA, only five days. The schedule adopted is as follows.—

Station 1YA: Closed each Monday.
 Station 2YA: Closed each Wednesday.

Station 3YA: Closed each Tuesday.
 Station 4YA: Closed each Monday and Wednesday.

Except on their silent days, all stations are on the air at 3 o'clock. The children's sessions commence at 6 o'clock; the news session at 7.15 in the case of 1YA and 3YA, 7 o'clock in the case of 2YA, and 7.30 in the case of 4YA.

The evening concert session commences at 8 o'clock, and continues till 10, or later. At 1YA, 2YA, and 3YA dance sessions conclude at 11 o'clock on Saturday nights.

At 1YA and 2YA the children's sessions on Sunday commence at 6 o'clock; at 3YA and 4YA at 5.30 o'clock, the churches commencing an hour later.

It should be noted that there is a difference of one hour and thirty minutes between New Zealand time and standard time for the eastern States of Australia. That is to say, when it is 10 p.m. in New Zealand, it is 8.30 p.m. in Melbourne, Sydney, Brisbane and Hobart.

SHORT-WAVE NOTES

INTERNATIONAL broadcasting de luxe; that is what the week-end of March 2-4 has held forth for those fortunate enough to possess a short-wave receiver. Following on the announcement of the opening up of Hulzen (PHI), in Holland, with experimental transmissions, preparatory to the inauguration of a regular service, I decided, on the night of March 1, at the witching hour of midnight, to see what this newcomer had to say for himself.

With all the care of one used to looking for weak carrier waves, I crept slowly down toward 16 metres when suddenly a voice boomed in my ears, even before I located PHI's carrier. This was something new in the history of trans-world broadcast, there was no need to "hang on" to the transmission, it literally smote one in the cars! The receiver I was using was an ordinary regenerative detector and two stage audio, and the substitution of a loud-speaker for the 'phones enabled me to sit back and listen to a most excellent musical programme, played by an Amsterdam orchestra, with as much unconcern as if the station had been located in New South Wales.

What would have happened with a screen-grid receiver such as the All Empire would have almost constituted a "fisherman's lie" for I have never before heard such a powerful long distance short-wave telephony transmission. An enthusiastic letter from Mr. Russell Crane showed that he had been "on the job" as well, and, in forwarding his summary of week-end reception, he states, "I doubt if ever, in the history of wireless, so many good short-wave stations have been on the air."

New "Q" Signal

WE hear that a certain amateur was searching his code sheets the other evening for the meaning of QTK. This mysterious signal emanated from a Brazilian station, whose signals he had reported as "loud and clear." Asked for a translation the Brazilian gave it: "Quit the kidding."

Ham and Florence Davey (xylophonists): "Just a Memory" (Henderson), "Hawaiian Dreams" (Marple). 8.22: "The News" Symphony Orchestra: "Mock Morrie" (Grainger); march: "Heaven's Artillery" (Lincoln). 8.30: Gwen Collett (contralto): "Doan You Lash" (Bond), "Mate o' Mine" (Elliott). 8.38: Syd Hollister (comedian): In bright, snappy numbers. 8.42: "The News" Symphony Orchestra: "Dance of the Sunfaest" (Waller). 8.49: Mostyn Skinner (baritone): "King Charles" (White), "The Lute Player" (Alltoun). 8.55: William and Florence Davey (xylophonists): "Flapperette" (Greer), "Moonlight on the Danube" (Gay). 9.0: G.P.O. chimes. 9.1: Meteorological information, including semaphore tides. 9.2: Overseas grain report. 9.3: "The News" Symphony Orchestra: "Finlandia" Symphony in B Minor (Sibelius). 9.15: An original Comedietta, entitled "My Lady's Help" (Arthur Macklin). Characters: Jack Desborough (an artist), Lloyd Taylor; Lady Eva Desborough (his wife), Beryl Alford; Benjamin Pennygrass (his uncle), Jack Burgess. Scene: Morning room in Desborough's country house. Jack Desborough is painting at the easel. 9.33: "The News" Symphony Orchestra: Trumpet solo, with orchestra, "Nightfall at Sea" (M. Phillips), "Phyllis Has Such Charming Graces" (folk song). 9.45: "The News" Symphony Orchestra: Trumpet solo, with orchestra, "Serenade" (Schubert). 9.50: Gwen Collett (contralto): "O Flower Divine" (Wood), "Melisande in the Wood" (Goetz). 9.56: Syd Hollister (comedian) in comicallies. 10: Mostyn Skinner (baritone): "Geraine Lorraine, Lorree, Laure" (Spross), "Mandarin" (Cobb). 10.7: "The News" Symphony Orchestra: Quickstep, "With Sword and Lance" (Starke).

NEWS SESSION.

10.15: General news service. Meteorological information. 10.29: Our Good-night Thought: "The Language of Truth is Simple." 10.30: Modern dance numbers by the "Radio Revellers." 11.0: God Save the King; 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. 1.3: Paratrope hour, relayed from Messrs. Musgrove's Ltd., Lyric House, Perth. 2.0: Close down. 3.30: Tune in. 3.35: Music from the Primrose Cafe; after-noon tea programme; vocal numbers from the studio. 4.30: Close down. 6.45: Tune in. 6.48: Uncle Duffy will tell stories to the kiddies. 7.5: Light music by the Station String Trio, comprising Miss Audrey Dean, Piano; Miss Edna Waterman, solo; Mr. H. T. Newton, violin. 7.30: Commercial and general information. 7.45: Talk by Lieut.-Colonel Le Souef, Director, Zoological Gardens, South Perth. 8.0: Time signal. 8.1: First weather bulletin. 8.3: Popular selections by the Perth City Band, conducted by Mr. Les. Price—"Banner of Victory" (Blankenburyl), "Cloches St. Miou" (Rimmer), "Patience" (Sullivan), "Vision of Hume" (Hume), "Scuttles" songs (Hume), "Pied Piper" (Hain). 9.0: Late time signal, by courtesy of the "Daily News" Newspaper Co., Ltd.; station announcements; ships within range announcement; late weather bulletin. 9.15: Band programme continued. 10.30: Close down. 104.5 metre transmission—simultaneous broadcast on 104.5 metres of programme given on 1250 metres, commencing at 1.45 p.m.

7ZL

MIDDAY SESSION.

Announcer: Jack Broadbent. 11.30 to 1.30: See Friday.

AFTERNOON SESSION.

Announcer: Jack Broadbent. 3.0: G.P.O. clock chimes the hour. 3.1: Records. 3.4: Weather information. 3.5: Records. 3.15: Sonora programme. Gerald Adams, tenor: "The Angelus Was Ringing" (Wagner). Evan Williams, tenor: "Alice, Where Art Thou" (Ascher), "Ah, Love But a Day" (Protherloe). Herbert Dawson, organ solo: "Meditation" (D'Evry). "Toccata" (Dublas). Patti Planola: "Spanish Moon" (Pireoso). Robert Radford, bass: "Erl King" (Schubert). 4.15: "Aunt Edna" will speak on "Autumn Coats and Costumes." 4.30: Close down.

EARLY EVENING SESSION.

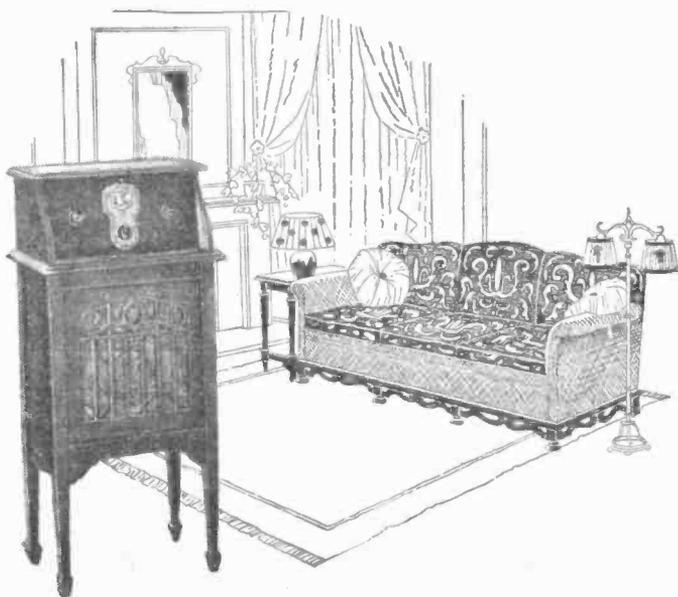
Announcer: Jack Broadbent. 6.15: Records. 6.30: Little Mollie Horlock, pianist, will play the piano for the wee folk: "Autumn Fancies" (Ruer), "Snowdrops" (Wenzel). 6.45: Records. 7.0: Answers to letters and birthday greetings, by "Uncle David." 7.4: B. R. Reynolds will give a talk to the wee folk on "Tasmanian Birds." 7.15: News service; railway auction produce sales, held at railway; weather information; Hobart Stock Exchange quotations; announcements.

EVENING SESSION.

7.30: Geo. Collis, Tasmania's champion wrestler, will speak on "Physical Culture." 7.45: Under the auspices of the Radio Research Club, F. Lovett will speak on "Elementary Interferences for Receiving Other Stations." 8.0: G.P.O. clock chimes the hour. 8.8: Records. 8.15: Transmission from Hobart: A concert programme arranged by James Marsh, a well-known Tasmanian organist. 9.50: News service; British official wireless news; Tasmanian district weather report. 10.0: G.P.O. clock chimes the hour. 10.1: Close down.

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Local Programmes, Tuesday, March 26

2FC

EARLY MORNING SESSION.

Announcer: A. S. Cochrane.

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

MORNING SESSION.

Announcer: A. S. Cochrane.

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

MIDDAY SESSION.

Announcer: A. S. Cochrane.

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

Note.—Race results from Gosford.

AFTERNOON SESSION.

Announcer: Laurence Halbert.

Accompanist: Ewart Chapple.

2.30: Programme announcements. 2.32: Educational session, for the schools; a short musical recital; a reading. 3.0: Pianoforte reproduction. 3.15: Popular music. 3.30: Max Bowyer, contralto. 3.37: Studio items. 3.45: A reading. 4.0: "Big Ben"; Edith Harrison, pianist. "Rondo in G Major," Op. 51, No. 2 (Beethoven). 4.10: Popular music. 4.25: Max Bowyer, contralto. 4.32: Edith Harrison, pianist. (a) "Prelude in F Major" (Chopin). (b) "Prelude in C Minor" (Chopin). (c) "Prelude in A Flat Major" (Chopin). (d) "Waltz in F Major" (Chopin). 4.42: Studio items. 4.45: Stock Exchange, third call. 4.47: Popular music. 5.0: "Big Ben"; Close.

EARLY EVENING SESSION.

Announcer: A. S. Cochrane.

5.40: The chimes of 2FC. 5.45: The children's session, conducted by the "Hello Man"; letters and stories; music and entertainment. 6.30: Delgety's market reports (wool, wheat, and stocks). 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) "Cocquetterie" (Waldteufel). (b) "Divertissement" (Sylvia) (Delibes). (c) "The Duchess of Dantzia" (Caryl). (d) "Serenade" (Drigo). (e) "Hallelujah" (Youmans). (f) "Cavatte" (Gossec).

EVENING SESSION.

Announcer: Laurence Halbert.

Accompanist: Ewart Chapple.

7.40: Popular music. 7.45: Programme announcements. 7.48: Studio items. 8.0: From the Manly Band Rotunda, the Manly Juvenile Band, conducted by James Pheloung. 8.15: Ernest Forbes (tenor)— (a) "Serenade" (Schubert). (b) "Who is Sylvia" (Schubert). 8.22: Keith Kennedy (violinist). 8.29: A sketch, by Jennifer Wynne. 8.39: Olga Le Grey (popular vocalist). (a) "Marianne I dream of Lilac Time" (Shilkret). (b) "Out of the Dawn" (Donaldson). 8.46: From the Manly Band Rotunda, the Manly Juvenile Band, conducted by James Pheloung. 9.0: From the Studio—Ernest Forbes (tenor)— (a) "La Serenata" (Tosti).

(b) "She is Far From the Land" (Lambert).

9.8: Pianoforte solos by Cec Morrison.

9.18: A sketch by Jennifer Wynne.

9.26: Keith Kennedy (violinist).

9.33: Manly Juvenile Band, conducted by James Pheloung.

9.48: From the Studio: Olga Le Grey (popular vocalist)—

(a) "Love is Just a Little Bit of Heaven" (Baer).

(b) "Sally of My Dreams" (Kernell).

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

10.3: Olga Le Grey (popular vocalist).

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

10.30: Late weather.

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

10.57: To-morrow's programme.

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

2BL

MORNING SESSION

Announcer: A. C. C. Stevens.

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

MIDDAY SESSION.

Announcer: A. C. C. Stevens.

Note: Cattle Judging Day at the Royal Agricultural Showground, descriptive transmission of the exhibits will be given. 11.0: G.P.O. chimes; 2BL Women's Sports Association session, conducted by Miss Gwen Varley. 11.30: Advertising hints. 11.40: Women's session, conducted by Mrs. Cranfield; Sister A. P. Parry will speak on the work of the St. John Ambulance Association. 12.0: G.P.O. chimes; special ocean forecast and weather report. 12.3: Studio music. 12.30: Shipping and mails. 12.35: Market reports. 12.43: "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. Note: Race results from Gosford.

AFTERNOON SESSION.

Announcer: A. C. C. Stevens.

Accompanist: Kathleen Roe.

3.45: G.P.O. chimes; popular music. 3.50: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 4.0: From the studio, Nancy Rouse, violinist. "Poeme Hongrois" (Lederer). 4.7: Studio items. 4.14: James Pedal, pianist. 4.21: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 4.30: From the studio, Nancy Rouse, violinist. "Gipsy Dances" (Nachez). 4.37: "Sun" news service. 4.40: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 4.50: From the studio, James Pedal, pianist. 5.0: G.P.O. chimes. 5.15: Pianoforte reproduction.

Mr. Norman speaks to the bigger boys. 5.27: Racing resume. 5.32: Producers' Distributing Society's poultry report; studio items. 5.37: Features of the evening's programme.

EARLY EVENING SESSION.

Announcer: Basil Kirke.

5.40: Children's session; music and entertainment; letters and stories. 5.30: "Sun" news and late sporting. 6.40: 2BL Dinner Quartette. (a) "Pierrette" (Chaminade), (b) "Ciribiribin" (Bucalossi), (c) "Cavalleria Rusticana" (Mascagni), (d) "Flower of the Desert" (Lohr). (e) "Spanish Dance" (Rehfeld), (f) "Florindo" (Bergmeier). 7.7: Australian Mercantile Land and Finance Cos. 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 and Topical Chorus. From the Rose Bay Wintergarden Theatre, the Rose Bay Wintergarden Theatre Orchestra, conducted by Lionel Hart.

8.20: From the Studio, W. E. Lewis (baritone).

8.27: Pianoforte solos by Horace Keats—"Three Preludes" (Carse).

8.36: Dorrie Ward, soprano.

8.43: Cello solos by Bryce Carter.

8.50: The Music Makers—

(a) "Mendelssohn Melodies" (Robert).

(b) "La Partida" (Alvarez).

9.7: Weather report.

9.8: Topical talk, "Week By Week," by S. H. Bowden.

9.18: W. E. Lewis, baritone.

9.25: Horace Keats, pianoforte solos—"Andante from Sonata in F Minor," Op. 5 (Brahms).

9.31: Dorrie Ward, soprano.

9.38: Bryce Carter, cello solos.

9.45: The Music Makers—

(a) Selection, "Tumble In" (Friml).

(b) "Minstrel Song" (Fradericksen).

10.0: From the Rose Bay Theatre, the Rose Bay Wintergarden Theatre Orchestra, conducted by Lionel Hart.

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

10.30: National Anthem; close.

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. 5.30: Children's Session by Uncle George. 7.0: Music. 7.30: Talk from the Radio Service Department by Mr. Stan. Crittenden. 8.0: Miss Ethel Muller, contralto. 8.7: Mr. Gregory Valentine, violinist. 8.15: Mr. Peter Templeton, baritone. 8.22: Miss Jean Read, pianist. 8.30: A humorous interlude by Mr. Jack Win and Mr. Heath Burdock. 8.35: Miss Gladys Verona, soprano. 8.45: Instrumental music. 8.50: Miss Ethel Muller, contralto. 9.0: Weather report. 9.3: Address. 9.15: Mr. Gregory Valentine, violinist. 9.25: Mr. Peter Templeton, baritone. 9.35: A humorous interlude by Mr. Jack Win and Mr. Heath Burdock. 9.40: Instrumental music. 9.50: Miss Gladys Verona, soprano. 10.0: Miss Jean Read, 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. 9.0: G.P.O. clock and chimes. Comments on foreign affairs by Mr. J. M. Prentice. 9.10: Music and request numbers. 10.30: Close down.

The Air King

The short wave enthusiasts among our readers should watch for the AIR KING next week.

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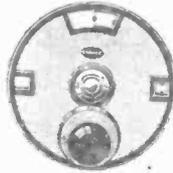
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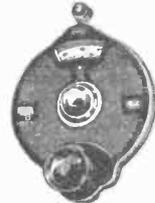
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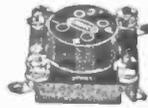
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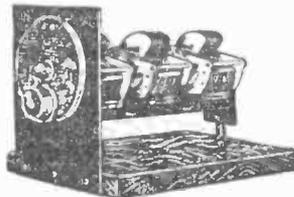
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Interstate Programmes, Tuesday, March 26

3LO

EARLY MORNING SESSION.

7.15 to 8.15: See Friday.

MORNING SESSION

Announcer: John Stuart. 11.0: 3LO's Different Dainties for the Daily Dinner: to-day's radio recipe, brandysnaps. 11.5: Miss E. Noble will speak on "Gas Cookery." 12.0: Musical Interlude. 11.25: Mrs. Dorothy Silk will speak on "Homecrafts." 11.40: Musical Interlude. 11.45: Miss Dorcas Berry will speak on "Customs of Other Countries."

MIDDAY NEWS SESSION

12.0: Melbourne Observatory time signal; express train information. 12.1: British official wireless news from Rugby; Reuter's and the Australian Press Association cables; "Argus" news service. 12.15: Newmarket stock sales; official report of the sheep market by the Associated Stock and Station Agents. Bourke Street, Melbourne. 12.20: The Station Orchestra, overture, "Sakuntala" (Goldmark). 12.30: Gaby du Valle, soprano. "In Italy" (Boyd). 12.37: The Station Orchestra, "Morning" (Spaek). "Two Entr'acts" (Thomas). 12.32: Musical Exchange. "Libro Sanjo" (Piusuli), selected. 12.42: The Imperial Russian Trio (Arved Norit, violin; Ivan Berzinsky, cello; Vassili Ister, piano). "Chanson Triste" (Rebikov). "Caucasienne Dance." "Traumerli" (Schumann). "Excuse" (Ganne). "Spanish Dance" (Morzkowski). 1.5: Meteorological information; weather forecast for Victoria, New South Wales, South Australia, and Tasmania; ocean forecast, rice, reports; rainfall. 1.12: Gaby du Valle, soprano. "Bon Jour ma Belle" (Behrend). "Estrellita" (Ponce). 1.19: The Station Orchestra, "Fellas and Hellas" (Sibelius). 1.28: Signor Torre, tenor. "Blonda Serena" (Firipi), request item. 1.35: The Station Orchestra, suite, "The Carnival" (Ring). 1.45: Close down.

AFTERNOON SESSION

Announcer: John Stuart. Accompanist: Agnes Fortune. 2.15: The Radio Revellers. "Sally Rose" (Friend). "Sincerely I Do" (Davis). "The Prune Song" (Crumit). 2.24: Dawn Harding, mezzo-soprano. "The Wood Pigeon" (Lehmann). "The Low Hammer" (Lehmann). 2.31: The Radio Revellers. "Out of the Dawn" (Donaldson). "Mother I Still Have You" (Jolsob). "Dream House" (Fox). 2.40: Tom Semple, tenor. "I'll Sing Thee Songs of Araby" (Clay). "At Dawning" (Gadman). 2.47: The Radio Revellers. "My Heart is Home" (Gollin). "I Can't Do Without You" (Berlin). "I Just Jog Along" (Rose). 2.56: Oliver Peacock, baritone. "Love Sends a Little Gift of Roses" (Openshaw). "West of the Great Divide" (Ball). 3.3: The Radio Revellers. "I Love to Dune a Hunt of Sping Cake" (Castill). "I'm Sorry, Sally" (Kahn). "Falling in Love With You" (Mayne). 3.12: One-act play, "Between the Soup and the Savory," produced by Betty Rae; the cook, Ruby May; the housemaid, Amie Row; the kitchenmaid, Betty Rae. 3.22: The Radio Revellers. "The Good Girl" (Gadman). "Just Like a Melody" (Donaldson). "All By Yourself in the Moonlight" (Wallis). 3.31: Amy Boehm, soprano. "What a Wonderful World" (Lohr). "Love's a Merchant" (Carew). 3.40: The Radio Revellers. "That's What You Mean to me" (Davis). "There's a Ricketty Ricketty Shack" (Turk). "Japanese Mammy" (Donaldson). 3.49: Dawn Harding, mezzo-soprano. "A Merry Little Song" (Raymond). "I See You" (Raymond). "In My Garden" (Raymond). 3.57: The Radio Revellers. "Lenora" (Gilbert). "That Stolen Melody" (Fisher). "Guess Who's in Town" (Rezali). 4.8: Tom Semple, tenor. "For the Green" (Lohr). "So Fair a Flower" (Lohr). 4.13: The Radio Revellers. "My Dream Sweetheart" (Hall). "Old Man Sunshine" (Dixon). "Chiquita" (Wayne). 4.22: Amy Boehm, soprano. "The Pipes of Pan are Calling" (Monckton). "Wake Up" (Phillips). 4.29: The Radio Revellers. "Tin Pan Parade" (Gillespie). "Who Knows?" (Dixon). "To-day, To-morrow, For Ever" (Nichols). 4.38: Oliver Peacock, baritone. "Thinking of Thee" (Roman). "Gipsy Love" (Herbert). 4.44: Special feature for the benefit of entertainers in the Redcliffs district. 4.45: The Radio Revellers. "Somebody, Somewhere" (Rapee). "When Love Comes Stealing" (Rapee). "High Upon a Hill-top" (Baer), selected and request items.

EVENING SESSION

6.0: Answers to letters and birthday greetings. by "Bobby Bluegum." 6.25: Musical Interlude. 6.30: "Little Miss Koochie-koochie" will tell a story for the little ones and a thrilling boys' story. 6.50: "Bobby Bluegum" will entertain.

NIGHT SESSION.

Announcer: Renn Millar. Accompanist: Agnes Fortune. 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: Under the auspices of the University of Melbourne Extension Board, Mr. E. Ingram, B.Com. Lecturer in Social and Economic Problems, "Business Booms and Depressions." 8.0: A Maker of History. 8.1: St. Kilda Brass Band, march, "Colonel's Parade," "Japanese Dance." 8.10: Harold Webb, baritone. "King Duncan's Daughter" (Allison). "Dolorosa" (Bezdall). 8.17: St. Kilda Brass Band, glee, "A Sailor's Memories." 8.24: Adele Crane, soprano. "Now Steps the Crimson Petal" (Quilter). "Thank God for a Garden" (Del Riego). Scots Church Choir (organist and conductor). "Mansley Green," transmission from Scots Church, Collins, Melbourne. "The Dawn Hour," a Passion cantata by Harold Moore. Soloists: Annie Caddell, soprano; Madame Gregor Wood, contralto; Wm. Davey, tenor; Leslie Paul, bass.

Prologue: Chorus. "Now, My Soul, Thy Voice Upraising"; recitative, Narrator; solo (Jesus) and chorus. "Then Jesus Took Him Into the Twelve"; solo, soprano and chorus. "God So Loved the World"; Scene I. Gethsemane: Recitative (Narrator). "Then Cometh Jesus With Them"; solo (Jesus); hymn, "In the Lord's Atoning Grief." Scene II. The Trials before Calaphas and Pilate: Recitative, Narrator; soli and chorus. "And They That Had Laid Hold on Jesus." Scene III. Processional march; chorus, "Surely He Hath Borne Our Grievs"; soli, baritone and soprano. "And He, Bearing His Cross." Scene IV. Calvary: Narrator, solo and chorus. "And When They Were Come to a Place"; chorus and soli. "It is Finished." Epilogue: Solo, "Nina" (Pergolesi-Kreisler). 9.45: Harold Webb, baritone. "O Flower of All the World" (Finden). "Star Eyes" (Speaks). 9.52: St. Kilda Brass Band, waltz "Senta," march "The Nut Grove." 10.2: Signor Torre, tenor, operatic selections. 10.10: "Argus" news service; meteorological information; British official wireless news from Rugby; announcements; Eric Welch's selections for the Werribee races to-morrow. 10.20: St. Kilda Brass Band. "Gems of America." 10.30: Adele Crane, soprano. "White Rose" (Noel). "Heart's Desire" (Fraser Simpson). 10.37: Signor Torre, tenor. "New Song Love Songs." 10.45: The Radio Revellers. "Where the Cot-cot-cotton Grows" (Klein). "Cinnamon Cake" (Bernard). "I'm Sorry, Sally" (Kahn). "Paradise" (Zamechik). "Avalon Town" (Brown). "Glad Rag Doll" (Ager). "You Are Wonderful" (Ash). "Honey-moon Waltz" (Renault). "There Ought to be a Law Against That" (Friend). "Little Mother" (Rapee). "Oh, Ya Ya" (Frich). 11.30: "God Save the King."

3AR

Announcer: Maurice Dudley. 10.0: G.P.O. clock says "Ten." 10.5: Collins "Market" reports; farm and station produce; fruit, fish, vegetables, etc. 10.25: "Age" shipping reports; ocean forecast. 10.30: "Age" news service, exclusive to 3AR. 10.59: Weather forecast.

MORNING MUSICAL SESSION

11.0: Celebrity records. 12.20: British official wireless news. 12.30: Close down.

AFTERNOON SESSION

Announcer: Maurice Dudley. 3.0: Gramophone recital, the story of "Tristan and Isoide" (Wagner), illustrated with readings from the opera. 4.30: Close down.

EVENING SESSION

Announcer: Frank Hatherley. 6.0: Sweet solace on the seraphim. 11.0: News service; announcements; results of Gibraltar races. 7.20: Smore slace.

NIGHT SESSION

Announcer: Frank Hatherley. Accompanist: Reg. Brown. 8.0: Broadcast from the Allied Societies' Theatre Building, 105 Collins, Melbourne, under the auspices of the Electrical Engineering Branch, Melbourne division, in conjunction with the Sydney Division, synchronising their efforts by means of loud speaker communication carried out with the carrier wave system. 10.0: The Station Orchestra, overture, "Le Philtre" (Auber). 10.10: James Hixy, tenor, selections from his repertoire. 10.20: The Station Orchestra, "Ballet of the Flowers," Part I (Hadley). 10.25: "Age" news service; announcements; Eric Welch's selections for Werribee races. "God Save the King."

4QG

EARLY MORNING SESSION.

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

MORNING SESSION.

Announcer: Rita McAuliffe. 11.0: Music. 11.5: Social news. 11.15: Lecture: Talk on "Home Crafts," by Mrs. R. L. Reid. 11.30: Music. 11.35: More social news. 11.45: Music. 12.0: Close down.

MIDDAY SESSION.

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

AFTERNOON SESSION.

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

EARLY EVENING SESSION.

Announcers: R. Wight and H. Humphreys. 6.0: Mail train running times, mail information, shipping news. 6.5: A Law talk: "Nuisance," Part 2, by a Barrister-at-Law. 6.15: Records. 6.25: Commercial announcements. 6.30: Bedtime stories, conducted by Uncle Ben. 7.0: News in brief. 7.5: Stock Exchange news. 7.6: Meta quotations. 7.7: Market reports. 7.25: Penwick's stock report. 7.30: Weather information. 7.40: Announcements. 7.43: Standard time signals. 7.45: Lecture on "Photography," by Mr. P. L. South (Kodak).

NIGHT SESSION.

Announcer: H. Humphreys. Stainer's "Crucifixion." Stainer's "Crucifixion," rendered by the

Choir of St. Andrew's Church of England, will be relayed from St. Andrew's, South Brisbane. The soloists will be as follows:—Jack Land (tenor), P. J. Taylor (bass), H. Ogilvie and A. P. Duck (voice in choir). 8.0: Prud. St. Andrew's. Stainer's "Crucifixion." Studio programme. 9.30: From the studio: Metropolitan weather forecast. 9.31: The Anglo Male Quartette: "Po Little Lamb" (Parks). 9.34: C. R. Kolb (tenor): "The English Rose" (German). 9.38: Dick Pike (bass): "Blow, Blow, Thou Winter Wind" (Blumenthal). 9.42: Phyllis Verna (soprano): "When My Ships Come Sailin' Home" (Dorel). "Homing" (Del Riego). 9.50: The Anglo Male Quartette: "A Family Affair" (Parks). 9.54: G. R. Kolb and Dick Pike: Vocal duet, "Arise, O Sun" (Day). 9.58: Anglo Male Quartette: "Comrades in Arms" (Adams). 10.0: The "Daily Mail" news, the "Courier" news, "Queenslander" bi-weekly news service for distant listeners. Close down.

5CL

MORNING SESSION.

Announcer: J. L. Norris. 11.0: G.P.O. chimes. 11.1: Melodies. 11.15: Kitchen Craft and Menu Talk. 11.20: (Melodies). 11.45: Miss Marie Ray will tell you about "The Immigrants' broad." The story of a year in West Australia. 12.0: G.P.O. chimes. 12.1: Melodies. 12.15: General news service. 12.35: British official wireless news. 12.40: Melodies. 12.52: S.A. Railway information. 3.0: Ward and Co.'s stock Exchange information, meteorological information. 10.0: G.P.O. chimes. 1.1: Lunch-hour recital. 2.0: G.P.O. chimes. Close down.

AFTERNOON SESSION.

Announcer: J. L. Norris. 3.0: G.P.O. chimes. 3.12: Station Quartette, "Fiorale Dance" (German). fox-trot, "Just Like a Melody Out of the Sky" (Donaldson). 3.10: Rev. G. E. Hale, B.A., will speak on "Hamlet's Problem." 3.25: Station Quartette, "Serenade" (Haydn). 3.30: Mrs. Leslie Matthews, contralto. "Wake Up" (Montagu Phillips). "Shipmates o' Mine" (Sanderson). 3.35: Syd. Hollister, comedian, in more Hollisterisms. 3.41: Station Quartette, "Chinese Lantern Dance" (Blor). 3.47: Victor Innes-Moreton, baritone, "In an Old-fashioned Town" (Squire). "Little Town in the Old County Down" (Sanders). 3.50: Station Quartette, "Japanese Sunset" (Depper). 3.58: Mrs. Leslie Matthews, contralto. "The Kookaburra" (Peterson). "Way Back" (Peterson). 4.4: Syd. Hollister, comedian, in merry moments. 4.9: Victor Innes-Moreton, baritone. "I'll Sing Thee Songs of Araby" (Clay). 4.15: Musical appreciations. A lecture, with illustrative recordings, by Horace Perkins, Mus. Bac., A.M.U.A. "Concerto in E Flat" (Bachhaus) (H.M.V. recording). "Symphony No. 4" (Columbia recording). "Turkish March" (H.M.V. recording). "Quartette in E Major" (Columbia recording). "The 'In E Flat Andante'" (Columbia recording). "Third Lenora Overture" (H.M.V. recording). 4.58: Station Quartette, selection, "Dorothy" (Cellier). 5.0: G.P.O. chimes. Close down.

EVENING SESSION.

Announcer: C. J. O'Connor. 6.0: G.P.O. chimes. 6.1: Birthday greetings, correspondence, songs and stories by "The Wattle Lady." 6.30: An interlude of dinner music. 7.0: G.P.O. chimes. 7.1: S. G. Ward and Co.'s Stock Exchange information. 7.5: S.A. Farmers' Union, dairy produce; A. E. Hall and Co., dairy produce and poultry; Dalgety and Co., wool and grain; Retail Grocers' Association, dairy produce. 7.10: SCL's Sporting service, by "Billie." 7.20: Miss Laurie McLeod will speak on "The Art of Dancing." 7.40: Dr. Herbert Basewood, in an interesting Australian talk.

NIGHT SESSION.

Announcer: C. J. O'Connor. 8.0: G.P.O. chimes. 8.1: A lecture on Beethoven. 8.15: Holden's Silver Band, conductor, Mr. O. Sumner, selection "Beethoven Works" (arr. Reynolds). 8.25: Fred Williamson, tenor. "Contrition" (Beethoven). "Adele" (Beethoven). 8.31: Norman Sellick, violinist. "Romance" (Beethoven). 8.38: Holden's Silver Band, conductor, Mr. O. Sumner, "The Heavens are Telling" (Beethoven). "Gather Ye Rosebuds" (Sanderson). 8.54: Eric Wickens, bass. "A Prayer Perfect" (Spenson). "The Miner" (Sutton). 9.0: G.P.O. chimes. 9.1: Meteorological information, including shore tides. 9.2: Overseas grain report. 9.3: Beth Smith, banjoist, will entertain you. 9.9: Holden's Silver Band, overture, "Piera-bras" (Schubert). "Intermezzo" from "Cavaleria Rusticana" (Masagnì) (both numbers by special request). 9.22: Syd. Hollister, comedian, five minutes' humor. 9.27: Norman Sellick, violinist. "The Ringer" (Lohr). 9.28: Beth Smith, banjoist, in bright numbers. 9.33: Holden's Silver Band, "Veve Beethoven" (arr. Ord Hume). 9.41: Fred Williamson, tenor. "Adelaide" (Beethoven). "Merry Yonder Tomb" (Beethoven). 9.47: Norman Sellick, violinist. "Sonata in D—Last Movement" (Beethoven). 9.52: Holden's Silver Band, "Minuet in G" (Beethoven). "Andante Sonata" (Beethoven). 9.59: Hilda Hammond, soprano. "Knowest Thou the Hard-land?" (Beethoven). "I Hid My Love" (Beethoven). 10.5: Holden's Silver Band, selection from "Beethoven Works." "Les Adieux" (Beethoven). 10.15: General news service, meteorological information. 10.30: Modern dance numbers by the "Radio Revellers." 11.0: God Save the King. Close down.

6WF

12.30: Tune in. 12.35: Markets, news, etc. 1.0: Time signal. 1.1: Weather bulletin, supplied by the Meteorological Bureau of Western Australia. 1.3: Musical selections by the Studio Trio: vocal numbers. 2.0: Close down. 2.30: Tune in. 3.25: Programme from the studio, including pianoforte solo by Miss Audrey Dean, violin solos by Mr. Frank Romaine. 4.30: Close down. 6.45: Tune in. 6.48: Bedtime stories for the kiddies by Uncles Percy and Duffy. 7.5: Light music by the Station String Trio. 7.30: Commercial and general information. 7.45: Talk. 8.0: Time signal. 8.1: First weather bulletin. 9.15: Programme continued from the studio. 9.0: Late news items, by courtesy of the "Daily News," Newspaper Co.; station announcements; ships within range announcement; weather bulletin. 10.30: Close down. 104.5 metre transmission—simultaneous broadcast on 104.5 metres of programme given on 1250 metres, commencing at 6.45 p.m.

7ZL

MIDDAY SESSION.

Announcer: Jack Broadbent. 11.30 to 1.30: See Friday.

AFTERNOON SESSION.

Announcer: Jack Broadbent. 3.0: G.P.O. clock chimes the hour. 3.1: Musical selections. 3.4: Weather information. 3.5: Musical selections. 3.15: A popular and classical gramophone programme.—Herbert Dawson, organ solo: "Meditation" (Debussy). "Toccata" (Dubios). John M'Cormack, tenor: "Beneath the Moon of Lombardy" (Graxton). "Take, Oh, Take Those Lips Away" (Bennett). Mische Elman, violin solo: "Country Dance" (Beethoven). "Hungarian Dancetto," A Minor (Joachini). John M'Cormack, tenor: "Within a Garden of My Heart" (Scott). "Good-bye, Sweetheart, Good-bye" (Hatton). Paul Whiteman and his orchestra: "That's My Weakness Now" (Green). "Felix, the Cat" (Wending). Kirby Lunn, contralto: "The Heart Worshipers" (Holst). "Love is a Dream" (Pitt). Cherniavsky Trio: "At the Brook," "Schergo," Eisle Barker, contralto: "Old Folks at Home" (Foster). "Home, Sweet Home" (Bishop). Paul Whiteman and his orchestra: "Chiquititas." 4.15: An educational talk on "Disease of Plants" Soggy Breakdown of Apples." 4.30: Close down.

EARLY EVENING SESSION.

Announcer: Jack Broadbent. 6.15: Musical selections. 6.30: Emil Sproule, pianist, will play for the little ones: "Prelude in C Minor" (Rachmaninoff). "Cinderella Dance No. 3" (Lohr). 6.45: Musical selections. 7.0: Answers to letters and birthday greetings by "Uncle David" and "The Story Lady." 7.5: Musical selections. 7.15: News service; railway auction produce sales, held at railway; announcements; weather information; Hobart Stock Exchange quotations.

EVENING SESSION.

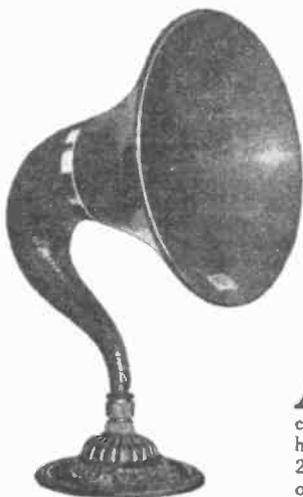
Announcer: Jack Broadbent. 7.30: V. Webb will speak on "Buying a Motor Car." 7.45: W. E. Fuller will speak on "Literary Lapses and Library Lists." 8.0: G.P.O. clock chimes the hour. 8.6: A concert programme arranged by the Hobart Orpheus Club. Part song. 26 voices: "Se How the Darkness of the Night Dissolves" (Verdi). Male quartet (E. R. Rowe, H. J. Foster, H. E. Allen, W. Hunt): "When Evening Twilight" (Hatton). "April Showers" (Hatton). Basil Osborne, bass: "Brian of Glenaar" (Graham). Trevor Trappes, tenor: "Love Me or Not" (Secchi). Orpheus Club (W. Thompson, soloist): "Pilgrim's Chorus" (Wagner). Doris M'Coubrie, soprano: "Meleandros in the Wood" (Goets). H. J. Foster, tenor: "Sing Me a Song With a Rousing Rhyme" (Adams). Orpheus Club, part song: "The Dear Little Shamrock" (Butler). "Martyrs of the Arena." Chas. Gilfe, baritone: "The Soldier's Toast." F. Kummer, tenor: "Dreams of Long Ago" (Caruso). Orpheus Club, part song: "In a Gondola" (Landers). Myra O'Neil, soprano: "Three Fishers Went Sailing" (Hullah). R. J. Doble: Humorous recitation: "Selected." Orpheus Club, part song: "O, Peaceful Night" (Germann). 9.45: News service; British official wireless news; mail notices; Tasmanian district weather report. 10.0: Close Down.

Mouth Organ Band Competition

THE air was full of music, and very good music, too, at the Independent Hall, on February 26, when the competition for the 3LO and 3AR "Mouth Organ Medal," took place before a large and appreciative audience. The competitors, who acquitted themselves splendidly were required to play the best piece "Jeannine," and one other selection of their own choice. Owing to the all-round excellence of the bands—the adjudicator Mr. W. G. James, the well-known Australian pianist and composer—had some difficulty in selecting the winning team, but his awards "Geelong Mouthorgan Band" 1, Melbourne Crackerjack Mouthorgan Band 2, and Sunshine Boomerang Mouthorgan Band 3, proved most popular, and were received with acclamation from the enthusiastic audience.

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"Specialists in all Radio Requirements."

Local Programmes, Wednesday, March 27

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 sharemarket, metal quotations, wool sales, breadstuffs markets: Interstate 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. 10.30: Last-minute sporting information by the 2FC Racing Commissioner. 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 AND AFTERNOON SESSIONS

Announcers: A. S. Cochrane.
Laurence Halbert.

Note.—Race results from Rosebery. 12.0: "Big Ben" and announcements. 12.1: Stock Exchange, first call. 12.3: Official weather forecast; rainfall. 12.5: Studio music. 12.10: Summary of news, "Sydney Morning Herald" 12.15: Rugby wireless news. 12.18: A reading. 12.30: Studio music. 12.50: Description will be given of Moorefield Races in the running. During intervals, dance music from Romano's Orchestra, conducted by Bennie Abrahams, will be broadcast.

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EARLY EVENING SESSION.

Announcer: A. S. Cochrane.

5.40: The chimes of 2FC. 5.45: The children's session, conducted by the "Hello Man"; letters and stories; music and entertainment. 6.30: Dalgety's market reports (wool, wheat, and stock). 6.40: Fruit and vegetable markets. 6.43: Stock Exchange information. 6.45: Weather and shipping news. 6.48: Rugby wireless news. 6.50: Late sporting news. 7.0: "Big Ben"; late news service. 7.10: The 2FC Dinner Quartette, conducted by Horace Keats. (a) "Autumn Manoeuvres" (Kahman), (b) "Frivolity" (Fletcher), (c) "The Barber of Seville" (Rossini), (d) entr'acte, "Rosamund" (Schubert), (e) "Canzonetta" (Tschalkowsky), (f) "By the Tamarisk" (Coates), (g) "Querida" (Simon).

EVENING SESSION.

Announcer: Laurence Halbert.
Accompanist: Ewart Chapple.

7.40: Popular music.
7.45: Programme announcements.
7.48: Laurence Godfrey Smith will speak on the "Teachers' Conference."
8.0: Madame Emily Marks, a classical programme under the direction of Madame Emily Marks, with whom will be associated the Austral Quartette, Enid Hynes, Ray Beatty, John Benjamin, Fosse Brakell.
9.0: Weather report.
Talk by Francis Jackson, "Love Stories of Versailles."
9.15: Madame Emily Marks, second half of the classical programme.
10.15: Late weather.
10.28: To-morrow's programme.
10.30: National Anthem. Close.

2BL

MORNING SESSION.

Announcer: A. C. C. Stevens.

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

MIDDAY SESSION.

Announcer: A. C. C. Stevens.

Note: From the Royal Agricultural Show-ground, General Judging Day. 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. 1.30: Talk to children and special entertainment for children in hospital. 2.0: G.P.O. chimes; close down. Note: Race results from Moorefield and Rosebery races will be broadcast by courtesy of the "Sun" Newspapers.

AFTERNOON SESSION.

Announcer: A. C. C. Stevens.
Accompanist: Kathleen Roe.

3.45: G.P.O. chimes; popular music. 4.0: G.P.O. chimes; a talk, by Basil Kirke. 4.15: Margaret Hunt, soprano. 4.22: Studio items 4.37: "Sun" news service. 4.42: Margaret Hunt, soprano. 4.50: Popular music. 5.0: G.P.O. chimes; pianoforte reproduction. 5.15: Studio music. 5.28: Racing resume; 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: 2BL Dinner Quartette, (a) "Danse des Talons" (Michiels), (b) "An Old Adobe" (Schertzing), (c) "Carmen" (Bizet), (d) "Dreams" (Wagner), (e) "Gipsy" (Signorelli), (f) "A la Bien Aimee" (Schutt). 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 ad, vertising talks and nonsense. 7.55: Programme and other announcements.

EVENING SESSION.

Announcer: Basil Kirke.

Accompanist: G. Vern Barnett.
8.0: G.P.O. chimes and Topical Chorus.
8.2: Production by the H. W. Varna Company, "The Man from Toronto."
Bobbie Gilmond (William Hume),
Martha (maid) (Felix Clark),
Lelia Calthorpe (Meg Service),
Mrs. Hubbard (Miss Pat Barton),
Minnie Hubbard (Gwen Lascelles),
Fergus Winbush (H. W. Varna),
Mr. Priestley (solicitor) (H. J. Saller),
Ruth Winbush (Muriel Conner),
Ada Winbush (Cleo Glover).
Scene—Interior Beach House, Teignmouth, Devon, England.
Act 1—Afternoon.
Act 2—Three days later.
Act 3—Continuus.
9.0: The Savoyans' Dance Band.
9.12: William Everard, tenor—
(a) "I Love to Hear You Singing" (Wood).
(b) "I Do Kind of Feel I'm in Love" (Christine).
9.19: A talk on General Sporting, by Claude Corbett.
9.34: Nellie Ferguson, monologues at the piano—
(a) "Singers and Talkers."
(b) "Soliloquy of an Old Piano" (Harris).
9.41: The Savoyans' Dance Band.
9.53: William Everard, tenor—
(a) "Wonderful World of Romance" (Wood).
(b) "Smile Through Your Tears" (Hamblen).
10.0: The Savoyans' Dance Band.
10.12: Nellie Ferguson, monologues at the piano—
(a) "Father's New Car."
(b) "Jes he Way" (Aitken).
10.19: The Savoyans' Dance Band.
10.30: Late weather.
10.32: The Savoyans' Dance Band.
10.57: To-morrow's programme.
10.59: The Savoyans' Dance Band.
11.30: National Anthem; close.

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. 3.0: Labor-saving demonstrations from Nock and Kirby. 4.0: Close down. 5.30: Children's session by Uncle George. 7.10: Music. 7.30: Short talk by Miss Beegling. 8.0: Miss Mary Neal, contralto. 8.7: Mr. Leonard Brewer, violinist. 8.15: Mr. Jack Win and Miss Nora Windle in a dramatic sketch. 8.30: Instrumental music. 8.40: Mr. Clifford Lathen, baritone. 8.55: Miss Ada Brook, pianist. 9.0: Weather report. 9.3: Address. 9.15: Mr. Leonard Brewer, violinist. 9.25: A humorous interlude by Mr. Jack Win and Mr. Heath Burdock. 9.30: Miss Mary Neal, contralto. 9.40: Instrumental music. 9.50: Mr. Jack Win and Miss Nora Windle in a humorous sketch. 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 Uncle Jack. 6.30: Close down. 7.0: G.P.O. clock and chimes; music. 8.0: To-day's anniversary; music. 9.0: G.P.O. clock and chimes. Comments on foreign affairs by Mr. J. M. Prentice. 9.10: Music and request numbers. 10.30: Close down.

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Interstate Programmes, Wednesday, March 27

3LO

EARLY MORNING SESSION.
7.15 to 8.15: See Friday.

MORNING SESSION.

10.50: Eric Welch will speak on to-day's races at Werribee. 11.0: The 3LO's different dainties for the daily dinner. 11.5: Miss I. D. Beavan will speak on "Home-made Confectionery." 11.20: Musical Interlude. 11.25: Mrs. M. Callaway Mahood will speak on "The Art of Decoration." 11.40: Musical Interlude. 11.45: Mrs. Clarence Weber will speak on "Physical Culture for Women." "How to Avoid a Kewpie." 12.1: British official wireless news from Rugby. Reuters and the Australian Press Association cables. "Argus" news service. 12.15: Newmarket stock sales. Cattle sales report—bullocks and calves—by the Associated Stock and Station Agents, Bonrke St., Melbourne. Announcer: John Stuart. Accompanist: Agnes Fortune. 12.30: The Radio Revelers—"I'm Sorry, Sally" (Kahn). "My Blackbirds are Bluebirds Now" (Friends). "Casablanca" (Evans). 12.35: Adele Crane, soprano—"In a Garden" (Hawley). "Mighty Oak a Rose" (Nevin). 12.36: Stock Exchange information. 12.40: The Radio Revelers—"Oh, Isabella" (Schuster). "Sweet Forget-me-not" (Lorenzo). "Pansies" (Nichols). 12.49: Signor Torre, tenor, selections from his repertoire. 12.56: The Radio Revelers—"In My Bouquet of Roses" (Lewis). "Mexican Serenade" (Terese). "Lady of Love" (Nausbaum). 1.5: Meteorological information. Weather forecast for Victoria, New South Wales, South Australia, and Tasmania. Ocean forecast—soprano—"There are Fairies at the Bottom of Our Garden" (Lermann). "Love's a Merchant" (Carew). 1.19: The Radio Revelers—"Hum and Strum" (Meyers). "Maybe I'm Wrong" (Harris). "Constancies" (Carlton). 1.23: Signor Torre, tenor, selections from his repertoire. 1.30: Speeches from the Rotary Club luncheon, transmitted from the Freemasons' Hall, Collins Street, Melbourne. 2.0: Close down.

AFTERNOON SESSION.

Announcer: John Stuart. Accompanist: Agnes Fortune. 2.12: The Station Orchestra, overture "Handicap" (Auber). 2.18: Description of Trial Handicap. 2.25: Gaby Du Valle, soprano—"Giannina Mio" (Friml). "The Magic of Your Eyes" (Penn). 2.32: The Station Orchestra, selection—"Lakme" (Delibes). 2.43: Description of Jumpers' Flat Race. 9 furlongs, Werribee races. 2.0: James Hay, tenor, selections from his repertoire. 3.0: The Station Orchestra, selection—"Sweethearts" (Herbert). 3.7: Freda Northcote, contralto—"My Cinnamon Tree" (Monkton). "Silos Eyes" (Rubens). 3.13: Description of Welter Handicap. 7 furlongs 65yds. at Werribee races. 3.20: The Imperial Russian Trio (Arved Norit, violin; Ivan Berzinsky, cello; Vassili Ister, piano)—"Trio in A Major" (Beethoven), "Andagio-allegro-vivace" "Largo con espressione." "Serenade" (Vidor). 3.43: Description of Werribee Handicap. 1 1/4 mile, Werribee races. 3.50: Ernest Wilson, baritone—"Tangle" (Afred Hill). "Love Lily" (Thomson). 3.57: Bertha Jorgensen, violin. 4.4: The Station Orchestra—"Ballet of the Flowers" (part 1) (Hadley). 4.13: Description of Rockleigh Plate. 6 furlongs, Werribee races. 4.20: Freda Northcote, contralto—"Sunshine" (Bunning). 4.27: The Station Orchestra—"Romance" (Korsakow). 4.31: Ernest Wilson, baritone—"The Handyman" (Fisher). "Passing By" (Purcell). 4.38: Description of Rockleigh Plate. 6 furlongs, Werribee races. 4.45: The Station Orchestra, selection—"Tangerine" (Sanders). 4.55: "Herald" news service. Stock Exchange information. 5.2: Close down.

EVENING SESSION

6.0: 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 kiddies.

NIGHT SESSION.

Announcer: Renn Miller. Accompanist: Agnes Fortune. 6.50: Madame Soward, "French Without Tears." 7.5: Stock Exchange information. 7.15: Market reports. 7.30: News session. 7.43: Birthdays of the past. 7.48: Under the auspices of the Department of Agriculture, Mr. W. C. Rugg, poultry expert, will speak on "Poultry—Preparation of Breeding Stock." 8.1: The Station Orchestra, overture "John and Sam" (Ansell). 8.19: James Hay, tenor, selections from his repertoire. 8.20: Myrtle Robertson, violin. "Sonata" (Mozart). 8.27: Gaby Du Valle, soprano—"Song of Songs" (Moyse). "C'est Vous" (Richman). 8.35: The Station Orchestra, "Quartette No. 17" (Mozart). 8.42: Gertrude Nutton, contralto—"Habenera" from "Carmen" (Bizet). "Obstination" (Pontenailles). 8.49: A Dickensian episode. Scene from "Oliver Twist," by Charles Dickens. Niece, Mrs. Maurice Dudley Rose, Dorothy Dede; Fagin, H. M. Hill; Bill Sykes, Maurice Dudley. Adapted for broadcasting by Maurice Dudley. 9.0: The Station Orchestra, "Ballet of the Flowers" (part 2) (Hadley). 9.8: Gaby Du Valle, soprano—"Life" (Curren). "Smilin' Through" (Penn). 9.15: The Station Orchestra. "Atonement of Pan" (Hadley). 9.20: Last night of "The Desert Song," second act. Transmission from His Majesty's Theatre by permission of J. C. Williamson, Ltd.). 11.1: The Radio Revelers—"I'm Sorry, Sally" (Kahn). "Stars are the Windows of Heaven" (Malle). "That's Her Now" (Ager). "Japans" (Klener). "Constantinople" (Casson). "In the Woodshed She Said She Would" (Johnson). "Minnetonka" (Wallace). "Just Keep Singing a Song" (Sissell). "Roses of Yesterday" (Berlin). 11.30: God Save the King.

3AR

Announcer: Maurice Dudley. 10.0: G.P.O. clock says: "Ten. 10.15: Age" market reports; farm and station produce; fruit, fish, vegetables, etc. 10.25: "Age" shipping reports; ocean forecast. 10.30: "Age" news service, exclusive to 3AR. 10.59: Weather forecast. 11.0: Gramophone recital. 2.30: British official wireless news. 2.30: Close down.

AFTERNOON SESSION

Announcer: Maurice Dudley. 3.0: Special gramophone recital, an hour with Schubert, including "Schubertianna" arr. by Finck (parts 1, 2, 3, and 4). Herman Finck and His Orchestra; "The Erl King," by Peter Dawson; "Old Vienna" (Schubert-Friedman), by Ignaz Friedman, violin; "Hark, Hark, the Lark," by Alma Gluck, soprano; "Der Lindenbaum," sung by Kipnis, bass. 4.30: Close down.

EVENING SESSION

Announcer: Frank Hatherley. 6.0: Gramophone recital. 7.10: News service; announcements; results of Werribee races. 7.20: Gramophone recital continued.

NIGHT SESSION

Announcer: Frank Hatherley. Accompanist: Frank Brown. 8.0: First act, last night of "The Desert Song" (transmission from His Majesty's Theatre, Melbourne, a new musical play, music by Sigmund Romberg, book by Otto Harbach, Oscar Hammerstein 2nd, and Frank Mandell, produced by George Hyland. Cast: Sid el Kar (The Red Shadow's Lieutenant), Herbert Browne; Mindar, Cecil Pawley; Hassi, Colin Crane. Nerl, first appearance in Australia, Maud Pomeroy; Hadji, first appearance in Australia, John Ronald; Benjamin Kidd (first appearance, society correspondent, Paris "Daily Mail"), Herbert Mundin; Pierre Birabeau (The Red Shadow), Lance Fairfax; Capt. Paul Fontaine, Sidney Burchall; Azari, Stephane Destee; Lieut. La Vergne, Ronald Pomeroy; Lieut. du Bassac, Robin Blair; Margot Bonvalet, Marie Bremner; General Birabeau, Pop Cory; Susan (his ward), Renee Murphy; Edith, Ellen Percival; Ali Ben Al Feid of a Riff tribe), Douglas Herald; Clementine (a Spanish lady), Maud Zimbla. Synopsis of scenes: Act 1—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 numbers: act 1—1. Prelude and Drinking Song. 2. "Ho!" Riding song of the Riffs, Lance Fairfax, Herbert Browne, and chorus; 3. "Margot," Sidney Burchall and chorus of gentlemen. 4. "I'll be a Buoyant Girl," Renee Murphy; 5. ensemble (a) "Why Did We Marry Soldiers?" chorus ladies; (b) "French Marching Song," Marie Bremner and chorus; 6. "Romance," Marie Bremner and chorus ladies; 7. trio, (a) "Then You Will Know," Lance Fairfax and Marie Bremner, (b) "I Want a Kiss," Sidney Burchall, Marie Bremner and Lance Fairfax; 8. "It's Herbert Mundin, Renee Murphy, and ladies of the ballet; 9. "The Desert Song," Lance Fairfax and Marie Bremner; 10. finale. 9.20: Captain C. H. Peters, "Books: Wise and Otherwise." 9.35: The Imperial Russian Trio (Arved Norit, violin; Ivan Berzinsky, cello, and Vassili Ister piano); Vassili Ister, piano, "Dance Orientale" (Rimsky-Korsakov); Ivan Berzinsky, cello, "Cantabile" (Gul); Vassili Ister, piano, "Nocturne" (Liszt); Trio, "Moment Triste" (Reboul). "Souvenir" (Dourouze), "Reboul." 9.55: Aolee Crane, soprano, "Aliah's Holiday" (Friml). "Songs My Mother Sang" (Dvorak). 10.2: The Imperial Russian Trio, request items. 10.12: Rinaldo Torre, operatic tenor. "L'Abbandonata" (Merca-dante). "O Libidine" (Schubert). 10.20: "Age" news service, exclusive to 3AR; announcements.

4QG

EARLY MORNING SESSION.

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

MORNING SESSION.

Announcer: Rita McAllister. 11.0: Music. 11.5: Social news. 11.35: "Aristic Union of Sealing Wax and Crepe Paper," by "Denise." 11.30: Music. 11.35: More social news. 11.45: Wurlitzer organ. 12.0 (noon): Close down.

MIDDAY SESSION.

Announcer: R. Wight. 1.0: Market reports and weather information. 1.15: The Postal Institute Orchestra. 2.0: Close down.

AFTERNOON SESSION.

Announcer: H. Humphreys. 3.0: A programme of electrically-reproduced records. 3.30: Mail train running times. 3.31: A recital by Mr. George Sampson, F.R.C.O. (City Organist). 4.0: Afternoon news. 4.30: Close down.

EARLY EVENING SESSION.

Announcers: R. Wight and H. Humphreys. 6.0: Mail train running times, mail information, shipping news. 6.5: Dinner music. 6.25: Commercial announcements. 6.30: Bedtime stores conducted by "Little Miss Brisbane." 6.0: News in brief. 7.6: Stock Exchange news. 7.6: Market quotations. 7.7: Market reports. 7.25: Fenwick's stock report. 7.30: Weather information. 7.40: Announcements. 7.43: Standard time signals. 7.45: Lecture arranged

by the Queensland Agricultural High School and College.

NIGHT SESSION.

Announcer: H. Humphreys. 8.0: Alf Featherstone and his Dance Orchestra: Fox-trots, "Two Lips" (Rose); "I Goo Like This" (Friend). 8.10: Harry Collins and the Orchestra: Ten minutes' melody and wirth. 8.20: Alf Featherstone and his Dance Orchestra: Rhythmic paraphrase: "Russian Fantasy" (arr. Lange). "Echoes of Ireland" (arr. Lange). 8.30: A. Though for To-night (Will H. Lister); "Teach Us How to Live." 8.35: Dorothy Sanders (soprano); "La Serenata" (Tosti). "April is a Lady" (Phillips). 8.40: Alf Featherstone and his Dance Orchestra: Jazz waltz, "Rosette" (Lombardo). 8.45: Dib and Dabbe: "Music, Melody and Novelty." 8.55: Alf Featherstone and his Dance Orchestra: Old-time waltz, "The Skaters" (Waldeufel); 9.0: Metropolitan weather forecast; holiday road information for motorists, officially supplied by the R.A.C.O. 9.11: Movements of lighthouse steamers. 9.12: Mrs. Charles Willey (contralto): "When Two Who Love Are Parted." "The Voice of the Dove." 9.20: Alf Featherstone and his Dance Orchestra: Fox-trot, "High Up on a Hilltop" (Baer). "My Blackbirds Are Bluebirds Now" (Friend). 9.30: The Albert Trio: A quarter of an hour's melody and wirth. 9.45: Alf Featherstone and his Dance Orchestra: One-steps, "Some Boy," "Ditty Dimples." 9.55: Harry Bordale (clouctonist): "Earthenware." "The Parson Advises His Flock" (Anon). "And Yet I Don't Know" (Weston Lee). 10.0: The "Daily Mail" news, the "Courier" news, weather news. 10.15: Alf Featherstone and his Dance Orchestra. Three-quarters of an hour's dance music. 11.0: Close down.

6WF

12.30: Tune in. 12.35: Markets, news, etc. 1.0: Time signal. 1.1: Weather bulletin, supplied by the Meteorological Bureau of Western Australia. 1.3: Report on the "Care of the Sick" by Dr. Winifred Holloway of London. 1.20: Music. 1.30: Close down. 3.30: Tune in. 3.35: Music relayed from the new Primrose Cafe de Luxe; vocal items from the studio. 4.30: Close down. 6.45: Tune in. 6.48: Bedtime stories for the kiddies by Encelia Duffy and Percy. 7.5: Light music by the Station Trio. 7.30: Commercial and general information. 7.45: Talk by Mr. H. McKall on "Popular Science." 8.0: Time signal. 8.1: First weather bulletin. 8.3: Haydn's oratorio, "Faslion," relayed from Wesley Church, Perth. Assisting artists: Miss Eastman, Messrs. R. Buchanan and C. L. Jenkins; organist and conductor, Mr. S. Craft. 9.0: Late news items, by courtesy of the "Newspaper Co. Ltd." station announcements; ships within range announcement; late weather bulletin. 9.15: Programme continued from Wesley Church. 10.30: Close down. 10.5: metre transmission—simultaneous broadcast on 104.5 m.c. programme given on 1250 metres, commencing at 6.45 p.m.

7ZL

MIDDAY SESSION.

Announcer: Jack Broadbent. 11.30 to 1.30: See Friday. 2.0: Close down. 2.30: Running description of Trial Handicap, six furlongs, run at Werribee Racecourse, Werribee, Melbourne, Victoria. 2.35: Close down.

AFTERNOON SESSION.

Announcer: Jack Broadbent. 3.0: Running description of the Jumpers' Flat, 9 furlongs, run at Werribee Racecourse, Victoria. 3.5: Records. 3.30: Description of the Werribee Handicap, 1 1/4 miles. 3.35: Musical selections. 4.0: Description of the Welter Handicap, 7 furlongs, Werribee. 4.5: Musical selections. 4.15: Readings from the "Illustrated Mail." 4.30: Description of the Rockleigh Plate, 5 furlongs, Werribee. 4.35: Close down. 5.0: Description of the Rockleigh Purse, 7 furlongs, Werribee. 5.5: Close down.

EARLY EVENING SESSION.

Announcer: Jack Broadbent. 6.10: Results of the Werribee races. 6.15: Musical selections. 6.30: Bertha Southey Brammall will tell a fairy tale to the wee folk: "The Fairy Witch of the Pile Hill" (part 4). 6.45: Musical selections. 7.0: Answers to letters and birthday greetings by Bertha Southey Brammall. 7.5: Musical selections. 7.10: W. E. Masters will entertain the wee folk on "Animals at the Seaside." 7.15: News service; railway auction produce sales, held at railway; weather information; Hobart Stock Exchange quotations; results of ladies' golf championships.

EVENING SESSION.

7.30: Geo. Nation will give a talk on "This Month's Sowings." 7.45: P. D. Reilly, hon. secretary of Tasmanian Amateur Boxing Association, will speak on "Australian Boxing and Wrestling Championships." 8.0: G.P.O. clock chimes the hour. 8.6: Recital of instrumental and vocal items by leading international. 9.45: News service; British official wireless news; railway auction produce sales, held at railway; mail notices. 10.0: G.P.O. clock chimes the hour. 10.3: Close down.

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Local Programmes, Thursday, March 28

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. 10.35: Studio music. 10.30: Last-minute sporting information by the 2FC Racing Commissioner. 10.40: Studio music. 11.0: "Big Ben." A.P.A. and Reuter's cable services. 11.5: Close down.

MIDDAY SESSION

Announcer: A. S. Cochrane.

12.0: "Big Ben" and announcements. 12.2: Stock Exchange, first call. 12.3: Official weather forecast; rainfall. 12.5: Musical item. 12.10: Summary of news, "Sydney Morning Herald." 12.15: Rugby wireless news. 12.18: A Dickens reading, by A. S. Cochrane. 12.30: Studio music. 1.0: "Big Ben"; weather intelligence. 1.3: "Evening News" midday news service; Producers' Distributing Society's report. 1.20: Studio music. 1.28: Stock Exchange, second call. 1.30: Studio music. 1.50: Last-minute sporting information by the 2FC Racing Commissioner. 2.0: "Big Ben." Close down.

AFTERNOON SESSION.

Announcer: Laurence Halbert.
Accompanist: Ewart Chapple.

2.30: Programme announcements. 2.32: Educational session for the schools; a short musical recital; a reading. 3.0: "Big Ben"; pianoforte reproduction. 3.15: Annie Sedger, mezzo-contralto. (a) "Autumn" (Mallinson), (b) "O Mio Fernando" (Donizetti). 3.22: Studio items. 3.35: Carlos Fakoia, novelty pianist. 3.45: A reading. 4.0: Annie Sedger, mezzo. (a) "If You Were in My Garden" (Benyon), (b) selected. 4.7: Popular music. 4.17: Carlos Fakoia, novelty pianist. 4.27: A talk by Rev. T. A. Walsh, S.J., "Edmund King: Tragedian." 4.42: Studio items. 4.45: Stock Exchange, third call. 4.47: Studio music. 5.0: "Big Ben." Close

EARLY EVENING SESSION.

Announcer: A. S. Cochrane.

5.40: The chimes of 2FC. 5.45: The children's session, conducted by the "Hello Man"; letters and stories; music and entertainment; talk on "Safety First." 6.30: Dalgety's market reports (wool, wheat, and stock). 6.40: Fruit and vegetable markets. 6.43: Stock Exchange information. 6.45: Weather and shipping news. 6.48: Rugby wireless news. 6.50: Late sporting news. 7.0: "Big Ben"; late news service. 7.10: The 2FC Dinner Quartette, conducted by Horace Keats, (a) "Sally of My Dreams" (Kurnell), (b) "Intermezzo" (Scott), (c) "Faust Ballet Music" (Gounod), (d) "Trees" (Rasbach), (e) "Tin Pan Parade" (Whiting).

EVENING SESSION.

Announcer: Laurence Halbert.
Accompanist: Ewart Chapple.

7.40: Popular music.
7.45: It is hoped that we will be able to arrange an interview with the eminent violinist, Erica Morini.
8.15: Frederick Todd, basso.
(a) "Shearing Song" (Woolmer).
(b) "You Along o' Me" (Sanderson).
8.22: Professor Von Hoffman, pianist.
8.34: A talk by C. Price Conigrave.
8.49: From the Capitol Theatre, Frederick Scholl at the Wurlitzer organ.
9.9: From the studio, to-night's competition.

Our Laughing Competition. In which artists participating will tell a story and laugh heartily at their own joke. Listeners are asked to judge who in their opinion is

the cleverest humorist, and the listener who forecasts the competitor most accurately will receive a prize.

9.30: Frederick Todd, basso.
(a) "The Last Call" (Sanderson).
(b) "Captain Mac" (Squire).
9.37: Professor Von Hoffman, pianist.
9.49: Bernice Patterson, popular vocalist.
9.53: From the Hotel Australia, Cec Morrison's Dance Band.
10.8: From the studio, Bernice Patterson.
10.15: From the Hotel Australia, Cec Morrison's Dance Band.
10.30: From the studio, late weather.
10.32: From the Hotel Australia, Cec Morrison's Dance Band.
10.57: From the studio, to-morrow's programme.
10.59: From the Hotel Australia, Cec Morrison's Dance Band.
11.30: National Anthem. Close.

Note.—To-night tests will be conducted by P.C.L.L. in connection with the forthcoming Council of the League of Nations. It is anticipated the programme will be received between 12 and 12.30 and listeners are invited to tune in for this unique transmission.

2BL

MORNING SESSION.

Announcer: A. C. C. Stevens.

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

MIDDAY SESSION.

Announcer: A. C. C. Stevens.

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

AFTERNOON SESSION.

Announcer: A. C. C. Stevens.
Accompanist: Kathleen Roe.

3.45: G.P.O. chimes; popular music. 3.50: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 4.0: From the studio Hilda McGilbray, soprano. 4.7: Talk, by Captain A. C. C. Stevens. 4.22: Ethel Law, contralto. 4.27: "Sun" news service. 4.34: Hilda McGilbray, soprano. 4.40: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 4.50: From the studio, popular music. 5.0: G.P.O. chimes. 5.15: Pianoforte reproduction. 5.30: Studio items. 5.37: Features of the evening's programme. Note: During the afternoon a description will be taken from the Royal Agricultural Showground—Wood Chopping Test.

EARLY EVENING SESSION.

Announcer: Basil Kirke.

5.40: Children's session; music and entertainment; letters and stories. 6.30: "Sun" news and late sporting. 6.40: 2BL Dinner Quartette, (a) "The Kingdom of Flowers" (Ringleben), (b) "Wedgwood Blue" (Ketel-

bey), (c) "Hungarian Rhapsody" (Liszt), (d) "Hungarian Rhapsody" (Liszt), (f) "Full Moon" (Woolmer), (f) "Sonky Boy" (Henderson), (g) "Hindoo Song" (Bernberg), (h) "In Old Granada" (Hadley). 7.7: Australian Mercantile Land and Finance C.'s report; weather report and forecast by courtesy of Government Meteorologist; Producers' Distributing Society's fruit and vegetable market report; grain and fodder report ("Sun"); dairy produce report ("Sun"); Weekly Traffic Bulletin. 7.25: Mr. Pim and Miss Paim 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 and Topical Chorus. 8.2: Marrickville Salvation Army Band. 8.15: Theadore Atkinson, baritone. Winner of the baritone section in the recent Radio Eisteddfod conducted by the N.S.W. Broadcasting Co., Ltd.—

"The Corporal's Ditty" (Squire).
(b) "Sea Road" (Wood).
8.22: Sketches by Zena and James Kendall. 8.34: Vincent Aspey, violinist—
(a) "Rondo" (Schubert).
(b) "Aloha-oe" (Lillulokalani-Kreisler).
8.41: Alicia Hayward, contralto—
(a) "Love is a Dream" (Pitt).
(b) "When Daisies Pled" (D'Arne).
(c) "Take Heart Till Spring" (Hudson).
8.48: Monologues by Charles Lawrence. 8.58: Marrickville Salvation Army Band. 9.3: Weather report.
9.4: Theadore Atkinson, baritone—
(a) "Drown of the Year" (Martin).
(b) "Devon for Me" (Oliver).
9.11: Vincent Aspey, violinist—
(a) "Tambourin" (Kreisler).
(b) "Swanee River" (Kreisler).
(c) "Poem" (Fibich).
9.18: Alicia Hayward, contralto—
(a) "Song of the Little Folk" (Coates).
(b) "High on the Sleepy Hills" (Loughborough).
(c) "The Star" (Rogers).
9.25: Marrickville Salvation Army Band. 9.40: Sketch by Zena and James Kendall. 9.52: Musical monologues by Charles Lawrence.
10.2: Marrickville Salvation Army Band.

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. 5.30: Children's Session by Uncle George. 7.0: Music. 7.30: Feature story. 7.40: Short talk by Mrs. Jordan. 8.0: Mr. Phil Couchman, cornet solos. 8.8: Miss Heather Kinnaird, contralto. 8.15: Miss Annette Kerr, violinist. 8.23: Mr. J. Sim Allan, baritone. 8.30: A humorous interlude by Mr. Jack Win and Mr. Heath Burdock. 8.35: Instrumental music. 8.45: Miss Forthy Stacey, soprano. 8.55: Miss Ada Brook, pianiste. 9.0: Weather report. 9.3: Address. 9.15: Mr. Phil Couchman, cornet solos. 9.25: Miss Heather Kinnaird, contralto. 9.35: A humorous interlude by Mr. Jack Win and Mr. Heath Burdock. 9.40: Miss Annette Kerr, violinist. 9.50: Mr. J. Sim Allen, baritone. 10.0: Miss Forthy Stacey, soprano. 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. 10.30: Close down.

**FULLER
ACCUMULATORS
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GILBERT-LODGE & CO., LTD.**

Interstate Programmes, Thursday, March 28

3LO

EARLY MORNING SESSION.

7.15 to 8.15: Set Friday.

MORNING SESSION.

Announcer: John Stuart. 11.0: 3LO's Differed Duties for the Daily Dinner. To-day's Radio Recipe: Asparagus Custard (to eat with cold meats). 11.8: Under the auspices of the Presbyterian Babies' Home, Lansdowne Street, East Melbourne, Macon L. E. Nesbitt will speak on "The Work and Needs of the Home." 11.20: Musical Interlude. 11.25: Mr. H. Moreland will speak on "Mothercraft." 11.40: Musical Interlude. 11.45: Miss B. Macaulay will speak. 12.0: Melbourne Observatory time signal. Express information: 12.1: Prices received by the Australian Mines and Metals Association from the London Stock Exchange this day. British official wireless news from Rugby. Reuter's and the Australian Press Association cables to-day. "Argus" news service. 12.15: Newmarket stock sales. Report of the cow market and the number of cattle trucked for next week's markets by the Associated Stock and Station Agents, Bourke Street, Melbourne. 12.0: Community singing, old-time choruses, transmitted from the King's Theatre, Russell Street, Melbourne. Conductor, Frank Hatherley. 12.40: Stock Exchange Information. 12.45: Community singing resumed. 1.45: Meteorological information. Weather forecast for Victoria, New South Wales, South Australia, and Tasmania. Ocean forecasts. River reports. Rainfall. 1.52: Close down.

AFTERNOON SESSION

Announcer: John Stuart. Accompanist: Agnes Fortune. 2.15: The Strad Trio. "Variations, op. 121" (Beethoven). 2.28: Signor Torre (tenor), selections from Italian opera. 2.35: Cecil Parkes and May Broderick (violin and piano). "Sonata, A Major" (Cesar Franck). Recitative, Fantasia. Allegretto poco mosso. 2.48: Jessie Shmith (contralto). "Death and the Maiden" (Schubert). "None but the Brave Heart" (Tschakowsky). 2.56: Frank Johnsons (cello), "Litanie" (Schubert). "Melody" (Chaprentier). "Menuet" (Becker). 3.4: Gaby du Valle (soprano), request items. 3.11: The Strad Trio. "Romance" (Hummel). "Spanish Dances, No. 2 and 3" (Mozzkowski). 3.21: Dr. Loftus Hills will speak on "The Topics of the Week." 3.26: Mr. Fritz Hart will speak to students of music. 3.31: Miss Frances Fraser will speak on "Some Lenten Lessons and their Origin." 4.5: The station orchestra. Selection "Queen Hill" (Gensler). 4.16: Gaby du Valle (soprano). "To Be Near You" (Coote). "My Hour" (Ernest Ball). 4.23: The station orchestra. "Three Lyric Pieces" (Grieg). "The Blind Lover" (Léty Keys). 4.50: Jessie Shmith (contralto). "Rosebud" (Drummond). 4.37: "Herald" news service. Stock Exchange Information. Special weather report for the benefit of listeners in the Redcliffe district. 4.45: Evensong, transmitted from St. Paul's Cathedral, Melbourne. 5.30: Acceptances and barrier positions for the Epsom races. to be held on Saturday. 5.35: Close down.

EVENING SESSION.

6.0: Answers to letters and birthday greetings, by "Bessie Blenheim." 6.25: Musical interlude. 6.30: "Bobby Blenheim" will amuse the children with songs and stories.

NIGHT SESSION.

Announcer: Renn Millar. Accompanist: Agnes Fortune. 7.5: Stock Exchange Information. 7.15: News service. 7.30: News service. 7.43: Birthday greetings. 7.41: Rod McGrew will speak on "Cricket." 8.15: The Radio Revellers. "Sally Rose" (Friend). "Sincerely I Do" (Davis). "The Prince Song" (Crumit). 8.24: Victor Harding (bass-baritone). "The Harvest Dance" (Batten). 8.27: The Radio Revellers. "Out of the Dawn" (Donaldson). "Mother, I Still Have You" (Julson). "Dream House" (Fosk). 8.36: Gwen Hart (soprano). "Pierrot" (Royster). 8.39: The Radio Revellers. "My Heart is Home" (Collin). "I Can't Do Without You" (Redlin). "I Just Jog Along" (Rose). 8.48: Alan Adcock (entertainer). "Daffy Ditties." 8.51: The Radio Revellers. "Glad Rag Doll" (Ager). "All by Yourself in the Moonlight" (Wallis). "I Love to Dunk a Hunk of Spongecake" (Castill). 9.0: Signor Torre (tenor). Selection from his repertoire. 9.3: The Radio Revellers. "Falling in Love With You" (Mays). "Cuejida" (Simon). "Just Like a Melody" (Donaldson). 9.12: Victor Harding (bass-baritone). "The Song of the Clock" (Burchell). 9.15: The Radio Revellers. "That's What You Shook Me" (Davis). "There's a Ricketty, Ricketty Tune" (Japanese Mammy" (Donaldson). 9.24: Gwen Hart (soprano). "Shy Mignonette" (Brabe). 9.57: The Radio Revellers. "Lena" (Gibbert). "That Stolen Melody" (Fisher). "Guess Who's in Town" (Raufl). 9.36: Alan Adcock (entertainer). "More Daffy Ditties." 9.39: The Radio Revellers. "My Dream Sweetheart" (Hall). "Old Man Sunshine" (Don). "Chiquita" (Wayne). 9.48: Signor Torre (tenor). Selections from his repertoire. 9.51: The Radio Revellers. "Tin Pan Parade" (Gillespie). "Who Knows?" (Dixon). "To-day" (Tomorrow. Forever" (Nichols). 10.0: "Argus" news service. British official wireless news from Rugby. Meteorological information. Announcements. 10.15: The Radio Revellers. "Some-

day. Somewhere" (Rapeel). "When Love Comes Sighing" (Rapeel). "High Up on a Hilltop" (Baer). 10.24: Victor Harding (bass-baritone). "Devotions Cream and Cider" (Sanderson). 10.27: The Radio Revellers. "Oh, Is She Mad at Me?" (Friend). "Mississippi Mud" (Harris). "There's a Rainbow Round My Shoulder" (Johnson). 10.36: Gwen Hart (soprano). "Love's Own Kiss." 10.39: The Radio Reveller. "That Melody of Love" (Donaldson). "Constantinople" (Carlton). "Maybe I'm Wrong" (Harris). 10.48: Alan Adcock (entertainer). "Oh, What a Night to Love" 10.51: The Radio Revellers. "Hum and Strum" (Meyers). "Lady of Love" (Nausbaum). "Mexican Serenade" (Toise). 11.1: The Radio Revellers. "In My Bouquet of Memories" (Lewis). "Pansies" (Nichols). "Sweet Forget-me-not" (Lorenzo). "Oh, Isabella" (Schuster). "Casablanca" (Evans). "My Blackbirds are Bluebirds Now" (Friend). "The Kink-a-Jou" (Tierney). "Rio Rita" (Tierney). Selected. 11.30: God Save the King.

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. 10.55: "Age" news service, exclusive in 3AR. 10.59: Weather forecast. 11.0: A special gramophone recital of orchestral and vocal chefs d'oeuvres of Russia, Poland, and Hungary. 12.20: British official wireless news; announcements. 12.30: Close down.

AFTERNOON SESSION

Announcer: Maurice Dudley. 3.0: Gramophone recital. 3.30: The Imperial Russian Trio (Arved Norrit violin, Ivan Berzinsky cello, and Vassili Ilster piano). "Trio in E Flat Major" (Beethoven). "Allegro, (b) Adagio cantabile. "Duet" (Mendelssohn) selected. 4.0: Gramophone recital. 4.30: Close down.

EVENING SESSION

Announcer: Frank Hatherley. 6.0: Gramophone recital, the master vocalists and violinists. 7.15: News service; announcements; acceptances and barrier positions for Epsom on Saturday. 7.30: Gramophone recital; continued.

NIGHT SESSION

Announcer: Frank Hatherley. Accompanist: Reg. Brown. 8.0: Dr. Loftus Hills. "Life's Facts and Fancies." 8.15: Under the auspices of the Nurserymen and Seedsmen's Association of Victoria, W. R. Warner will speak on "Permanent Garden Features" (continued). 8.30: The Station Orchestra, overture. "Sakuntala" (Goldmark). 8.40: Bessie Banks, soprano. "Dream Trust" (Cadmian). "The Four-leaved Shamrock" (Russell). 8.47: The Station Orchestra, "Serenade" (Szerowny). "March of the Dwarfs" (Moszkowski). 8.52: James Hay, baritone. In selections from his repertoire. 9.2: The Imperial Russian Trio (Arved Norrit violin, Ivan Berzinsky cello, and Vassili Ilster piano). "Trio in E Flat Major" (Beethoven). (a) Allegro assai. (b) Finale presto. 9.16: Bessie Banks, "Sweet and Low." "Lisette." 9.22: Transmission from Auburn Methodist Church, concert by the Auburn Methodist Church Choir (under direction of Sutton Crow); J. Sutton Crow, organ solo. "Andante" (Baptiste Calkin); Alan Eddy, baritone. "Star of Eve" (Wagner); Sybil Shaw, contralto. "He Was Despised" (Handel); J. Sutton Crow, organ solo. "Andante in E Minor" (Battiste); Alan Eddy, baritone. "On Wings of Song" (Mendelssohn); Sybil Shaw, contralto. "Abide With Me" (Liddle); J. Sutton Crow, organ solo. "Overture in D" (Dubois). Alan Eddy, baritone. "Wanderer's Night Song" (Schumann); Sybil Shaw, contralto. "Like as a Hart" (Allitsen); J. Sutton Crow, organ solo. "Pilgrim's Chorus" from "Tannhauser" (Wagner). 10.22: "Age" news service, exclusive to 3AR. "God Save the King."

4QG

EARLY MORNING SESSION.

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

MORNING SESSION.

Announcer: Rita M'Auliffe. 11.0: Music. 11.5: Social news. 11.15: Gauding talk by "Tecoma." 11.30: Music. 11.35: More social news. 11.45: Music. 12.0 (noon): Close down.

MIDDAY SESSION.

Announcer: R. Wright. 1.0: Market reports and weather information. 1.15: A lunch-hour address. 2.0: Close down.

AFTERNOON SESSION.

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

EARLY EVENING SESSION.

Announcers: H. Humphreys and A. V. James. 6.0: Mail train running times, mail information, shipping news. W. Wulizer, "Walter's Courier." 6.30: Bedtime stories conducted by "The Sandman." 7.0: News in brief. 7.5: Stock Exchange news. 7.6: Metal quotations. 7.7: Market reports. 7.5: Fenwick's stock report. 7.30: Weather information. 7.40: Announcements. 7.45: Standard time signals. 7.45: Lecture; "Travel in Queensland," by Mr. H. W. Mobsby (Government Artist and Photographer).

"Travel in Queensland," by Mr. H. W. Mobsby (Government Artist and Photographer).

NIGHT SESSION.

Announcer: A. V. James. 8.0: A classical entertainment by "The Richmond Party." Hilda Bennett (violinist). "Tambourin" (Leclair). Mrs. W. F. Hamilton (mezzo-soprano). "Far Greater in His Lovely State" (from "The Queen of Sheba," Guonod). Jack Ellis (pianist). "On Wings of Song" (Mendelssohn-Liszt). Hilda Cooper (contralto). "Ave Maria" (Schubert). Hilda Bennett (violinist). "Berceuse" (Antonio de Grassi). Mrs. W. F. Hamilton and Hilda Cooper: Vocal duet, "Nocturne" (Denza). Jack Ellis (pianist). "Whims" (Schumann). "Dream Visions" (Schumann). Mrs. W. F. Hamilton (mezzo-soprano). "His Lovely Are Thy Dwellings" (Liddle). Hilda Bennett (violinist). "Mazur" (Mlynsarki). Hilda Cooper (contralto). "Might Like a Rose" (Nevin). Jack Ellis (pianist). "Lies, Op. 34" (Chopin). Mrs. W. F. Hamilton (mezzo-soprano) Selected. Mrs. W. F. Hamilton and Hilda Cooper: Vocal duet selected. 9.0: Meteorological weather forecast. 9.1: Movements of travelling dental clinic. 9.20: A Thought for To-night (Willi H. Klier). "Labor and its Reward." 9.37: Alan Walsh (soprano). "Sorter Miss You" (Smith). "Rose in the Bud" (Foster). 9.13: Foo Toot (cellonist). "A Bunch of Roses." "Atoins" (Season). 9.22: Doris M'Innes (soprano). "The Pipes of Pan" (Monckton). "I Have My Love" (D'Herdelet). 9.30: A recital of electrically-reproduced records. 10.0: "Gargyle" will talk to motorists on "Costs." 10.10: The "Daily Mail" news, the "Courier" news, weather news. Close down.

7ZL

MIDDAY SESSION.

Announcer: Jack Broadbent. 11.30 to 1.30: See Friday last. 1/4 1/4 1/4 1/4

AFTERNOON SESSION.

Announcer: Jack Broadbent. 3.0: G.P.O. clock chimes the hour. 3.1: Record. 3.4: Weather information. 3.5: Records. 4.15: A representative of the Child Welfare Association will speak on "Learning Our Language." 4.30: Close down.

EARLY EVENING SESSION.

Announcer: Jack Broadbent. 6.15: Records. 6.25: "The Story Lady" will tell a story to the little ones. 6.40: Records. 7.0: Answers to letters and birthday greetings by "Uncle David" (Lehar). Robert Radford, bass. "Rocked in the Cradle of the Deep." 7ZL Alla Polacca Orchestra, barn dance. "Rinking" (Poole). Edna Thornton, contralto. "Flower Song." "Must" (Gounod). 7ZL Alla Polacca Orchestra: Quadrilles. "Selected." Marj Kurenko, soprano. "Cradle Song" (Tschakowsky). 7ZL Alla Polacca Orchestra: Veleta. "Masquerade" (Kessler). Kirby Lunn, contralto. "Boat Song" (Stanford). 7ZL Alla Polacca Orchestra: "Varsoviana." "Varsoviana." Crell Schottische. "Selected." Signor Torre (tenor). 7ZL Alla Polacca Orchestra: two-step. "Denham" (Cowway). Elsie Baker, contralto. "Home, Sweet Home." "Bishop." 7ZL Alla Polacca Orchestra: Highland Schottische. "Selected." Elsie Baker, contralto. "Old Folks at Home" (Foster). 7ZL Alla Polacca Orchestra: Waltz. "Blue Danube" (Strauss). Thomas Thomas, tenor. "The Message" (Blumenthal). 7ZL Alla Polacca Orchestra: Lancers. "Song of the Soldier." Peter Dawson, baritone. "The Dearthless Army." 7ZL Alla Polacca Orchestra. 6.25: Com. Schottische. "Honey Bees" (Richmond). De Reska Singers: "Annie Laurie" (Strauss). 7ZL Alla Polacca Orchestra: Waltz. "Honey Moon." 10.0: G.P.O. clock chimes the hour. 10.1: News service: British official wireless news; Tasmanian district weather report; close down.

EVENING SESSION.

Announcer: Jack Broadbent. 7.30: Under the auspices of the "Come to Tasmania" organisation; C. S. Beilford will speak on "The Tasmanian Hotels." 7.45: R. Darcy, vice-president of the Tasmanian Amateur Athletic Association, will speak on "Tasmanian Championships." 8.0: G.P.O. clock chimes the hour. 8.6: Records. 8.15: 7ZL Alla Polacca Orchestra: Waltz. "Merry Widow" (Lehar). Robert Radford, bass. "Rocked in the Cradle of the Deep." 7ZL Alla Polacca Orchestra, barn dance. "Rinking" (Poole). Edna Thornton, contralto. "Flower Song." "Must" (Gounod). 7ZL Alla Polacca Orchestra: Quadrilles. "Selected." Marj Kurenko, soprano. "Cradle Song" (Tschakowsky). 7ZL Alla Polacca Orchestra: Veleta. "Masquerade" (Kessler). Kirby Lunn, contralto. "Boat Song" (Stanford). 7ZL Alla Polacca Orchestra: "Varsoviana." "Varsoviana." Crell Schottische. "Selected." Signor Torre (tenor). 7ZL Alla Polacca Orchestra: two-step. "Denham" (Cowway). Elsie Baker, contralto. "Home, Sweet Home." "Bishop." 7ZL Alla Polacca Orchestra: Highland Schottische. "Selected." Elsie Baker, contralto. "Old Folks at Home" (Foster). 7ZL Alla Polacca Orchestra: Waltz. "Blue Danube" (Strauss). Thomas Thomas, tenor. "The Message" (Blumenthal). 7ZL Alla Polacca Orchestra: Lancers. "Song of the Soldier." Peter Dawson, baritone. "The Dearthless Army." 7ZL Alla Polacca Orchestra. 6.25: Com. Schottische. "Honey Bees" (Richmond). De Reska Singers: "Annie Laurie" (Strauss). 7ZL Alla Polacca Orchestra: Waltz. "Honey Moon." 10.0: G.P.O. clock chimes the hour. 10.1: News service: British official wireless news; Tasmanian district weather report; close down.

Visiting Amplion Man

AN interesting radio personality arriving by the R.M.S. Oronsay in Sydney on March 27 is Mr. Cappelaeere of Graham Amplion, Limited, Slough, England. Mr. Cappelaeere is on the technical staff of Graham Amplion, Limited, and is on a visit to Amplion (A'sia). Limited, to assist in placing the new Amplion Lion speaker on the Australian market. This new speaker is said to be nothing short of marvellous, and caused quite a sensation at the Radio Exhibition at Olympia last season. Mr. Cappelaeere will no doubt have many matters of interest to radio fans, and we look forward to his arrival.

The WIRELESS WEEKLY

RADIO INFORMATION

Under the direction of

Ray Allsop

and

Don B. Knock

Associate Technical Editors

Correspondence Answered

only through

these

Columns

(See Coupon Below)

Service

Mr. T. Kugler, "Orings," 619 Anzac Parade, Maroubra, who so kindly gave us particulars of his receiver, which appears in our columns, designated "The KUG Crystal Receiver," writes:—"Since you published my crystal set—The Kug—I have had some very funny letters and queries in reference to it. Most of the letters are just addressed as follows:—L. M. Kugler, Maroubra. They all find me, I am well known by the postal people. I have had letters from all over Australia, as far north as Maryborough, Queensland, and south as far as Geelong, Victoria; West as far as Bourke. I am waiting for one from New Zealand, and that will complete the four points of the compass. I had better not tell you what some ask for, but the moon is just as easy to obtain as some of the things they expect from a crystal set. However, my objects in these lines are these:—(1) That you publish this and my address, so that anyone wanting any information in reference to the set will be able to obtain same from me, providing they send a stamped addressed envelope. (2) That since the publication of the article, I have personally tried three different sets in the following places:—(a) Maroubra, via Sutherland, (b) Katoomba, (c) Manly—and they have done all that could be expected of a crystal set. (3) That no one calls personally unless an appointment be made by me, as I work a.m. and p.m. shifts. I do not want people coming long distances to find I am not home, to their own disappointment. Trusting this is fair to the most exacting."

W.E.C. (Bankstown).—"Will a 60w. bell-ringing transformer (as suggested in your 'trickle charger' placed before the dry rectifier advertised by a certain radio firm in Sydney work as a trickle charger and replace the slop jar?"

Answer: Yes, this is quite O.K.

(2) "The charger works O.K., as you stated, but the electrodes are a nuisance, and I would like to replace with a dry rectifier."

Answer: The dry rectifier will require no attention.

W.B.D. (Deniliquin): "I am a newcomer to both wireless and the WIRELESS WEEKLY, but already I have benefited by reading your paper. Best wishes for success. I have noticed in many of your answers that the ear-speaker cords should be connected in separately. In a set using a plug, into which both cords are connected, does this affect the speaker? If so, what is the remedy? Please answer through your paper."

Answer: It is not necessary to connect the speaker tags separately. Perhaps you refer to an article by myself in "Radio," titled "Errors Made by the Amateur Constructor," wherein I mentioned that it was necessary for the speaker leads to be connected properly, one lead being taken to the plate of the valve (through the plug) and the other to B plus. In the article I explained how it was possible to find out which side of the plug was connected to B plus. This part of the article is reprinted here for your benefit. See also Fig. 1.—"If the speaker is connected the wrong way round it will soon become demagnetised, causing loss of volume. Only yesterday I answered a query in connection with this matter. The correspondent said, 'I saw your advice re connecting the speaker the right way round. Usually we test for the correct way by changing the leads about, but on my speaker there is no difference in sound. Unfortunately I cannot make certain which lead travels from 'B' positive to that terminal on the plug, as my plug is so constructed that I cannot open it to see whether the point or shaft connects to the left-hand terminal.' The writer was advised to make a simple test with his 'B' battery. He was told to connect the B positive lead to the knob of the phone plug, and the 'B' negative lead to the shaft of the plug, then invert the plug and place it in a glass of salt water, so that the two terminals are immersed. You will see that one terminal gives off tiny bubbles, and this is the one that is connected to 'B' negative. See Fig. 1."

R.W.S. (Belmore).—"Re 'Wireless Weekly,' dated 5/3/29, can you tell me if the Marnock is better than the Martin screen-grid five?"

Answer: The capabilities of the two receivers are equal.

(2) "Could you give circuit in your columns?"

Answer: The circuit of the Marnock appears in these columns.

(3) "Also give me a one-valve Reimartz circuit."

Answer: Sorry, but we must limit your block to one, as space for the next few months at least will be scarce.

Mr. E. Rickard, 11 Hinks Street, South Kensington, asks us to make a request for a copy of WIRELESS WEEKLY, containing the Screen-Grid Martin Five, on the usual arrangements.

General: Readers who have been endeavoring to

obtain back numbers containing "Proving Radio" articles, will be pleased to hear that a limited number of copies from December 28 are now available.

R.G.M. (Hendemeer).—"Would you please tell me if it is possible and advisable to use screen-grid valves in the R.F. stages of a superhet?"

Answer: Proposal quite in order, and will result in increased amplification on distant stations.

(2) "Is an experimental superhet, practicable, and would it be as efficient as other sets appearing in WIRELESS WEEKLY?"

Answer: Quite.

W.G.I. (Ipswich).—"Congratulations on your excellent paper, which I take every week. Why not get Palling's or any other musical firm to publish a weekly list of records suitable for an electrical reproducer? Professional men do not get time to run out and listen to a batch of records so that they can select a few. The choice submitted could cover drama to comedy, and grand opera to jazz."

Answer: Everything from everything leaves nothing as it were! Anyway, your proposal is being considered, and we hope to be able to oblige very shortly.

(3) "If the circuit referred to in another part of my letter will give me inter-State stations on the speaker—in Queensland—where we are murdered with static, then it should be the 'ant's pants' in good old Sydney."

Answer: Suppose you send us a copy of the circuit. We shall use it if it is considered worth while.

F.A. (Bondi).—"When the speaker sings it makes a noise in the house, but the noise isn't much trouble, though it worries me a lot. But the set doesn't squeal like a cat, as my brother does, though I wish it would not, because when he does I wake the baby."

Answer: What did you say? How old is the baby?

A.R. (Darlinghurst).—"I would be very grateful if you could put me in touch with anyone who has a copy of a Harkness Reflex Two-Valve, layout and circuit, and the Harkness Reflex Three. I will gladly pay for these copies and also for postage."

Answer: Perhaps some reader may be able to help. Name and address—Audrey Robertson, 67 Womera Avenue, Darlinghurst.

(2) "I have already built such a set and would like to know if it is possible to get inter-State on the speaker. I can get Melbourne very faintly on the ear-phones after 11.30 p.m., but that's all. I am using a 409 and a B406, and all dry batteries. How can I improve matters? Wishing your paper no end of luck, and thanking you for your kindness."

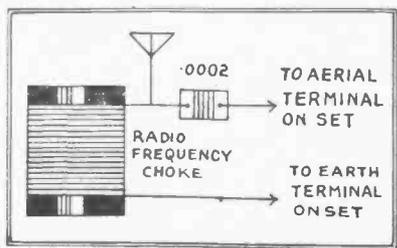
Answer: You cannot expect speaker reproduction of inter-State stations on two valves, and everything must be very efficient to get fair speaker strength on three valves. Also your locality must be favorable, but your locality (near the city) is not favorable, but you could increase the ear-phone volume by making the set into a three. Thanks for your kind remarks.

A.H.F. (Rozele).—"Would you let me know if it is possible to obtain a new lease of life out of old 'B' batteries by means of sal-ammoniac?"

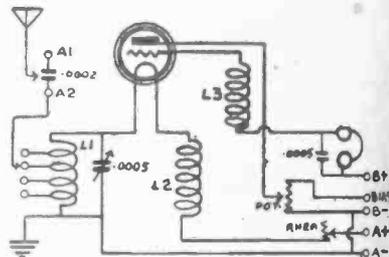
Answer: Yes, providing the batteries have still a little life in them. You cannot revive a dead person, but it is usually possible to revive a very sick one.

(2) "If so, what is the procedure?"

Answer: Test batteries first with a volt-meter. If



J.C.C. (South Coast) and local readers who are troubled with electrical interference, build this interference eliminator. (See also next batch of queries—next week). Wind 100 turns 24 gauge wire on the former.



An Old Favorite—the Filadylne One-valve. L2, 70 turns 22 gauge wire on three-inch former. Space 3-8 inch, and wind L3, 30 turns 30 gauge wire, in same direction. L1, 60 turns 22 gauge wire.

45-volt batteries show less than 20 volts, discard them as useless. Sixty-volt batteries should show at least 25 volts, and 22½-volt batteries should not read less than 10 volts. Remove the cardboard covering the battery, and in the bottom of each cell pierce a hole. Stand the battery in a porcelain dish filled with sal-ammoniac for twenty-four hours, then remove, wipe off surplus moisture, and invert the battery whilst sal-ammoniac soaks into the active mixture. Whilst this is taking place, seal up the bottoms of the zinc cells with solder, and replace the cardboard cover, or use an old cardboard box. It is possible, in this manner, to rejuvenate batteries so that they show almost a full voltage reading.

F.O.L. (Glebe Point).—"Will you please advise me of a good selective crystal circuit?"

Answer: Build the Kug crystal receiver which appeared recently in this paper.

True Blue (Power-Plus Valves used a few years ago?).

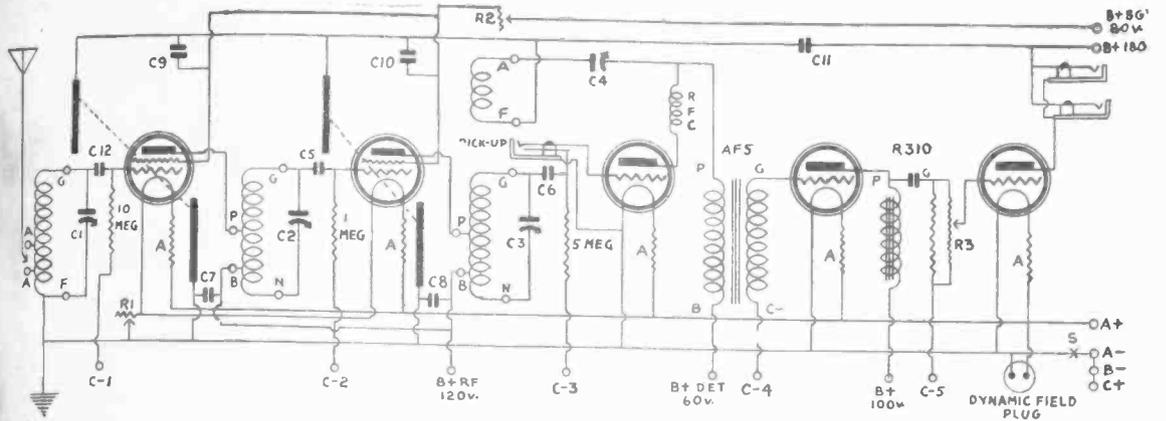
Answer: Not to my knowledge.

(2) "My set is in a corner of a verandah, which is enclosed in Fibrolite sheet. Has this any shielding effect on the set, or is it capable of absorbing energy?"

Answer: The answer is "No" x 2. Shielding effect is caused mainly by large buildings which contain (necessarily) a large amount of iron and steel, or by large masses of other conductive material. The "needle and magnet" experiment in "Proving Radio" will demonstrate the point. Imagine the magnet (as a radiator of energy) to be the transmitting station, the glass as the intervening medium, and the needle as your receiver. You will find if you insert a piece of fibrolite in place of the glass, that its presence will not affect the operation of the magnet and needle. If, however, you place a sheet of iron or steel in place of the glass, you will see that it has a shielding effect. Is that quite clear?"

(3) "I am 19 years of age, and wish to qualify as a wireless operator, marine or otherwise, and, later, to study radio engineering. What are the prospects in Australia now? What openings are there in the radio game for keen young men?"

Answer: You are taking a large bite into the pie of life. My advice is—mind you don't choke. You see, it is one thing to be a mere radio operator and quite another to be a commercial operator. One must have special qualifications to hold a commercial certificate, and it takes years of study unless you learn quickly. There would be more openings for you in the radio engineering line than as an operator. This branch is pretty well overcrowded now, and there are always a few hundred waiting to jump into the vacant job. You would have to wait with the rest, and this wait, coupled with the time and expense of long study, would hardly pay you for the immense effort which would be required. If you joined the Maroon School of Wireless you would have an additional chance of obtaining a position as operator on board ship or one of the island stations, but you would have to wait your turn just the same. The course costs £50, and £10 deposit is required. Suggest you take your time, study "Proving Radio," and keep your eyes open for a position with some radio firm, where you could make radio your job



The Maincock Five, a very good, all-round receiver, the circuit of which is required by A. K., Woodrich, and other readers.

as well as your hobby. You must have practical experience with all kinds of radio apparatus before you can be a success. Not all of us can afford to buy the latest creations in radio.

R.H.F. (Queensland): "I have recently built the improved Reinartz, and it is the finest three valve I have ever had anything to do with. All Interstate stations come in excellently on the speaker. The tuning range is from about 220 metres to 465 metres, it covers a lot of the amateur wave length band. I have received 23 stations on this set mostly on the speaker. At 8 p.m., Sunday, March 17, I picked up KNX, of Paramount Studios, Hollywood. Do you think I could do better with the Penavox?"

Answer: Yes, build the Penavox. If you can get such good results with the Improved Reinartz you should be able to do better still with the Penavox.

S.J. (Cremorne): "Being an amateur set-builder, I am naturally interested in 'Proving Radio,' and would like very much to join the Willoughby Club." **Answer:** Welcome. A club is being formed at Cremorne, so this will save you coming to Willoughby. The organising secretary will get in touch with you. See also below.

S.R.D.S. (Cremorne): "While reading through the districts in which 'Proving Radio' clubs have been formed I was greatly surprised to find that Cremorne was not in the list. Now, Cremorne radio fans, why not start a club here—we can, I am sure, find those interested in forming a club meet on Friday, March 22, at 'Plats,' 117 Milson Road, Cremorne, at 7.30 p.m., and see if a club can be started, this falling into line with other districts." **Answer:** Welcome, Mr. Sherwood. You will note I took the liberty of altering the date of the meeting to the 22nd, as your letter arrived too late for publication in last week's issue. See the letter published above yours.

J.M.B. (Coff's Harbor): "Would you kindly let me have full particulars of the 'Proving Radio Club'?" **Answer:** I have spoken to several of our local listeners, and they are all in favor of starting a club, and I will write for particulars. You could pass this letter on to any of the clubs, so that they could let me know how their meetings are conducted."

Answer: I am sending you a letter. Your request was handed to the Organising Secretary, Mr. C. Y. Hook, 22 Argoville Street, Dulwich Hill, who personally attends most meetings, and will be able to explain the usual procedure. Welcome to you and other members. Please send me a report of your meeting, together with a list of members. This applies to all clubs, newly formed or otherwise. Certificates will be issued shortly.

General: In queries recently reference was made to special cone-speaker paper, cut to size, etc. Prepared by Segal and Co. In error, the addresses should have been 127 Fort Street, whereas this should have been York Street.

General: Many readers have written regarding the recent rectifier-charger in which a 40 watt lamp was used to break down the current, and a chemical rectifier changed the A.C. to D.C. The trouble seems to be that the diagram is not quite clear. Termination with T1 and T3 seem to have no actual connection, and it is not clear. Termination with T1 is the terminal placed on one end of the support and to this terminal is connected one side of the lamp and one side of the mains. The reason why this terminal was placed on the support and placed over the rectifier drawing, it would have been blown out the connections. Actually there is no connection to terminals T2 and T3. These terminals are used to support the leads, as otherwise they may become dangerous.

D.G.C. (Willoughby): (1) "Is the enclosed circuit for a rectifier correct? If so, what is the terminal to be connected to the negative terminal of the battery to be charged. The other side of the mains to one side of a 40 watt lamp, and the remaining

side of the lamp to the lead plate of the rectifier. From the aluminium plate of the rectifier to the positive terminal of the battery to be charged."

Answer: I want to build the Marco Four, and have a 00055 variable condenser. How can I use this in the circuit? Congratulations on 'Proving Radio.' **Answer:** Use this condenser for reaction. It is advisable to use the condensers specified in the Marco, though in this case, i.e., the reaction, this is not important.

J.S. (Walthamstow): "This is not a Safety Valve letter, because it concerns fans interested in radio components. Can you answer this: Why is it that local dealers do not seem to like the idea of collecting radio batteries in a car or lorry when they are paid for this service? Is it owing to danger from the acid, or is it because the accumulators might become damaged?"

Answer: No, probably because they would get too 'tyred'. The trouble is that if you are some distance from a battery station the usual fee of 2/- for collecting, charging, and delivering a battery would hardly pay. This is especially so in your case since you live a mile from the nearest garage. Offer your garage man a shilling or sixpence more and see if that does the trick.

G.E.D. (Bond): "What is the wave length of 2KAF?" **Answer:** 32.4 metres.

A.S.C. (Glennies Creek): "I am building the Marco Four receiver published in 'Wireless Weekly' some time back. Could I use the short wave converter, published in 'Wireless Weekly,' February 22, with this receiver? Would I have to use different coils? How would I connect the adaptor to the receiver?"

Answer: Adaptor can be used with any circuit containing audio stages as only this part of the receiver is used. Short wave coils will be necessary for the adaptor. Remove the R.F. valve from your Marco and lay it on one side. Remove detector valve and place it in detector socket of adaptor. Place adaptor plug in the Marco detector socket. Tune the adaptor only.

New Reader (Victoria): "The prefix K on short wave stations shows American localities. The station from your Marco and lay it on one side. The other call signs wrongly, for there are no such stations."

G.R.T. (Stockton): "Please, PLEASE, repeat queries when writing about them."

L.H. (Pymble): "Drake's Radio Encyclopedia, James's Book on Valves and Components. The subject will be well treated in 'Proving Radio' in good time."

S. A. Greene (Adamstown): writes: "Could you please insert a S.O.S. for two copies of 'Wireless Weekly' containing 'Proving Radio.' I cannot get them anywhere here. If any reader can supply I shall be pleased to pay for it. I will also willingly pay if the reader merely cut out the 'Proving Radio' part and forwards it to me. If one does not get his 'Wireless Weekly' here on Thursday night, he does not get it at all. I am only a novice, but willing to learn, and I value the information in your paper. The two copies required are dated January 11 and February 22, 1929. I have all back numbers for two years with the exception of the two copies mentioned. The address is 53 Glebe Rd., Adamstown."

Answer: Glad you like "P.R." Here is your request. If you do not manage to get the copies required, let me know.

J. P. Menary, (Belair, Wex Wash), writes: "I have about two years (1927 and 1928) copies of 'WIRELESS WEEKLY,' and if they are of any use to you I shall up and send them along. I often see inquiries for back numbers that you do not have, and thought that if you had my lot you could supply copies to inquirers. I do not need payment for them, except perhaps the freight."

Answer: It's very good of you, Mr. Menary, but, of course, we couldn't accept. You will help tremendously, though, if you can supply some of our readers with back numbers, such as the person inquiring above.

A.W. (Belmore): "Another stage of audio could be added to the Samson Two. You say you had no results. Sorry, but I cannot help you, as you did not adhere to our constant request for a dia-

gram in such cases. You probably wired wrongly. The pick-up unit will work, but it is not very efficient. Tone and volume are poor. You will need at least two stages of audio to get any results."

F.P. (Wallerawang): "This cannot be done, as the voltage is too high. As it is, D.C., this voltage cannot be stepped down. You will require about 12 volts D.C. at 2 amps."

D.C. (Coonamble): "The insolent letter from 'W.B. (Rozelle), whom your query answered 'replied to last week (WIRELESS WEEKLY, 22/2/29) is certainly enough to raise the ire of any fair-minded person, and had I the job of answering his epistle—well, most likely, I would have ignored it, or given an equally caustic reply. Allow me to hand you a bouquet for your most tactful and patient reply, which, I dare say, after all, will serve a far better purpose than my idea. In making him realise how uncalled for were his remarks. Your journal has been nothing more nor less to me than a library of useful information; so much so, that I have been saved the bother of writing you several times, simply by reading your replies in the Information Columns. This ought to be published as a deterrent to others, and also help to elevate the intelligence of such an ignorant individual as W.B.—W.B. is a chap from Rozelle. He hasn't got brains—you can tell. The style of his letter proves he doesn't know better. So consign all his letters to 'Have an Aspro, Ed!' or 'Answer: It is not our policy to ignore letters. We find that a frank statement of readers' views, and also of our views, proves to readers that we are wholly at their service. We are hoping to receive W.B.'s queries shortly."

A.D.V. (Christchurch) writes: "I may interest you to know that I have built and used for some time the short wave set called the 'Go-Getter,' published in 'Radio,' December 15, 1927. It has worked most successfully up to the present time. I can get on the speaker, not very loudly, but quite plainly, London, Nauen, Berlin, Rfn, 3ME, 2ME, RGRB, PCI, WXAF, WXAD, but I would like something, a little better. Could you supply me with blue prints of a four-valve S.W. set, which consists of screen grid valve, detector, and two stages of amplifier. I will forward price on receipt of your answer."

Answer: Something better! Mon—air ye a canny Scot? But you can try the screen grid K.F. Short Wave Four. We can supply the copy, but not blue prints. Colville-Moore have blue prints.

M.W. (Ultimo): "Try a midget condenser in the aerial lead, and try altering the direction of your aerial. You say 'I don't like hard work!' Well, you seldom get anything for nothing, and when you do, that 'anything' is not worth much."

QUERY COUPON

If you are in difficulties about reconstruction or set-construction, let us know, and we will endeavor to see you right. Make your queries 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 answer the accompanying queries in the information service department in this coupon in order to indicate that I am a bona-fide reader.

L.J.K. (Duntronn).—The hum should not be present if you have paid attention to my previous remarks. Remember that the Eastlake Power House is right opposite you. Run your aerial at right angles to the power main that passes near your house. Perhaps one of the professors is using an electrical contraption in the laboratory. Have you tried another receiver, or asked others if they get interference? Have you tried "B" batteries, proving conclusively that the fault is in the eliminator. If the receiver is O.K. with dry batteries, the fault may lie in the rectifier, which may be passing through a certain amount of A.C. This would cause the hum of which you complain. If the receiver still hums when dry batteries are used, look to your grid circuit, which is open somewhere. Try another valve in the detector socket. Try another grid condenser and another leak. The speaker mentioned is O.K. It is not necessary to use the tapping mentioned. The test carried out by you indicates that the coil is picking up interference. If all other remedies fail it will be necessary to completely shield the coils and the whole receiver. I understand you have properly shielded the R.F. stage? Half shielding is worse than useless. Do not leave any air gaps. Try also reversing the position of the detector and R.F. valve. Try a general purpose valve in the power socket. Kind regards. Thanks for kind remarks. The interference may be caused by Paddy at the Canteen!

I.B.F. (Wahroonga).—The transformers are too close. If you cannot move them farther away from each other, place them at right angles. The copies required have been sent you. Circuit of a "B" eliminator will appear in these columns shortly. Try a midset condenser in the aerial lead. Thanks for kind remarks.

J.O.L. (Gulldford).—The station who referred to "America, Virginia, and India," was the German station at Berlin.

All Wave (Rockhampton).—Dead spots in tuning on a short wave receiver are usually caused by a long length of aerial. Increase the aerial coil coupling, and reduce length of aerial, or place a fixed condenser in the aerial lead.

K.J. (Summer Hill).—The Marco will not be strong enough for your requirements. You will need a Screen Grid receiver of five or six valves, and even then you cannot always hope for daylight reception of the Inter-State stations mentioned.

Beginner (Inverell).—The transformers may be used without alteration to the wiring. The valves will also be O.K.

E.J.H.C. (Brisbane).—According to your issue, February 22, Radio Information Service, page 54, an-

swer to question No. 6 by W.B. (Rozelle, you state inter alia "We always welcome healthy criticism."

Answer: This is so. (Wonder what's coming).

2. "Here's mine. About the end of December I went to the trouble to give you good folk authentic information regarding Japanese Radio stations, which you duly acknowledged by letter (thank you), but you haven't passed the information along to your readers, via list of stations on page 30, which still shows the old wavelengths of the Japanese stations."

Answer: Your letter went to a different department, but I'm not making excuses. If you will be good enough to forward the information, c/o this service, and give me some proof that the information is authentic, shall be pleased to have the alterations made, and at the same time thank you for advising us. We must of course, be certain that the alterations you mention are correct. The wavelengths stated by us were in a list received direct from the Japanese stations. The list took me about three weeks to compile, and only information known to be correct was included.

3.—"That's the only grouch."

Answer: That's not a grouch! That's what we call helpful criticism.

4. "Thank you, otherwise I quite agree with G.V.T. (Melbourne) on page 54 in all that he has to say congratulatory about your excellent wireless journal."

Answer: Thanks. And thanks for the coupon also.

J.C. (Rozelle).—The valves mentioned will be quite O.K.; a good selection, in fact. Yes, Philips transformers may be used. No output transformer is necessary, but is advisable when a high voltage is being used on the audios, as it protects the speaker by stopping the direct current flowing through the speaker windings. If a voltage surge steps up enough current to burn out a winding, only the primary of the output transformer will be damaged, thus saving the windings of the speaker. By placing a switch on the panel or at the back of the set (a D.P.D.T. switch), the aerial and earth leads could be made to switch over to the top and bottom of the detector stage coils, thus cutting out the audio stage. The R.F. stage rheostat should, of course, be turned right down. You can use the Emmcostad instead of the Royalty resistance if desired. Both are good components.

2. "I wrote you a few weeks ago but received no answer. I noticed in this week's 'Wireless Weekly' that W.B., of Rozelle, complains of the same things, so the local post office is most likely the cause."

Answer: I shouldn't think so, but this may be the case. The fact remains, I haven't seen your first letter. It was well that you repeated your queries.

3. "I think the new 'Wireless Weekly' is great, especially the 'Proving Radio' articles."

Answer: Thank you. Won't you join a club or start one in your district? W.B. might join!

4. "What have you done with the Ham section? I understood that you were going to continue them, and although I am not an amateur, I found these notes both interesting and amusing."

Answer: This is covered by "Below the Broadcast Belt," by Don B. Knock. Since "RADIO" was merged into "WIRELESS WEEKLY" the Hams have not sent us any matter. They are welcome to forward us reports for inclusion in this page at any time.

N.A.K. (Randwick).—Upon purchasing a five-valve set a few months back, I have been a weekly subscriber to your paper, and would like to know if you could put me on the right track. I. In the list of world's broadcasting stations, numbers are attached to the station, such as 2BL 0800-2330; 3LO 0715-2340; also on the International Short-wave stations. Do these figures represent time?"

Answer: Yes. The first two figures represent the hour, and the last two the minutes. Thus 1240 is forty minutes past noon, 1340 is forty minutes past 1 p.m., 2440 is 40 minutes past midnight, 0140 is 40 minutes past 1 a.m., and so on.

2. "The set is a five-valve receiver, run by an eliminator and trickle charger. Good volume and clarity can be obtained. Do you think I could get other stations? (Excluding Inter-State stations, which I get full speaker strength.) Some far-off lands like America?"

Answer: You have a chance if you use the best of aerial and earth systems. Night-time and early morning are the best times to listen—in fact, you can't go wrong if you listen-in when you should, by all human requirements, be asleep in bed.

3. "The 'A' battery is a Clyde 6 volt 30 amp, and it seems a bit sick. It doesn't hold the charge very long. When we first got the set the positive terminal of the charger was connected to the negative lead of the battery, and negative lead of charger to positive terminal of battery. It was left on for about 8 hours. Perhaps it can do with acid."

Answer: The remedy is to place the battery on a slow charge, and slightly over-charge it. Discharge again by leaving it connected to a six-volt valve, or other current consumer that takes a heavy current. Discharge as quickly as possible. Charge again slowly, then empty out acid, and replace. If you find battery still does not hold charge, it will probably be necessary to take the battery to pieces, and examine the plates, which may have become buckled, or perhaps paste has fallen to the bottom of the cell and is shorting the plates. Thanks for your kind remarks.

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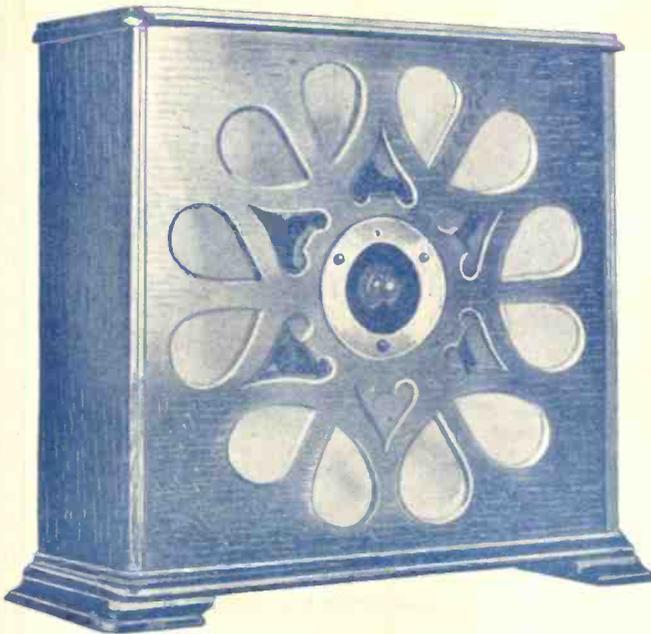


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