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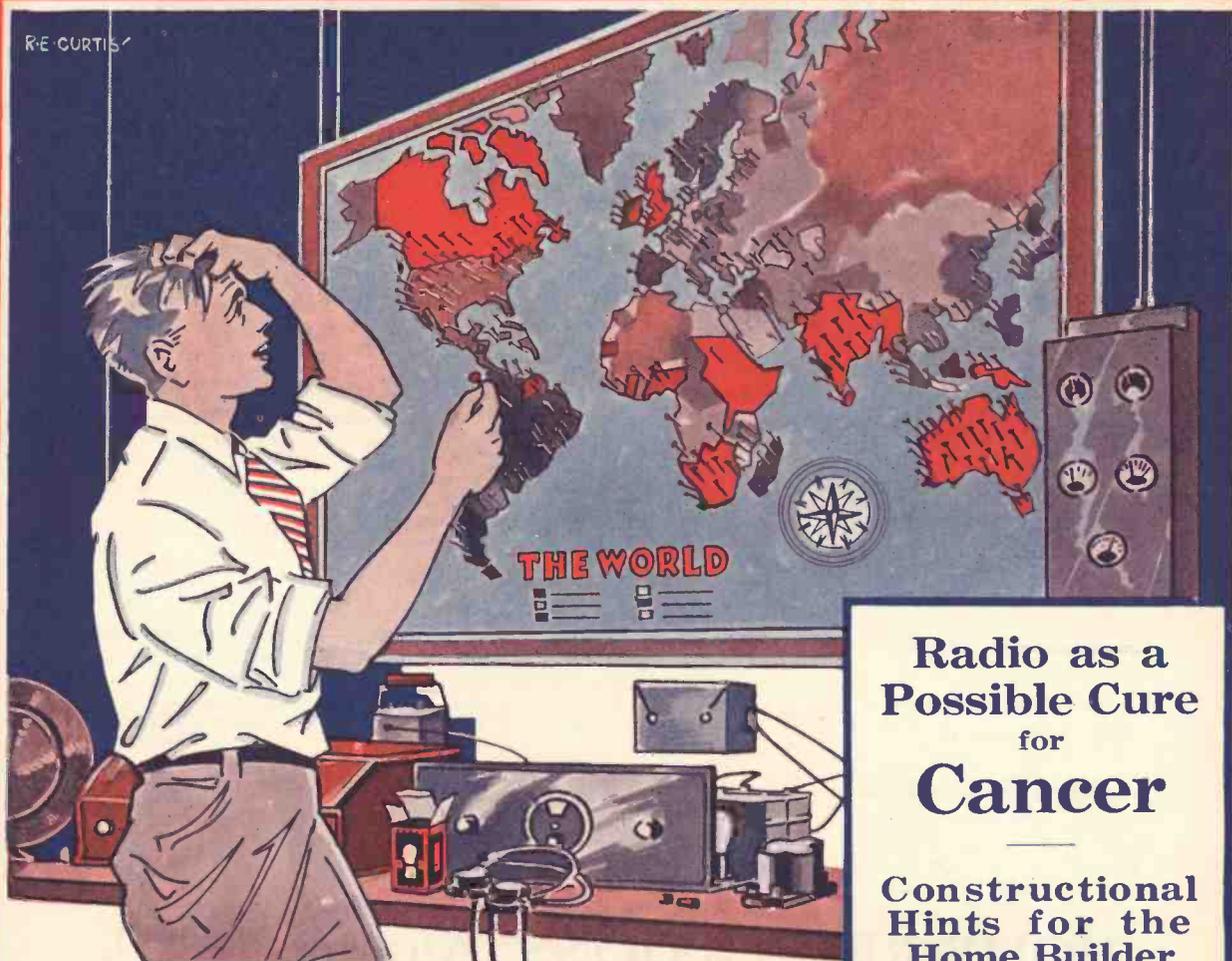
INCORPORATING "RADIO IN AUSTRALIA & NEW ZEALAND"

VOL. 13, NO. 5

FRIDAY, JANUARY 25, 1929

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

RE CURTIS



Radio as a
Possible Cure
for
Cancer

Constructional
Hints for the
Home Builder

Who Laughs Best?

A Novel Competition for
Listeners and Broadcasters

PHILIPS RADIO

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Philips "B" and "C" Power Unit. Type 3003.

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The Power Unit illustrated above provides Grid-Bias direct from the A.C. Mains in addition to the same adequate "B" Supply as given by the 3002.

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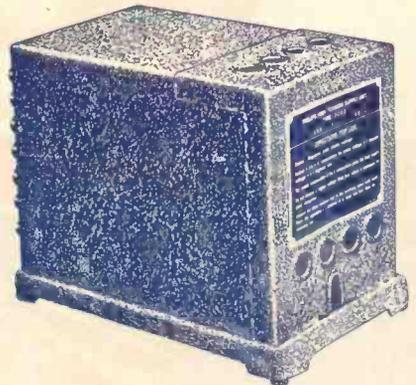
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The power supplied is determined by means of a variable control by which any voltage may be obtained. Rectifying Valve Type 373 is included with the unit.

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Six different values of "B" voltage can be obtained from the simple fixed tapings provided—no controls are necessary. All moving parts which wear out with use are thus eliminated.

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EVERY DAY THE SAME

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- IS UNHARMED BY SHORT CIRCUIT.
- USES ANY CLEAN WATER—DISTILLED WATER UNNECESSARY.

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60 AMP. HOURS
ACTUAL
CAPACITY.

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BOYD EDKINS LTD.

Dear Sirs,—

In reply to your enquiry as to my experience with Perlin Batteries, I wish to state that I am using many of them with **SATISFACTION**—THIS BATTERY certainly has most useful characteristics—and is of outstanding quality.

RAY ALLSOP.

BOYD EDKINS Ltd.,

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PILOT REDI-BLOX

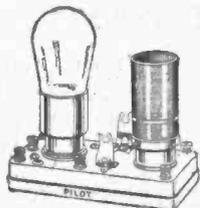
Reduce Assembly Time by 50%
Reduce Mistakes in Wiring 80%

Pilot Redi-Blox, products of the world's greatest radio parts plant, eliminate practically all construction problems; and this fact, combined with their unrivalled quality, make them the ideal units for both the manufacturer and the amateur set constructor.

Five Redi-Blox Units replace 18 separate parts, and do away with over 26 of the connections that are required ordinarily. They assure perfect insulation and protect the vital parts from dust and dampness. Moreover, Redi-Blox are actually no more expensive to use than the many separate parts they replace.

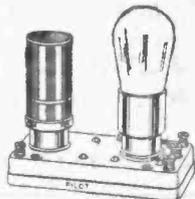
Redi-Blox Units can be used to make handsome sets OF ALL TYPES. A full range of Redi-Blox and other Pilot Units are available at Harringtons, Ltd., and manufacturers and amateurs are cordially invited to make a personal inspection. Illustrated are two representative Redi-Blox Units.

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Whatever kind of circuit it is, Redi-Blox will fit in. The No. 306 Unit has a 5-prong socket, and special wiring, in accordance with R.C.A. specifications for the UY-227 Detector, operating on A.C. for the filament. These Units are specially desirable in A.C. sets, because, by simplifying the wiring, coupling effects are reduced to such an extent that perfect operation, free from hum, can be obtained. Price 16/

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25,
1929.

Wireless Weekly

Incorporating "Radio in Australia & New Zealand"

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

WHO LAUGHS BEST?

(For Details of the Competition See Page 22)



MR. MONTGOMERY STUART.



MR. J. G. LOCKLEY ("Redgum").



MR. CHARLES LAWRENCE.



MR. SCOTT ALEXANDER.



MR. CARLTON FAY.



MISS WILLA HOKEN.



MISS DOROTHY MANNING.



MR. WALLY BAYNES.



MR. S. SAYLES (of Sibley and Sayles).

(All photographs on this page by Howard Harris Studios, King Street, Sydney.)

BETWEEN YOU AND ME AND THE MICROPHONE

Slipped His Mind

AND then there was the absent-minded professor, who discharged the nursemaid and kissed the storage battery.

The Right Place for Them?

COMMANDER BYRD reports by radio that he has taken a ukulele player into the Antarctic. We hope this creates a precedent, and, at least, justifies our hearty support of even better and bigger expeditions.

No Excuse

A NOTICE was recently pasted on the studio door of 2BL to this effect:—"Artists are requested not to enter the studio before the stated time. Please wait outside until you are called." The same notice is pasted on a mirror in the waiting room downstairs. This is done obviously so that the women artists will have no excuse for not seeing it.



My Hat!

THE recent heat wave found Uncle Bas, of 2BL, well prepared. He looked remarkably cool in a beautiful tennis shirt and white duck trousers. "How do you like my tropical duds?" he asked, noticing our notice. "Charming, Uncle Bas," we said, "may we tell the world?" "Might make them envious," he replied, "but go ahead." But this was not the greatest of his tropical surprises. He came in a few days later wearing a big straw hat, something after the style of those by the well-dressed planters in leaf advertisements. Even this was not sufficient. He came in the next day with a new felt. This time it was a cigarette-advertisement hat. There was much discussion outside the studio as to whether Mr. Harry Grahams new hat was the more beautiful. The division was fairly equal. Of course, we have our own opinion; but we wish to remain on friendly terms, with both sartorial aspirants.

Natural (?) Receivers

WE hear of a lamp post in London which, without any warning—without even being asked to do so—began to speak out the programme of the local station. But Australia is as wonderful as London. A man came to 2BL and complained that he was a human receiver. 2FC and 2BL programmes were dining in his ears from morning till night, and he could go to sleep only after the stations closed down. To say nothing of a certain Coogee bath heater. You turned the water half on for 2BL, and full on for 2FC. The owners of this strange set were trying to get London, and had nearly done so when the gas collector put an end to their experiments. Ours is a hard, unresponsive world.



Tricked

"ARE you tone conscious?" asks one radio set manufacturer. Yes; but our conscience tricks us!

Cuckoo!

A YUGO SLAVIAN station has a unique call sign—the "cook" or a cuckoo. It is related that a London experimenter tuned in this signal not long ago, and in his excess of joy began to dance round the room shouting, "I've got 'Cuckoo!' I've got 'Cuckoo!'" "Bad grammar," said his brother. "You shouldn't say, 'I've got; but 'I've gone!'"

The Birds Are Homing

THE bird, with a radio set to sell on time crows. "Feather your nest with down payments."

Have You Read This?

KORZGEFASSTES HANDBUCH DER ELEKTRIZITATSAHLER TECHNIK, states the "Electrical World," explaining that that is the title of a new German technical tome—not a Scotsman sending a telegram from Berlin.

Why Not Mr. Cochrane?

"WHY," asked Mr. Chapple of Mr. A. S. Cochrane, "don't you wear a silk hand-

kerchief to tone with your beautiful Spitalfields tie?" We didn't catch the answer, and were just about to ask Mr. Cochrane the reason when it occurred to us that it might be some very ordinary reason like "Just because," or "I don't know." So we decided to remain on the delightful thorns of uncertainty. Why doesn't Mr. Cochrane wear a handkerchief to tone with his beautiful Spitalfields tie?"



Misunderstood!

CAPTAIN A. C. C. STEPHENS and Mr. Basil Kirke are Hindustanists. We heard them the other morning jabbering away in most unannouncer-like fashions in the language of the East. Captain Stephens took the lift to the street; and Mr. Kirke went into his office still murmuring in the native tongue. "Well, what do you know about that?" we asked Mr. Allsop. "All right," said Mr. Allsop, "only I couldn't hinderstan 'im." We are going to take a policeman to 2BL next time we go to prevent any more of these assaults on the King's English.

Sir Harry's Wet Towel

SIR HARRY LAUDER has "invented" a device to improve the broadcasting of the voice. It involves nothing more costly than a towel soaked in water. The towel is placed over the microphone, and has the effect of emphasising the singer's voice, and at the same time subduing the sound of the orchestra. British Broadcasting Corporation officials were a little sceptical when Sir Harry insisted on having a wet towel before he would face the microphone. Such a request had never been made in the studio before. But when the expert in the listening cabinet signalled that it was yielding excellent results astonishment turned to delight, and Sir Harry beamed a canny "I told you so" out of the corner of his eye.



Radio Tragedy (No. 2)

Miss Jenbina Dofado
Had a soprano
Voice.
She took it to the Broadcasters
And said, "All my singing masters
Rejoice
In my voice!"
"Then," said the mighty Broadcasters,
"If all your singing masters
Rejoice
In your voice,
Can WE doubt it?"
"Well, what about it?"
Asked Miss Jenbina Dofado.
They signed her up a contract
To appear in an entire act
For a nominal consideration
On Tuesday afternoon,
With a supplementary stipulation
That her voice—a light soprano—
Should be in tune
With the studio pi-ar-no.
The Tuesday afternoon
Arrived,
And Miss Jenbina Dofado
Also contrived
To arrive. Her voice was in tune
With the studio pi-ar-no.
She began to sing pianissimo
On a very low note;
Elegante, elegantissimo.
Trembled her throat!
Gradually her voice began to swell
And well
And yell and rise in tone.
Like bread in an oven;
Until she was compelled by the circum-
stances to own
She could not govern
The wild crescendo.
She tried Legato.
She tried Rubato.
She tried Calando.
And she tried Pneumatic
Throat tablets, and the business end of a
mop.
But it would not stop.
Listeners said "it's surprising—
It can't be static
Because it's still rising!"
The voice of Miss Dofado—
A light soprano—
Was now rushing out of the microphone
Through a flowing roundness of tone.
Nothing could be done
To prevent the mellow outpourings:
They tore up the floorings
And threw them over Miss Dofado
And her soprano;
But—as they said themselves—"Ah, no!
We cannot stem her triumphant outbursts
of melody!"
Then, suddenly—snap!
The singing ceased.
Clap?
You should have heard the announcer clap!
But Miss Jenbina Dofado
Cried "You beast!
How dare you rejoice!
I've lost my voice—
My sweet soprano!
Alack!
could not hold it back!"
Miss Jenbina Dofado
Is now married to a commercial magnate.
Her studies in art
Stagnate,
Because she had to part
With her soprano.
One thing alone
Consoles her. Little Jenbina
Can neither moan,
Nor howl,
Nor growl
Above the whispering pianissimo.
Of a minor.

Radio as a Possible Cure for CANCER

An investigation of the therapeutic properties of the ordinary radio wave.

EMILE FUCHS, world-famous sculptor, committed suicide in his Fifth Avenue apartment this morning. A note left by his side stated he believed he was slowly dying of cancer."

Just a small newspaper paragraph—an inch of space, because of the renown of the suicide—but how many more such cases go unreported or unrecognised. This incident typifies our dread of this terrible and inescapable disease.

Then another newspaper paragraph, a few days later:—

"It is announced that Professor Esau, of Jena, has succeeded in sending ultra short waves, possessing peculiar properties, a distance of 250 miles. Small animals are killed instantly," according to the "Thuringer Zeitung," "and bacillus cultures are annihilated."

We are accustomed to such news. Far from bringing hope to the afflicted, it would seem to indicate that every possible avenue of probable remedy is being explored—with little result.

But it is notable that attention tends more and more to be directed to the properties of radio activity. Great progress has been made in the higher frequencies, especially with the alpha, beta, and gamma rays of radium and X-rays. In the lower frequencies, the more radio waves, little progress has been made—but progress that is of some significance.

While it seems to be but a single step in the application of this curative agent to cancer-afflicted humanity, pending actual tests upon human subjects, the public is warned against over-optimism, even though there be cause for suppressed elation in the latent discovery of a cure for the "incurable."

The physical effects of radio waves upon animal life were unknown until Dr. Schereschewsky initiated his pioneer experiments. Search through the literature of many countries failed to disclose the use of a radio valve as a means of shooting high frequency currents through the body of a mouse or any other form of animal life.

The nearest approach to such an undertaking was a French experiment, in which a vacuum tube oscillator was employed in treating geranium plants for tumors, employing a frequency of 150,000,000 cycles, or a wave length approaching 1 metre. Sixteen days after exposure the tumors, though growing in the meantime, began suddenly to necrose—to turn black and decay.

AIDED BY RADIO EXPERTS.

Without any scientific chart other than this plant experiment. Dr. Schereschewsky undertook this humanitarian project. In the design and construction of short wave radio

equipment, for example, he had the co-operation of Professor George W. Pierce (of quartz-crystal oscillator fame) and E. L. Chaffee, of the Cruft High Tension Laboratory of Harvard University; M. L. Dow and F. H. Drake (the latter co-designer of the Browning-Drake radio receiver). The General Electric Company furnished three special vacuum tubes of low internal capacity.

OSCILLATOR CIRCUIT

The circuit designed by W. S. Huxford was adopted in the preliminary tests, but this was subsequently replaced by the renowned Hartley circuit, so universally used by radio amateurs.

With variable resistance units, values of 10,000 to 200,000 ohms, and in the absence of any socket for the vacuum tube the Huxford circuit was employed until, to quote the surgeon of the public health service:—"For frequencies of 60,000,000 cycles (5 metres) per second and less it was no longer found necessary to use this type of oscillator, which, though reliable and stable in operation, nevertheless, because of limited range, was not as well suited to the exploration of the lower frequencies as the ever useful and efficient Hartley circuit."

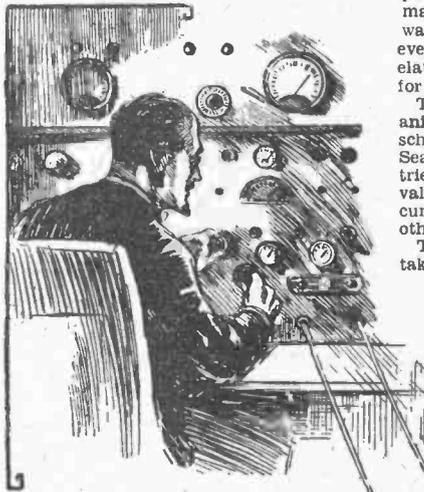
CONTROLS.

The filament temperature of this vacuum tube oscillator or miniature broadcasting station (for the benefit of mice) was controlled by a 2-ohm rheostat. A Weston ammeter in the filament circuit and a Weston 0-300 milliammeter in the plate circuit, reflected the filament and plate voltages, respectively. The milliammeter was inserted in the negative plate battery lead, and was safeguarded by a short strip of 3-ampere fuse wire.

These observations disclosed that, for adequate output, the required plate circuit was appreciably greater at the shorter than at the longer wave lengths—from 2.22 to 34 metres.

At the short waves it was not uncommon to obtain plate current readings of from

The Acme X-ray plant in operation at the Prince Alfred Hospital—the first practical step in cancer research in Australia. The X-rays are merely a variation of the same phenomena as radio, possessing a different frequency

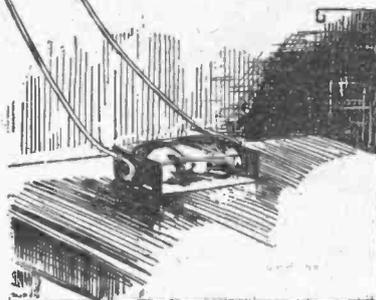


Yet, ordinary radio waves as a possible cure for human cancer is the logical interpretation placed upon successful co-operative experiments of the United States Public Health Service, in which small animals (mice) have been rescued from the fatal malady.

The curative power of ultra short waves or high frequencies—heretofore a controversial subject or cause for scepticism—seems to be established or at least potentially recognised by pre-eminent authorities in medical science.

EXPERIMENTS ON MICE.

Dr. J. W. Schereschewsky, after five years of laboratory research, has produced convincing proof that radio waves—in the amateur band of wave lengths, from 2.22 to 36 metres—are potent in curing mice of tumors or cancerous growths.



100-120 milliamperes, whereas at the longer wave lengths from 50 to 80 milliamperes were the ordinary values.

PARALLEL WIRE SYSTEM.

The parallel wire system was used in these mice experiments for determining the operating frequencies of the radio tube oscillator.

The available space permitted of a parallel wire system only 11 metres in length, which admitted of wave length measurements up to 21 metres or frequencies less than 15,000,000 cycles per second.

PHYSICAL EFFECT ON RATS.

The observation of the physical effects of shooting radio waves through young rats at different wave lengths or frequencies rendered it advisable to employ an electric conductive arrangement, which might rudely disturb the constants of the radiating system.

IN ELECTRO-STATIC FIELD

As a means of insuring a true study of the action of the electro-static field between the condenser plates, and to prevent any conductive transfer of energy, the inner surface of each condenser plate was covered with a celluloid sheet 0.004 inch in thickness.

The mouse was imprisoned in a small celluloid box, with perforated sides, and the box and its contents inserted between the condenser plates—a snug fit! In reality, the dimensions of this tuning condenser (tuning rats instead of radio programmes) were not fixed by arbitrary mathematical calculations of capacity, but in recognition of the celluloid box, the comfortable home of a mouse, varying in weight from 20 to 22 grammes.

The mouse container consisted of two pieces of stout celluloid for the top and bottom, held apart by 3-inch hard rubber posts, to which they were secured by short screws in holes, tapped at each end of the posts. The sides of the box were covered in with strips of stout celluloid, perforated with numerous 3-inch holes for ventilation, glued to the hard rubber posts by use of cellulose varnish.

CAPACITY EFFECT OF MOUSE

A mouse weighing between 19 and 20 grammes fitted snugly in this box, but, desirably so for the sake of the experiments, it could not turn and twist freely. Confinement, manifestly, did not disturb the sleep of this small animal, and imprisonment for several hours did not have any deteriorating effect on the mouse. As was to be expected, the mouse and its container, when in position, increased the capacity of the variable condenser—from 4.1 micromicrofarads to 16.1 micromicrofarads, while the empty mouse-holder gave the condenser a capacity value of 8.1 micromicrofarads. These measurements were made by use of a capacity bridge, and, as a simple calculation indicates, the capacity of the condenser with mouse-holder and mouse is about four times greater than the capacity with air alone as the dielectric.

Strangely enough, the exposure of white mice to different frequencies—varying in wave lengths from 2.22 to 36 metres—exercised changing effects on the animal subjects. That is to say, with a constant current value, a variation of the operating wave lengths from longer to shorter, or vice versa, proved more deadly to the young rats.

For example, starting at a frequency of 135,000,000 cycles per second (2.22-metre wave length), with an undeviating current of 335 milliamperes in the auxiliary tuned circuit, the execution of the mice increased until at 66,000,000 cycles per second (4.45-metre wave length), the average time of survival of a mouse was reduced from 26.8 minutes to 7.7 minutes—a reduction of 71.3 per cent.

EFFECT VARIES WITH WAVE

From this point, with a fluctuation of a minute or two in the mean time of survival, the deadliness of the various frequencies studied maintains itself at a reasonably constant value over a wide wave length band—from 4.54 to 11.11 metres—at which latter point the low average period of survival, 6.65 minutes, is recorded, or about 75 per

cent. less than the average time of survival at 2.22-metre wave length.

At a wave length of 12.3 metres the current becomes less deadly by about 40 per cent., but at a wave length of 16.6 metres the current has about the same degree of destructiveness as at 11.11-metre wave length. From 16.6 metres the deadliness to mice, on the whole, diminishes, till at 27 metres the average time of survival increases to 14.5 minutes, 105 per cent. longer than at 16.6 metres.

At a wave length of 33.3 metres the death rate of mice is comparatively low, the average time of survival being 23.5 minutes, about the same as it was at 2.22 metres. At the latter wave length three mice survived high frequency current exposures lasting 30 to 35 minutes, not visibly affected except in body temperature increases.

"This result," admits Dr. Schereschewsky, who is manifestly puzzled, "differs from what is usually observed in physical phenomena of this character. On the whole, one would expect to find either that the lethality of a constant current was independent of frequency, or, if dependent, would show some simple relation thereto—that is, be either inversely or directly proportional. That the lethality should be first inversely and subsequently directly proportional to frequency is puzzling and certainly not susceptible of any simple explanation."

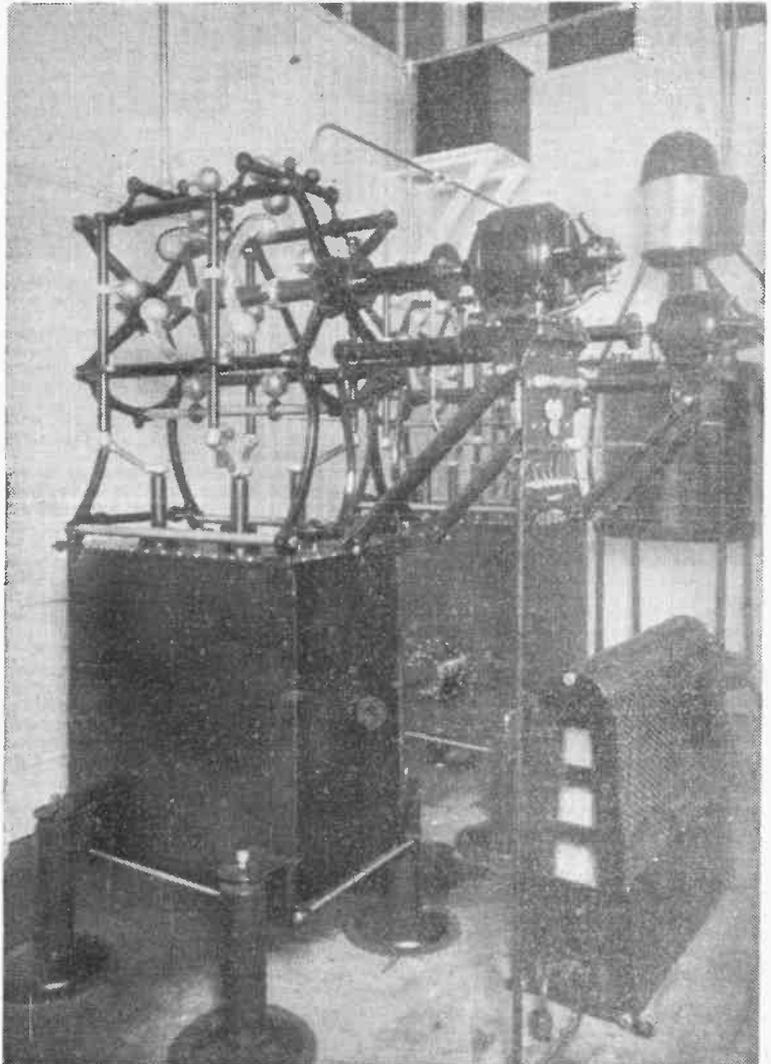
At certain wave lengths considerable heating effect was noted, and to eliminate this disturbing factor the scientists designed a constant temperature and humidity outfit, in which the mice subject to cancer studies were enclosed.

CONCLUSIONS

After five years of investigation Dr. A. M. Stimson, chief of the division of scientific research of the Public Health Service, draws the significant conclusion that:—"Dr. Schereschewsky has found that by submitting mice which had cancer, or mice which had been inoculated with cancer, to this high frequency or radio current, a certain percentage of them can be cured.

"At the same time he has found that some of them, if the dosage is a little too high, will die. It is a question of further investigating to determine the exact dosage of this physical agent. However, he had 30 mice that had terrible tumors, and after the treatment the tumors subsided and the mice lived."

Meanwhile, this far-reaching investigation is being continued, and may prove a boon to suffering humanity, and short radio waves may demonstrate a curative power as well as the magic of encircling the globe when radiated from the operating room of the hospital instead of the aerial of the transmitting station.



Where the X-rays are generated at the Prince Alfred Hospital.

Reality in the Radio Drama

Although Mr. Dion Boucicault expresses himself as unfavorably disposed towards the possibilities of radio as a dramatic medium in the last issue of "Wireless Weekly," Mr. Scott Alexander, another well-known actor and producer of experience, has a different view to bring forward here. Mr. Alexander produced the first radio play to be broadcast in Australia, and since then no fewer than two hundred and thirty sketches have been broadcast by him. He speaks from experience.

(By SCOTT ALEXANDER)



Mr. Scott Alexander in the act of broadcasting. He will be heard from 2FC next Tuesday night.

THE radio play is still in its infancy. It has never been fully developed; and it will be a long time before it will rival in any way the old theatre model. It is such a different proposition.

In the theatre we can see the artists, the dresses (not much nowadays, I confess), the beautiful scenery, and the hundred and one things that are necessary to create atmosphere—a dimly-lighted, poverty-stricken room, an old man breaking his heart over the head of his dying child; the house-tops showing through the dismal garret window; the melancholy moon; the guttering candle—then, a flash of lightning, a roar of thunder or the soft moaning of the wind, or flakes of snow falling outside, there we have atmosphere—an atmosphere of misery, poverty, and icy hopelessness.

Here is the studio version of the same setting. As there is nothing we can show the listener, we must describe the scene for him. But we must always remember that Mr. Listener is an impatient fellow. If we do too much explaining he switches his dial over to something else. So we briefly outline our setting, and leave the rest to the actor's vocal atmospheric work. He must, in his voice, give you the old man's agony. At the same time he must denote the class of man who is speaking, either by soft or harsh tones; and he must denote the class to which the character belongs by his educated or uneducated manner of speech. This is where most of the radio actors fail; for as soon as they attempt characterisation they become hopelessly indistinct. Most of the more romantic actors speak in an unusually strained manner; others simply elocute, which is the very worst sin of all.

The remedy is simple. Cast the play by careful selection. Each character should be personated by the person possessing the exact voice and culture of the part he is to depict. "Oh, yes," you say, "but who is going to do this?" I will tell you.

Later on, when radio plays have advanced out of the chrysalis stage a list of artists will be kept by the play producer, in the same way as film producers keep books of photographs of types, with descriptive notes attached, and when a play is to be presented the producer will make his selection from this register. But, first of all, a studio play producer will have to be appointed; and plays be rehearsed until they are perfect. They will not be hurried through as they are now, unrehearsed, and delivered to the listeners in the form of a more or less blase reading.

Realism is often attempted, and when I first came on the air I thought any old effect would do. For a cannon shot I hit a big drum, as we did in the theatre. But the drum effect in the studio is a joke. The sound of a drum being hit by an ordinary drum stick, instead of a deep-noted boom, is simply "poof" to the listeners.

A revolver shot or a gun shot has a similar effect, only more jarring; but no one listening-in to a loud speaker would ever think it was a pistol that had been fired. Water effects are made in the theatre by a long box containing peas, which rattle as the box is revolved; but the mike won't accept this, so we use a hose in the open air on the studio roof. The engineer brings the sound in carefully on a separate mike, and dilutes according to requirements.

A waterfall is made by pouring water from a jug into a glass, close up to the mike. In my many experiments I found that many effects that sounded least what I wanted to the studio went best over the air. After all, it is mere suggestion; and if the effect is labelled the listener will aid in the deception; for he will know by the label what the effect is supposed to represent.

A house on fire, we found, could be best suggested by the crackling of dead leaves under the nostrils of the inter-phone. We raised a storm with a revolving barrel. The speed of the revolutions gave the varying screams and yells of the stormy petrel, while the studio organist assisted us by growling on the deep notes of his organ. Those not actually speaking at the time of the storm rendered valuable assistance by whistling through their teeth in imitation of wind screaming through narrow crevices. Storms are always effective; but it takes the entire studio staff to work a good storm.

When we did the "Old Ironsides" night we had a staff of thirty workers; and the roof garden at Farmer's was the battle ground. Here we had all sorts of effects. Sails were being beaten, timber cracked, a trumpeter blew signals, men were rapping parchment to get the shot effects, ropes were creaking through massive ships' blocks, waters were roaring—then there were the shouts of the victors, and the groans of the vanquished in the great battle. It was a most thrilling night for all of us, and we got through without one man injured.

In my "Chang" presentation I gave a vivid description of a night in the jungle. I had to use the effect of a roaring tiger. I am told that I succeeded in giving many listen-

ers quite a Taronga thrill. Not only did I give the tiger's ferocious roar as it attacked a photographer; but I shot the massive brute, and presented with all my radio knowledge the death throes and last gasps of the yellow striped monster of the jungle.

I worked myself up to such a pitch that I felt as if I were really up a tree with the growling man-eater trying to shake me down; and I was quite relieved when I gave the last dying groan of the beast. Some people thought the organist did it. He didn't. The fact is, I had an ordinary lamp chimney glass, and trumpeted and roared through that. Another secret.

Some two years ago, when I was working a series of domestic comedies with Miss Nellie Fergusson from Studio 2FC we usually had a violent quarrel. We used to hurl all sorts of abuse at one another—as well as crockery. We broke panes of glass, plates, and cups and saucers—in fact, we behaved so much as real people do that listeners wrote asking me not to do so many of this kind of play, as either the wife or husband of the writer considered it a personal insult. One night a Salvation Army captain watched us through the glass partition of the studio. He saw Miss Fergusson and myself seated side by side at the studio desk, with the various articles we had to hit or break by our sides, comfortably reading from the written manuscript. He gasped with surprise. He said we had acted another illusion! Poor man!

Of course, the radio drama is THE thing of the future. The RADIO TELEVISION THEATRE will be an established fact in a few year's time; and then let the theatres and picture houses tremble! It will be the greatest marvel of this great age of miracles; for nothing, except, perhaps, Belshazzar's dream, has been seen like it in the past. The Future is full of magic shapes that will be carried into the homes of the people, as well as into specially built theatres with vast holding capacities, where, for a few coppers, we shall SEE and HEAR the world's greatest stars in plays and operas broadcast from the world's largest cities and radioed all over the world. I know it will be a shock for the flappers when they see me.

Why Not At Once a

The Second Article of the Series, in which Mr. Allsop advocates super-power.

50 kw STATION

IN the last issue I pointed out the systems of broadcasting in Great Britain, and the United States of America, and the difficulty our stations face before they can give a reliable service to the comparatively few scattered listeners-in in Australia. Captain P. P. Eckersley, Chief Engineer of the British Broadcasting Corporation, in an article printed recently in "Wireless Weekly," pointed out that the relay system of the British Broadcasting Corporation brought the enormous population within the scope of broadcasting—60 per cent. of the population being able to receive programmes without any interruption. With the addition of a central station to fill up the country districts, 80 per cent. of the population of Great Britain is able to receive broadcast programmes.

SERVICE TO COUNTRY LISTENERS

With these interesting statements in mind, let us consider our broadcasting system. From the eight stations, located by necessity in and around our cities, what percentage of the country listeners-in receive the programmes without interruptions?

The problem which our broadcasting stations have to surmount is to give every listener, as far as economically practicable, an uninterrupted service, a signal strength of such intensity that reception can be effected on fairly simple apparatus at summer static level; and stations located and wavelengths allotted to give a minimum of inter-station interference in densely populated areas.

To what extent can the relay scheme be economically instituted and operated to give such a service? To the extent of considerable expense—more than either the present listeners or the Government may be willing to pay. Before the revenue which would ultimately result from such a country service would come to hand, these relay stations would have to be paid for. No amount of unselfishness is likely to persuade present city listeners to stand this cost, and it is not likely that the Government would turn willingly to the supply of the necessary capital.

A BETTER PLAN

There is a much better plan than that. The listening public of Australia, particularly those living a considerable distance from the transmitters, have, by necessity, developed a radio sense for reaching out, far in excess of the radio public of Great Britain and America. The majority of our listeners possess sets capable of receiving over long distances, subject, however, to static conditions and fading.

Taking this point of view into consideration, and the extreme difficulty of reaching, with a great signal intensity, a proportion of the listeners, also the heavy initial expense for the erection of land lines, the most economical method to adopt would be a few stations of great power located in country areas of dense population. This would immediately ameliorate, if not dismiss altogether, present static and fading troubles, and into the bargain be only a fraction of the cost of covering



By
**Ray
Allsop**

(Associate
Technical
Editor)

Australia with relay stations and land-lines.

SUPER POWER AT ONCE

Experiments with super-power should begin at once. Select some country district, for argument's sake, say the southern part of New South Wales, and erect a station, not under 50 k.w. aerial power, embodying all the most modern principles of radio transmission. This transmitter could experiment on various wavelengths, and provide invaluable data for the further development of our broadcasting schemes. Stations of a few kilowatts would be

sufficiently powerful in the cities of each State to supply the demands of the city and suburban listener. Experimental transmissions should be carried out on the shorter wavebands with a view to providing for the dwellers of the Northern Territory and other remote corners of Australia a possible service.

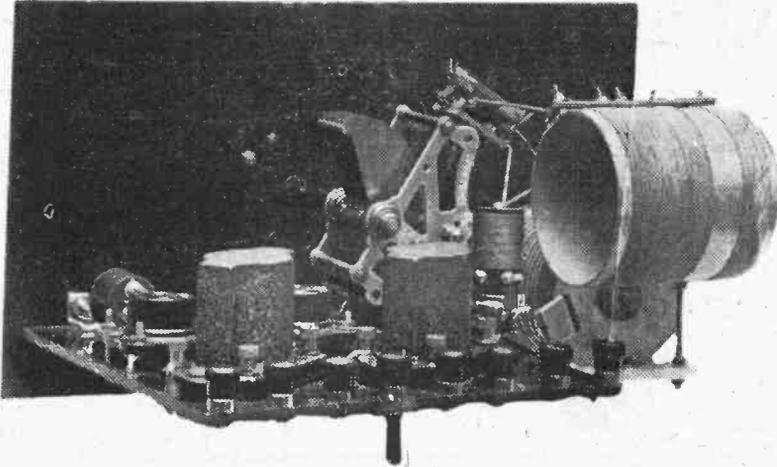


This scale map showing the area of Europe compared with that of Australia illustrates Mr. Allsop's point.

CONSTRUCTIONAL HINTS

for the HOME BUILDER

An article of extreme interest, not only to all amateur set builders, but to the general broadcast listener, who wishes to know something about the remarkable piece of apparatus which brings in his programmes for him.



How to cut, polish, and punch bakelite and aluminium, and how to finish both materials, is told in this article. The art of soldering is also explained, and general principles of construction described.

By DON. B. KNOCK
(Associate Technical Editor)

WE must all start at the beginning, with the "foot on the bottom rung of the ladder" business. Often after having completed a somewhat complicated constructional article dealing with a modern electrically and mechanically screened receiver, I have an inward quail that perhaps only one reader out of fifty will be able to go right ahead and build the job as it appears in print. The mechanical engineer must of necessity serve at least a five years' apprenticeship before he is qualified to take his practical place alongside men who are able instinctively to meet any requirements at once without recourse to textbooks.

In modern radio engineering and the constructional work which goes with it there is a preponderance of mechanical ability required. Gone are the days of large-sized coils wound on bulky formers. Instead we have coils which are diminutive in size—contrary to all theory not a long time ago—and these small coils are housed in their metal screening compartments with their associated valves and circuit wiring.

In nine cases out of ten you will find that the modern highly sensitive receiver is built of metal in itself. The chassis is metal, often the cabinet finishing the production off is of metal, and the only insulation used is in small quantity just where required. What a difference to the huge Bakelite panel and sub-panel arrangements we have known for so long.

SCREENING.

The beginning of screening came when Mr. J. H. Rayner, the well-known English radio authority, introduced with the Solodyne circuit the screened, or "canned," coil. Mr. Rayner found that by enclosing his inductances in a metal canister the amount of direct pickup from the windings themselves was negligible, and that the selectivity of the resultant receiver was something hitherto unknown. If you were to build the Solo-

dyne with exactly the same details as the original, but leaving the coils unscreened, the chances are that you would have to get a long way from Coogee or Pennant Hills to get anything like selectivity out of the set alone without adding loose coupling devices for the aerial system or wavetraps.

Next came the 1928 Solodyne, with its screen-grid R.F. amplifiers. In this set the coils themselves were not covered closely by canisters, but the whole receiver was arranged with a metal panel, and screening compartments holding each individual RF circuit

This was the forerunner to the modern receiver as we now know it in Australia.

METAL EFFICIENCY.

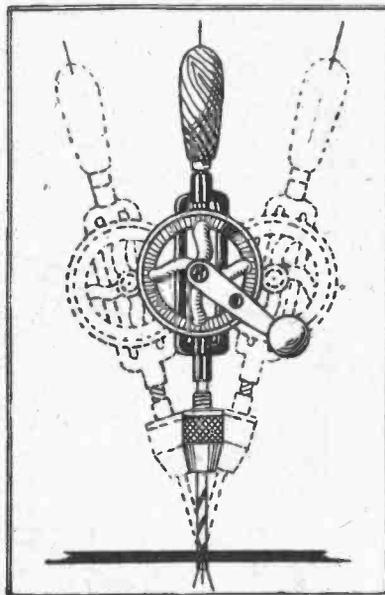
As with broadcast receivers, the short-wave receiver was influenced tremendously also by the judicious use of metal, with the result that the efficiency soared up, but similarly the difficulties of construction increased. It is not a very easy matter for one to undertake the construction of some of the bigger types of receivers unless one has had the necessary mechanical training, yet to one who has been used to making all kinds of apparatus throughout the period of interest in radio receivers it is not a hard step from one to the other.

Let us suppose that you have a panel and sub-panel, and you wish to drill and assemble these in the usual way by means of sub-panel brackets. You will invariably see, on looking over your technical article, that included with the description of the receiver or other apparatus is a drilling template or diagram. Assuming that you are going to work exactly to these sizes, you may go about the marking off in two ways. If you are used to using a rule and set square there is no difficulty to be met with in marking off the panel. Lay it flat on the work-bench, and mark the drilling positions by intersecting lines. Use an indelible pencil for this. The blue ink lead will show up well on the black surface, and it is quite easy to wipe off with a smooth cloth afterward.

Having done this, centre-punch lightly each position. Don't use a two pound engineer's hammer for the purpose, for, even in these days, there are panels which look like Bakelite or Formica and are not, and a heavy blow with a hammer and centre-punch may find you left with a panel in two pieces.

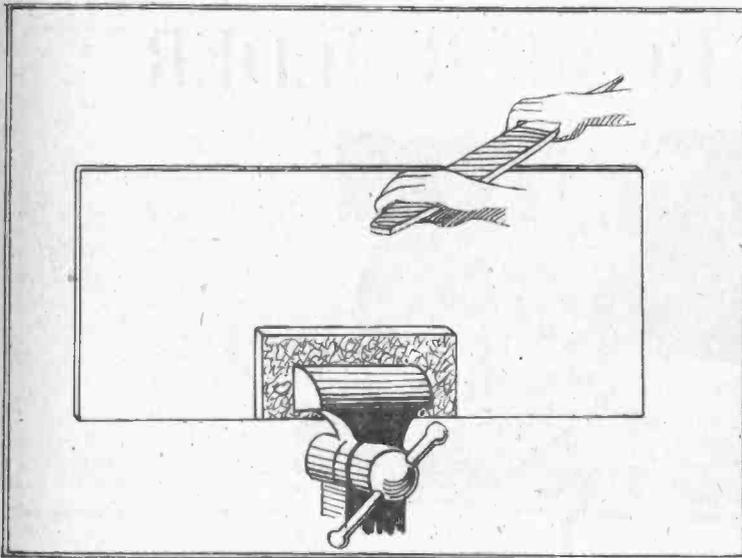
PANEL DRILLING.

The beginner's way of drilling a panel correctly is simplicity itself, and is to be recommended where the panel is of a large size with a number of controls. This is done by cutting to full size a sheet of plain thin paper and marking this out to scale in pencil. Paste the paper template over the



Watch the reflection of the drill at different angles—this will help you to drill straight.

ALUMINIUM MAKES RECEIVER A LIGHTWEIGHT



How to trim the panel—be sure thickness of soft material is between panel and vice

panel, making sure that it is laid on carefully, and then drill through the template and panel. Afterward the paper may be removed by holding the panel under water and peeling it off.

Drilling should be done carefully. It is easy to tell with a Bakelite panel whether you are holding the hand drill straight or not by looking down at the reflection of the drill in the panel. This applies also to a shiny surface metal panel, but is of no use where a matt surface is concerned.

Sub-panel brackets are usually assembled by means of small nuts and bolts. Where the bolt or screw projects through from the front of the panel itself, the screw should have a countersunk head to sink it flush with the panel. Because the panel is black the heads of the screws, whether nickelled or brass, should be given a touch over with a spot of black lacquer. It does not look nice to see yellow dots from screw heads on the front of a panel. With a brass or

"Wireless Weekly" constructed of aluminium chassis, the time is ripe for advice on the use of this metal. Many commercial set manufacturers had been using aluminium for set chassis for over a year, when the four electrode screen-grid valve arrived and gave a tremendous fillip to the use of metal for external screening. It was found imperative to use metal to assist in the reduction of unwanted magnetic fields where these valves were to be used as radio frequency amplifiers.

In all the screened receivers I have designed and constructed, aluminium has been used for two reasons. One is the complete lightness of weight of the finished receiver, and the other is that it is a far more easy metal to use than brass, copper, or zinc. If the aluminium panel and sub-panel constitute the chassis or framework of the receiver, it becomes necessary to use fairly heavy gauge aluminium, preferably 14 gauge; otherwise you will find that unless bracing stays of some kind are introduced, the sub-panel will have a tendency to sag with the weight of the components, and the whole receiver will be very floppy.

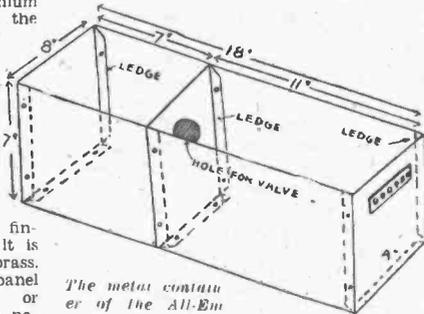
CUTTING METAL.

I met one reader who had made the All Empire receiver. It was a good job so far as workmanship, assembly, and wiring were concerned, but it was very flimsy, owing to the thin sheet aluminium used, and I was almost afraid to pick it up for fear it would buckle. If you are starting on an all aluminium receiver of this type, the first thing to do is to make a note of the sizes of aluminium sheeting required for the front panel, sub-panel, screening partitions, etc.

If you possess a very strong pair of hands, the cutting may be done by the aid of a large pair of metal shears, or by placing the sheet of aluminium on a flat, solid surface and cutting along the marking lines with an engineer's cold chisel and hammer. Unless you are well experienced in the use of the latter tools you will probably make a few cross cuts along the marking lines, which will mean jagged edges and very unsightly work. There is no need to cut right through the sheeting with the chisel, as the aluminium only requires bending backward and forward once or twice, when it will break off at the chisel indentations. It does not require any imagination to point out that unless the chisel cuts are straight, the edge will require a lot of filing afterward.

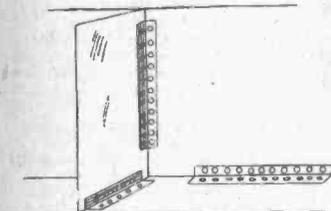
TRIMMING.

Whether you use shears or a chisel, you will need to draw-file the edges afterward. An aluminium panel is draw-filed in the same way as a Bakelite panel. Hold the panel in a vise, and insert between the jaws two strips of felt or other material to pro-



The metal cabinet of the All-Em wire receiver

tect the panel from the sharp serrations on the inside of the vise jaws. Use a good file and draw this along repeatedly over the edge of the panel by gripping the file by the handle with one hand, and the end with the other, the file being

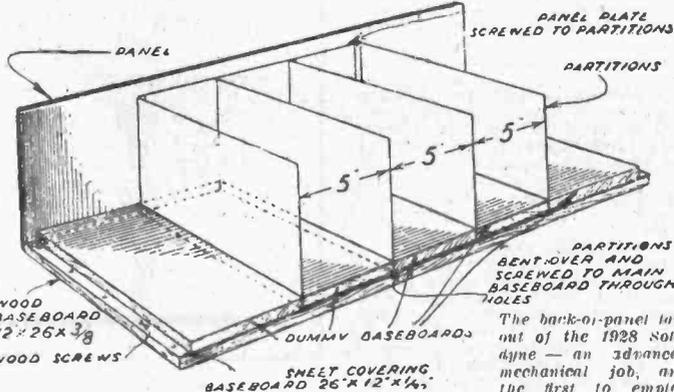


How Meccano strips may be used as angle brackets to hold aluminium dividing partitions

copper panel the brass-headed screws may be left as they are, but if the panel is of aluminium, nickel-headed screws will always look better.

ALUMINIUM.

Since I have reached the subject of aluminium, and I have recently described so many receivers in the pages of "Radio" and



The back-of-panel layout of the 1928 Solo-dyne — an advanced mechanical job, and the first to employ dividing screens of aluminium.

HOW TO OBTAIN A FINE PANEL FINISH

crossways over the edge of the panel. Unless you possess a very large size engineer's vise, this is the only easy method of trimming the edge of the sheet, as, if you try to file straight across the file will chatter and bend the sheet. The best thing to do really is to get the aluminium sheets cut to size when buying. If you get your aluminium from Colville Moore Wireless Supplies you will be able to obtain sheets with perfect butt joints, which do not require any trimming.

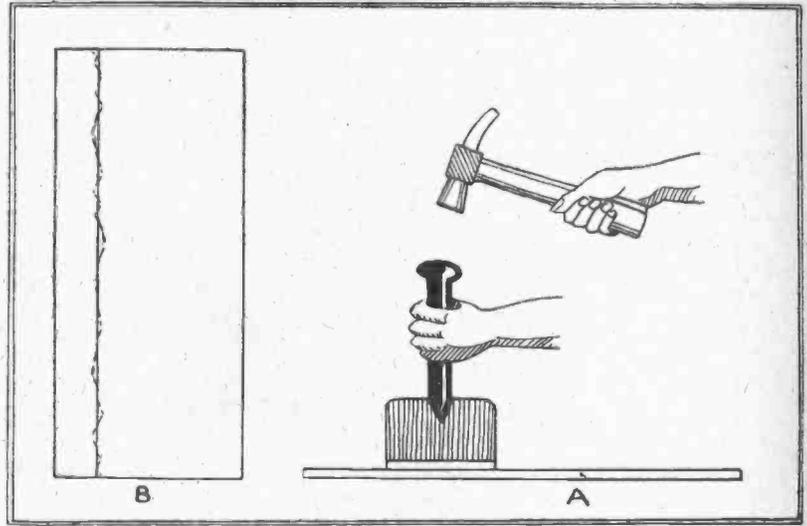
FINISHED SURFACE.

The next thing is to decide what finish you require on the surface of the aluminium. It is generally obtainable with a natural polished surface. This may seem attractive to the man who is not accustomed to aluminium panels, but it has the great disadvantage that unsightly scratches and marks make their appearance in quick time unless extreme care is taken in the handling. Furthermore, it will be difficult to polish the surface when the controls are all mounted.

The best finish of all is obtained by "frosting", the surface with a solution of caustic soda. The appearance given to the surface by this treatment is a beautiful white matt, but this has also one disadvantage. If it is handled by greasy fingers dull marks will appear.

This is easily remedied by washing over with benzine or petrol, and the matt surface has the saving grace that little scratches will not show up so easily.

Quite an excellent finish may be obtained



Showing the type of chisel (A) to be used for hand-cutting aluminium sheet. (B) shows effect of cross cutting.

ing with fine carborundum cloth in one direction only, preferably lengthwise.

The result will be a very attractive metal panel. If it is done properly it is hard to

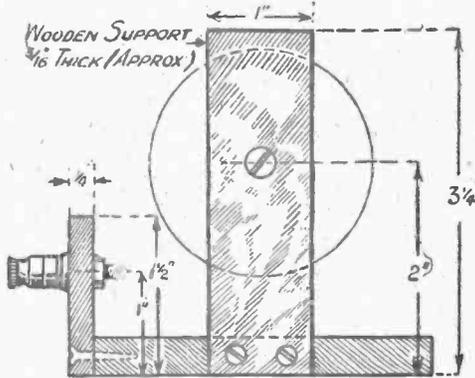
tell the result from the caustic soda treatment. This finish is very useful when a receiver is to be photographed for reproduction in a constructional article, as, if a shiny surface predominates, the reflection of the back of panel components may become very confusing.

DRILLING.

When marking off an aluminium sheet for drilling, do not suppose, because it is a metal panel you are handling, that it will not be damaged by careless centre-punching. If it is centre-punched heavily the chances are that at each point it will be bent, unless it is of sufficiently heavy gauge. If the bends are hammered back again, the marks are sure to show.

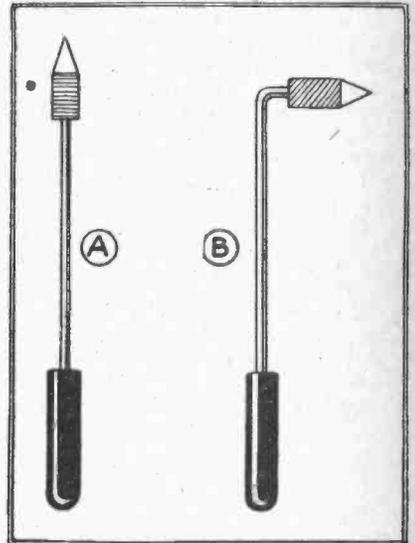
There are many ways of assembling the aluminium sheets. One of the easiest is by the use of aluminium angle strip, as used for automobile footboard edging. This will make a very solid structure, as well as

making sure that there are no air spaces between the butt joints. This is important, for if the shielding is not complete the selectivity will suffer, as it is surprising how much pickup will be present in the coils if there are air spaces in the shielding of the RF stages. A poorly shielded receiver is just a waste of time.



The constructional detail of a wave trap.

on sheet aluminium by the application of emery cloth. Lay the sheet flat on the bench, and apply a fairly rough grade of cloth first, rubbing in the one direction until the grain is pronounced. Then proceed to rub in a cross direction. Repeat this with two finer grades of emery cloth, finish-

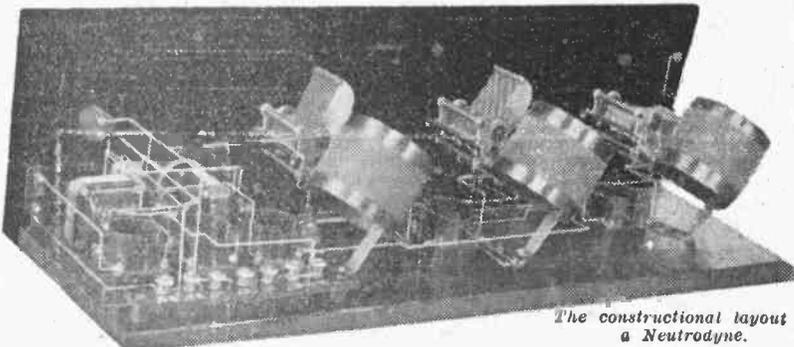


Showing straight and right-angled soldering bits.

Another way of assembling the sheets is to use with the angle strips small aluminium rivets in place of nuts and bolts. If the latter are used they should be of the counter-sunk head type for the front of the panel, but ordinary cheese-headed bolts may be used behind and under the sub-panel. If a soldering tab is slipped under the head of the bolt where required, this will facilitate wiring later on.

INSULATION.

Components which are not connected directly to the earth, or earthed side of the filament supply, must of necessity be in-



The constructional layout of a Neutrodyne.

NO DIFFICULTY IN SOLDERING IF YOU HAVE RIGHT TOOLS

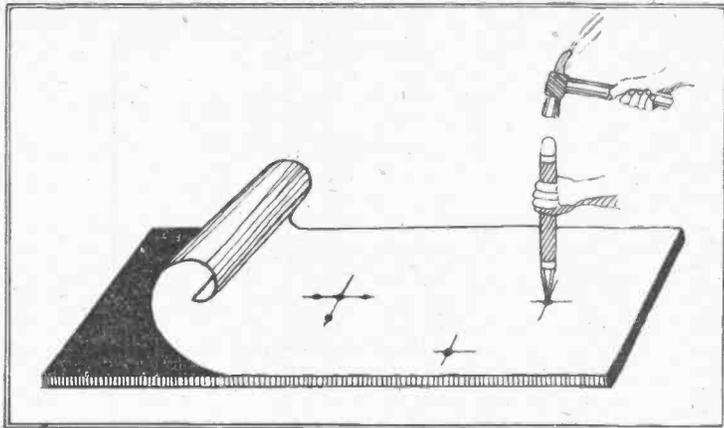
sulated from the aluminium. A clearance hole must be drilled to allow plenty of room for the one hole fixing of a rheostat, and the component mounted on a strip of Bakelite bolted to the back of the panel. The Bakelite is then drilled in the centre of the clearance hole for the mounting. If the butt joints are accurately cut, there will be no need to use angle strip right along every joint, as the edges will pull well together if the drilling is properly done.

SOLDERING.

There is little or no difficulty in the soldering that the constructor is called upon to do, but to enable one to do it easily and surely only the best of tools should be used. Fortunately, most residences are supplied with alternating current lighting supply, and there are many soldering irons of the electrical variety available, with different forms of bits to suit various kinds of work.

The electric soldering iron, if it is of a good and reliable make, usually retains a constant heat, but there are many constructors who must of necessity use a gas-heated iron or an ordinary copper bit. Do not place a copper bit in a coal fire. This will always make it dirty, and will quickly destroy the copper. If it is essential to use a coal fire because nothing else is available, enclose the bit in a brass or copper tube, into which it will slide easily. This will protect it from actual contact with the coals, and will keep it clean.

Be careful of the flux used for soldering. The "killed acid" flux is harmful to copper, and will set up corrosion, which will result in a "dry" joint—one which looks like a joint, but is really a high resistance connection. Resin-cored solder may be obtained at



A full-scale template over the panel simplifies drilling.

any wireless dealer, and this in itself is sufficient flux.

Fluxite is good, but it is advisable to always wipe away the residue of flux immediately after the joint is made.

WIRING.

Wiring is most easily done by using No. 18 gauge tinned copper wire, covering this partly or entirely with insulating sleeving. Keep grid and plate leads as far separated as possible, and do not under any circumstances run them close together and parallel.

If this is done, the result will be disastrous, and may be productive of an uncontrollable receiver.

The filament leads in a metal chassis receiver should all be taken under the sub-panel, and the RF leads run above and enclosed in the upper portion or screening partitions.

The workshop is a fascinating place to the man who loves to see things grow under his hands, but it is also a place where if a thing is worth doing it is worth doing well.

STANDARDISED RADIO WITH CALIBRATED COMPONENTS

RADIO to-day is a matter of calibrated components, assembled into a complete circuit as a matter of mathematical certainty based on good engineering. There is an absolute minimum of guesswork. The engineer can specify precisely what is required, with the assurance that there will be no variables or unknown quantities to upset his well-laid plans. As an outcome, we have positive results rather than crude and disappointing experiments. In short, radio engineering has come into its own.

The real foundation for positive radio results is to be found in standardised valves, since any circuit necessarily revolves about them. It is a fact that makers of better grade valves are now striving for maximum uniformity. During the past few months, most manufacturers have gone to a more rigid mechanical construction, with mica or other insulating spacers at the top of the stem assembly to assure a more accurate and permanent positioning of the elements. Heretofore, in the absence of proper rigidity for filament, plate, and grid, the elements have been subject to more or less shifting in transportation and handling, resulting in a marked change of characteristics. "Tapping" or hitting the valve in the palm of the hand, flatwise of the plate, has been a common practice in testing departments for the purpose of "correcting" certain characteristics. Obviously, if the characteristics could be so readily corrected, they were apt to be altered in the wrong direction during transportation. Little wonder, therefore, that valves had to be shifted about in amplifier, detector, and radio-frequency sockets for the best results, and that fastidious radio fans had "pet" valves which were almost priceless.

With definite characteristics now taken for granted, the other components can be made to definite standards. Thus we have genuine uni-control tuning of several tuned radio-frequency stages, due to precise calibration of inductance coils and condensers. The coils are calibrated one by one, and arranged in sets of precisely matched coils for subsequent assembly. The condensers, likewise, are calibrated throughout their range of capacitance, and then matched in sets for assembly in the ultimate circuit. Little wonder, therefore, that uni-control tuning has been achieved without loss of sensitivity, selectivity, or tone quality, even in popular-priced radio sets.

Audio-frequency transformers have been reduced to definite engineering standards, so as to match the standardised valves on the one hand and the standardised loudspeakers on the other.

With valves of known characteristics it has become possible to employ fixed and permanent resistances for voltage-dividing systems in radio power units. No longer must the radio enthusiast fiddle with numerous extra knobs in obtaining the precise resistance value for each circuit.

Resistance, which is the essential controlling agency in many radio circuits, has also come in for the present technique of precise calibration. Precise resistance values are not merely a matter of using more or less resistance wire or resistance bar or coating to obtain a certain resistance value. More important than the initial attempt is the struggle to maintain that certain resistance value while handling a specified current, and over an indefinite period of time.

Simple as the present metallised resistance may seem, it has been the subject of

long and costly research. Various metallic chemical coatings had to be formulated and tried, until the present coating was finally perfected, placed on a spun glass rod or filament by an ingenious process. The filament, spun and coated in continuous strips, is broken into lengths about two feet long. These must be placed in special glass containers and laid away for a period of time, so that the filaments may age or become seasoned in order to insure permanent resistance value, just as green wood is stacked up in the lumber yard and permitted to weather.

The seasoned or aged filament is subsequently cut to the precise short lengths, which are in many cases calibrated individually for the exact resistance value. All lengths that do not come within the specified resistance tolerance are discarded. A further operation is to mount the filament in a glass tube, with metal ferrules at each end containing the special alloy in which the ends of the filament are imbedded. A further resistance measurement discloses those units which come within the specified resistance value, and those which do not.

Precisely calibrated resistors would be of little use if other components, particularly valves, were not reduced to precise standard. In fact, several years ago variable resistors, despite their serious shortcomings, were essential in most circuits, to compensate for variables among valves and other components. To-day, the radio engineer can specify precisely what resistance values are required for a given circuit, with the assurance that if the resistances are properly calibrated and seasoned, the circuit will function positively and well for all times.

VARIETY OF FEATURES IN THE PROGRAMMES

2FC—2BL

The 2FC Band of Joy Spreaders

THE patients at Royal North Shore Hospital recently benefitted by a visit from the 2FC Hospital Concert Party. "Better than our best tonic," the secretary, Mr. Arthur Russell, smilingly admitted. On Saturday, February 9, the party is going "a long way from home." "Bodington," Wentworth Falls, is their destination. Charles Lawrence, as usual, is in command. Despite that gentleman's modest disclaimers, he is, to quote a Randwick "Digger," "half the show," and, with his able supporters, in the persons of R. A. Bartleman, Dorothy Dewar, Maggie Foster, and Frank Ryan, the patients at "Bodington" will not be disappointed in the jolly time they are anticipating.

Ye Merrie Trio

STATION 2BL boast yet another combination of entertainers. It is surprising to knock this service has of discovering just what listeners like, and of putting it over to the best advantage. "Ye Merrie Trio" are not nearly as old-fashioned as their title; their work is fresh, and of a quality that ranks them above the average, and their appearance on Saturday, February 9, will add materially to the value of the programme on that evening.

Chorus Again

THE 2BL topical chorus lives again! The broadcasting company adopted the simple expedient of deleting it for a short period to ascertain the opinion of listeners as to its merit, and its reinstatement is eloquent tribute to the popular little three-minute chorus, which now opens the programme every alternate week.

Novelty Pianist

HILDA GRACE, a novelty pianist of outstanding merit, is to broadcast through 2FC service on Friday night, February 8. Friday night is looked on as 'popular night' at 2FC, and Miss Grace's work is a feature in keeping with the programme.

Popular Violinist

JULES VAN DER KLEI is again in the broadcasting arena. Listeners have not had an opportunity of hearing him for some time, as Mr. Van der Klei is in constant demand at Sydney's leading theatres. Possibly the demand has been a little too constant, and his health has suffered in consequence. He is, however, on the mend again and the numbers he is preparing for Thursday night, February 7, promise a treat for 2FC music-lovers.

Classic Programme

THE classic programme to be given through 2FC service on Wednesday, February 6, will be arranged by Harold Whittle. These programmes extend over two hours, and on the evening of the 6th the transmission will be concluded with a ten-minute reminiscence of J. G. Lockley of "Old Sydney." There is no one better fitted than "J.G." as he is affectionately called by his friends, to entertain listeners with stories of our fair city, half a century ago.

Famous Tenor

BROWNING MUMMERY, the celebrated tenor of the late Grand Opera Company, will be heard through 2BL service on Sunday night, when, it is hoped, a concert will be arranged at the Rose Bay Wintergarden Theatre, and again on Monday night, February 4, through 2BL service. His farewell appearance will be made at 2FC on the evening of February 5, when he will bid listeners "au revoir," prior to his departure for America.



Browning Mummery, the famous Australian tenor of the Grand Opera Company, who will broadcast from 2FC and 2BL early next month.

Travelled Journalist

FREDA STERNBERG, noted journalist and publicity officer for many great artists, will give another series of talks through 2FC service before she goes Home at the end of March, or early in April. On Tuesday afternoon, February 5, she will speak on "India, Crowded Into Six Weeks"—a vivid pen picture of her sojourn there; and on Friday her subject will be "From Rangoon to Mandalay." She will speak at 2.45 p.m. on each occasion.

"Floradora"

THE studio production of popular musical comedies has met with instant favor, and Leo Packer is busy preparing his small company for a tabloid version of "Floradora," on the evening of February 4. The first half of the programme will also be arranged by Mr. Packer; between 8 and 9 p.m. vocal and instrumental numbers will be given, and "Floradora" will commence at 9.10 p.m.

3LO—3AR

Gertrude Hutton at 3LO

GERTRUDE HUTTON, whose fine contralto voice and consistently artistic work has placed her in the front rank of Australian vocalists, will shortly be on the air again from 3LO, when she will doubtless add to the very excellent impression already created among listeners.

Musicians I Have Met

ALL listeners interested in music should thoroughly enjoy the talk to be given from 3LO on January 31, by William James, the distinguished Australian pianist. For this occasion Mr. James has chosen for his subject, "Distinguished Musicians I Have Met," and will give listeners his impressions of the intimate home life of many celebrities. Whilst Mr. James was in England he had a unique opportunity of meeting a host of distinguished people, and his impressions should provide a most entertaining quarter of an hour.



William James.

Old-time Dance Night

LISTENERS to 3LO are due for another night of jollity on January 28, when two old-time dancers will again take the floor. In addition to the excellent music provided by Hoffman's No. 1 Dance Orchestra, vocal soli will be contributed by Graham Burgin (baritone), Don Forbes (tenor), and Madge Agnew (mezzo); while the Radio Merry-makers will be responsible for the spirited rendering of the old-time choruses.

A Night With Mozart

TO commemorate the death of Mozart, the famous composer, a special programme of Mozart music will be presented from 3LO by the Strad Trio, who, in addition to soli by the individual members, Cecil Parkes (violin), May Broderick (piano), and Francis Johnstone (cello), will be heard in Concerto No. 4, D Major. Those two popular broadcasting artists, Bernard Manning (bass baritone) and Millie McCormack (soprano), will render appropriate numbers, and, to complete a very excellent programme, Mr. J. Howlett Ross will give one of his customary instructive talks on the life and works of the great master.

Radio Rascal Returns

JACK LUMSDAINE, more popularly known as the Radio Rascal, will soon be entertaining his vast circle of admirers from 3LO with a budget of new and old favorites. This



Jack Lumsdaine.

versatile artist, who claims to be one of the Australian pioneers of the new "whispering baritone" style of vocalists, is a gifted pianist and composer, who has brought the art of interpretation to perfection. Apart from his vocal items, which are always highly appreciated, Mr. Lumsdaine provides much diversion with his clever piano soli, by improvising on such evergreen ballads as "Annie Laurie," which he presents as a march with a waltz to follow. Then, by introducing a few harmonious jazz chords, "Annie" is immediately brought up-to-date, to the great satisfaction of the younger generation of listeners.

The Australian Aboriginal

"CORROBOREES and Games is the title chosen by Mr. A. S. Kenyon for this instructive talk on the Australian "abo," that he will give from 3AR on Sunday, January 27. This series of talks is creating keen interest among a wide circle of listeners, and the history of the corroborees and games, which is as ancient as the continent itself, and to which Mr. Kenyon has devoted a great deal of study, should prove a feature of the programme.

Ten Years Hence

FEW speakers over the air are accorded a more genuine welcome than Mr. Charles Nuttall, whose talks on almost every conceivable subject have been entertaining listeners since the doors of 3LO Studio were first opened. For his talk on January 31 Mr. Nuttall has given his imagination free rein, and intends to speak on the conditions that will probably prevail "Ten Years Hence."

PEOPLE *in* the PROGRAMMES.

A Vocal Lapidary

O, do you remember sweet Alfred O'Shea—
Sweet A-a-alfred, whose voice is so sweet?
Well, Alfred O'Shea is soon going awaif,
And—

BUT we have drowned our rhymes in tears; so you will please imagine the song cut short in an agony of frenzied weeping. Or a frenzied agony of weeping. Or a frenzy of agonised weeping. Take your choice.

Mr. O'Shea leaves on January 24 by the Tahiti for America. There will be a few concerts in New Zealand and in Honolulu, but these will be only by the way, as the ultimate aim and objective is the Metropolitan Opera Company.

"Yes, that's what I am after," said Mr. O'Shea, "the Metropolitan Opera Company, and some concerts. I want to sing there with Galli Curci—she is a great friend of mine." Mr. O'Shea expects to be away for about two years.

Alfred O'Shea came to Australia four years ago with the Melba-Williamson Opera Company, and became famous. During these four years he has toured throughout this fair land of ours without finding any reason to deny its fairness.

"Artistically," he said, "Australia is like a beautiful diamond—going through its polishing stages. Unfortunately art is the last stage in the refinement of a nation—that is the tragedy. But the polishing has begun. You have had your opera companies, your great singers and players, and your State Conservatoriums, which are doing wonderful work towards the promotion of national interest in art. I think that, to do any good at all in this direction, you must have State and municipal music. It is done on the Continent and in America, where cities have their own orchestras and their own opera houses. It should be done here.

"Now that radio transmission has been brought to such a high standard, and with the engagements of leading artists for the performance of classic works, which paradoxically seem to be the popular works, the standard of artistic appreciation in Australia has been raised considerably. The gramophone also has familiarised the public with standard works."

Mr. O'Shea admitted that it was not until two years ago that he had agreed to broadcast. The repeated urgings of Mr. Oswald Anderson at last prevailed.



Mr. O'Shea demonstrates the technique of the open throat.

"I am not sorry," he said. "The wireless has given me wonderful publicity. I found while I was touring that most of my admirers were people who had heard me on the air, and who came to my concerts for that reason."

A friend of ours once said of Alfred O'Shea: "Every note he sings is that of a great artist, and his interpretations are perfect." Great artists are always deep students of their media, so Mr. O'Shea's conclusions should prove interesting.

"Technique means everything," he said. "I put the open throat first. This is absolutely essential for the rendering of light and shade and for the lingering and caressing qualities of simple songs. Perfect control of breathing is essential. Especially with wireless the necessity for clear enunciation and diction is obvious. The audience must hear what you are singing about. Finally, there must be no forcing of the voice. Personally, I never use more than 75 per cent. of voice at any time."

Mr. O'Shea is an unusual man—he has practised what he preaches. There is not one quality he has named which has not been noticed and appreciated in his singing; and one feels that his few remarks could be studied to their benefit by all who are anxious to gain the ears of Australian listeners-in.

Another Innocent Abroad

STEP by step, Professor Berry is taking listeners through America, and, like Mark Twain, is sandwiching a great deal of real information among the many humorous anecdotes and pithy remarks that help to make his talk so attractive. The professor will be making the next break in his journey on January 29, at 3LO, when he will speak on "The Lighter Side of Life in the States," which will be followed by "Americana" on January 30. According to the professor "Americana" is his best and most entertaining talk, and, this being the case, it should reach the high-water mark of excellence.

A Welsh Personality

MISS GWLADYS FIMISTER appears.

The first interesting thing about this very interesting young lady is the "w." You don't notice it when you are speaking to her; but in print it seems to strike one's eye most forcibly. The fact is, Gladys is a Welsh name. Gladys is merely English. A "w" of no importance. We really don't know why we mentioned it.

Miss Fimister is a soprano. This is a dull statement. It is like saying Miss Fimister is an abstract noun. But abstract nouns cannot say: "Broadcasting has always appealed to me. I have always tried to get the most from the microphone. It needs some study; but it's worth while, I think. Don't you?" We said "Yes, rather." We can't put Miss Fimister's personality on paper.

Miss Fimister studied under William Beatty, who sits back and listens, and says, "Divine! Divine!" Now. You know what these maestri are like. And as a child she was what was known 11 years ago as a wonderful little war-worker. War-worker! How quickly we forget.



Miss Gladys Fimister.

A metrical introduction to Miss Gwen Gibson, who arranges the 2FO and 2BL programmes.



Take the lift to the Room of Doom;
Take the lift to the Doomful Room;
Enter, and worship, on bended knee,
The New South Wales Broadcasting Company!

Typewriter clatter and clicheetty-cliche;
Five pretty maidens, all very chie,
Smile as you enter, and smile as you go—
Wise little Fates! They know! THEY KNOW!

The room is long and the room is wide,
And four pretty maidens sit inside;
And, at the end, on a chair of state,
Sits the charmingly manieured Hand of Fate.

Artists come in a long, long file;
Artists, claiming your cheerful smile;
Artists whom you alone can bless,
Await your softly murmured "yes."

O, Miss Gibson! You who write
The name of the artist who's on to-night!
Programme Directress, maiden pure,
Smile on your humble interview!

Shining curls, expressive lips;
Logical voice that never slips;
Big horn goggles (pardon sighs),
Obscure the light of the big grey eyes.

This pretty lady spends her days
Creating programmes people praise;
She runs the programmes of 2BL,
And 2FC's she runs as well.

Three-sixty-five programmes every year,
Three-sixty-five programmes must appear;
And when old Time is playing tricks,
She turns out just three-sixty-six.

"Yes," said Miss Gibson, "I like the job;
But sometimes I feel inclined to sob,
For it's awfully hard when your well-run works
Are turned upside down by unfortunate cires!"

"It's hard to arrange to broadcast a church,
'Cause you never know when you'll be left in
the lurch;
And you've no sooner fixed a certain date
Than your artist leaves for another State!"

OUR MISS GIBSON

"It's hard to know how to be len-i-ent
With an artist's artistic tem-pra-ment;
For tem-pra-ment plays a terrific part;
And you've got to engage the artist's heart!"

"It's hard to please the Public Taste
When the Public hasn't much taste to waste;
And it's hard to arrange a correct programme
So that no one can write and say D—, D—, D—.

"Sometimes the Howler doesn't howl;
Sometimes the Growler doesn't growl;
Sometimes the Melody's played to tune;
And sometimes is once in a 'big, blue moon!'"

We noticed a book at Miss Gibson's side—
A very big book, always opened wide—
"My diary, sir," she said, "and, look!
I'd go over the Gap if I lost that Book!"

Then we sighed, and we said, in a voice that
shook:
"We hope you'll never lose that Book!"

She replied, "Thank you"; but it sounded like
"Shoo!"
So away we tripped from our interview.



The "Stunt" Programme Committee in operation. Left to right: Mr. G. Vern Barnett, Mr. H. P. Williams, Mr. Oswald Anderson, Miss G. Gibson. Mr. Ewart Chapple was absent when the photo graph was taken.

STUNT PROGRAMMES

Have you any ideas for novelty programmes? If so, send them along to the stunt programme committee of the N.S.W. Broadcasting Co. During the next six months this committee hopes to arrange a number of new and exciting programmes, some of which are listed below.

IN order to broaden the broadcasting programmes for the next six months—a period of extreme inactivity musically—the New South Wales Broadcasting Company has announced its intention of broadcasting a series of novel stunt programmes.

A "stunt" committee has been formed to devise the ways and means of producing these novelties, and includes Mr. Oswald Anderson, Mr. H. P. Williams, Mr. G. Vern Barnett, Mr. Ewart Chapple, and Miss G. Gibson.

"The radio world, at this time of the year," said Mr. Anderson in explanation, "is extremely dull. There are very few concert or other winter amusements. So we are arranging a series of stunt transmissions to cheer things up. There are many interesting and out-of-the-way sights in Sydney, descriptions of which are bound to prove of interest to all listeners-in. Mere descriptions of city life are interesting to people in the back-blocks; while the peculiar nature of the subjects chosen will commend them to everyone living in the city itself.

A tentative scheme of stunts, covering February and March, has been drawn up. Transmissions are to be arranged for afternoons and nights, and to be divided equally between Stations 2BL and 2FC. Suggested night transmissions are:—

February 4: Swimming in the luxurious baths of the Tattersall's Club. An attempt will be made at record-breaking.

February 12: Description of the sorting-room at the G.P.O.

February 18: Concert from Hyde Park, featuring 2BL and 2FC artists.

February 26: Description of the Police Museum, including a talk on the many relics of those gentlemen who were unfortunate enough to be found out.

March 4: Concert arranged aboard the H.M.A.S. Australia.

March 12: Description of Fire Brigade Headquarters, Castlereagh Street. (We believe that the committee is buying a box of matches, and will arrange a special fire for the occasion.)

March 18: Description from Watson's Bay lighthouse. (Miss Jenny Soprighnote will sing, "Lead, Kindly Light.")

March 26: Description from Central Railway Station.

Suggested afternoon transmissions are:—

January 31: Rock-drilling, Wynyard Square. (From the tunnel that is there.)

February 7: Description from the Zoo at feeding-time.

February 14: Description from the North Shore Bridge (Message of Hope).

February 21: Description from Bunnerong power station.

February 28: Description by a dogman or someone who will be taken up in a crane to

describe Sydney from a height of 150 feet.

March 7: Description of Sydney from the Post Office tower.

March 14, 21, and 28 have been left open; and there is an unconfirmed rumor than on Saturday night, February 2, there will be a description of the Sunday "Sun" going to press.

To a large extent, these stunts are the outcome of the unqualified success of the Manly Beach broadcast, arranged by Mr. Basil Kirke and Mr. Charles Lawrence. We understand that Uncle Bas has undertaken the arrangement of a broadcast from Coogee Pier for early next month. A deep-sea diver will tell the children what he sees below; and many other novelties are to be presented.

The description from the Zoo at feeding-time should prove of great interest. There are many children in the county who have never heard the wild hyena scream and the hungry lion roar. But, unfortunately, the several representations of the N.S.W. Broadcasting Company have been met with refusals by the Zoo trustees in the past. It is to be hoped that this interesting feature will not be withheld from the public any longer.

Brilliant Adelaide Pianist

MISS IRENE KEMP, L.A.B., Adelaide's well-known and brilliant young artist of the pianoforte, will be broadcast from 5UL on the evening of Wednesday, January 23. Miss Kemp is no stranger to broadcasting, as she has performed at 2LO, London.

Child Entertainer

THURSDAY, January 31, sees another newcomer to the Children's Hour, and the choice has fallen on another pupil of Miss Olive Wilton's, the well-known actress, producer, and teacher etaoinshrduetaoinpupupu years of age, is to contribute two recitations at 6.40 p.m.—"An Old Romance" and "Little Lamb." Clearly Hobart does not suffer from a Lamb." Clearly Hobart does not suffer from any lack of talent among its rising generation.



An outsize in Ferranti Transformers. This one is for 53,000 volts, at the Bunnerong power-house.

Wireless Weekly

Incorporating "Radio in Australia and New Zealand."

FRIDAY, JANUARY 25, 1929.

License Figures

IN the panel in the centre of this page we publish some significant figures. They constitute an analysis of the radio license revenue of the Commonwealth in detail for December, and, in brief, for the year 1928. A number of important generalisations can be made from these figures, but before they are made let us state the most important facts of the analysis.

In the first place it will be seen that there are one and a half times as many licenses in Victoria as there are in New South Wales, and that New South Wales has only 3.73 licenses per hundred of the population, while Victoria has 8.11.

At first glance it would appear that Victoria is still in the same position in regard to possession of radio licenses as she has been for some time. However, let us look at the figures in another light. The increase of licenses in New South Wales constitutes nearly two-thirds the total increase of licenses in the Commonwealth, while the Victorian increase is little more than a third of the increase of licenses in New South Wales, and for the last month of the year is actually a decrease of a thousand licenses.

Viewed in this way, these figures assume considerable importance to New South Wales listeners. It means that for the past 12 months the service has been better than it has ever been, since it has induced many more people to buy and operate receivers.

It means that the service for 1929 will be even better than this. The more listeners there are the better the programmes, since it naturally follows that the broadcasting companies have more to spend on rendering a better service.

This increase may also be taken as a decisive argument against those people who criticise the amalgamation of the two stations.

Saturation point has been reached in Victoria, and the broadcasting companies do not see any way of increasing revenue or rendering a better and more reliable service without permission to erect relay or super-power stations. This permission has been withheld, although no doubt the Government will consider some such development on assuming control.

In New South Wales, however, saturation point is a long way off, and a vast amount of progress may be expected during 1929.

Improving the Country Service

THE publication of the results of its research work in conjunction with the Melbourne University by 3LO, and the statement made to the press concerning relay stations, has justifiably caused considerable comment. The report on the research work showed that there are definite limitations to the useful area of the country that 3LO could cover, and that such a limitation was no fault of the station; in fact, it was beyond the power of the broadcasting company to alter the conditions.

The statement showed that the defects in the service were well known to the company some time ago, and that commendable efforts had been made to improve the service. Acting on the best obtainable advice, the company prepared to establish relay stations in country centres—the only remedy—so bringing the transmission strength nearer to the listeners. Those stations, however, could not be established without the approval of the Government, and the Postal Department telephone lines were also necessary to carry the transmission by wire from Braybrook to the various country stations for simultaneous broadcasting.

For some unaccountable reason the Federal Government would not authorise the establishment of the stations, although the company had gone to expense in ascertaining on a scientific basis, the most suitable location for the stations. And the telephone lines could not be made available for the purpose. The company endeavored to overcome the latter difficulty by installing wire-

less relaying circuits. There were some doubts, however, as to the wisdom of utilising such means for relaying, and the company cabled to London and New York to recognised authorities on the subject for advice. That advice was not encouraging, but, nevertheless, the company was prepared to try out the system.

But the necessary approval of the Government to set up the stations could not be obtained, and any time and expense spent in preparing for the relaying was wasted.

Still anxious to make the broadcasting service of the best possible usefulness to country listeners, as well as city clients, the broadcasting company repeated its requests for the essential approvals; but the Government maintained its inexplicable attitude of failing to grant the authority. Thus the country listeners, who are dissatisfied with the Melbourne services, and there admittedly are many who have good reason for complaint on that particular score, must see that the fault does not lie with the broadcasting company.

The British Company, which started the broadcasting service in that country—and built it up to a very satisfactory standard, only to find that the Government took it over for itself after all the pioneering had been done—established relay stations through the British Isles during its first year. There was no opposition or delay on the part of the Government, which left the matter to the company to carry out its policy of serving as many listeners as possible.

LICENSES FOR DECEMBER, 1928.					
ALL STATES.					
	New Licenses	Renewals	Total Issues	Cancellations	In Force 31/12/28.
N.S.W.	2,673	5,277	7,950	1,141	91,709
Victoria	2,088	7,181	9,269	3,445	141,890
Queensland ..	384	1,653	2,047	404	25,224
S. Australia ..	369	902	1,271	268	22,120
W. Australia ..	65	227	292	81	3,828
Tasmania	211	232	443	42	4,117
Commonwealth	5,800	15,472	21,272	5,381	288,888

	Increase for December.	Ratio—per 100 population
New South Wales	1,532	3.78
Victoria	1,380	8.11
Queensland	11	2.77
South Australia ..	101	3.81
West Australia ..	2	.95
Tasmania	171	1.95
Commonwealth	431	4.59

TWELVE MONTHS' FIGURES.			
	31.12.27	31.12.28	Increase
New South Wales.	72,182	91,709	19,547
Victoria	134,825	141,890	7,065
Queensland	24,433	25,224	791
South Australia ..	18,792	22,120	3,328
West Australia ..	3,872	3,828	44
Tasmania	3,403	4,117	714
Commonwealth	258,179	288,888	30,709

Forthcoming Musical Features at Inter-State Stations

Brilliant Artists at 5CL

INCLUDED in the programmes of 5CL for the week ending January 26 are a series of recitals for violin and piano by two well-known artists in Professor Carl Sauer and Madame Arline Sauer. Professor Sauer is well known for his work in Australia as teacher, conductor, composer, adjudicator and musical critic, and he has officiated at the most important musical festivals in Australasia. Madame Arline Sauer, is an eminent concert pianiste and accompaniste.



Professor Sauer.

Two 3AR Attractions

TWO popular artists are included in the programme of 3AR on January 29. Mr. Frank Thomas, whose fine, resonant baritone scores of listeners will be heard in selections from his repertoire, and Victor Stephenson, the brilliant young Queensland pianist, whose recitals in Brisbane and Melbourne have made such a great impression on musical critics, will give excerpts from the works of the great masters.



Mr. Frank Thomas.

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.

The Yellow Peril

Dear Sir,—I am making a complaint re the interference caused by the Japanese stations heterodyning on our own Australian stations. The interference was until a few weeks ago noticed by myself and other radio fans on all the stations outside our own State. This last few weeks the station we should be able to listen to in summer time—namely, 4QG is absolutely the last word as far as interference is concerned.

I personally would not mind if the Japanese station was only to be heard in the background, but it smothers 4QG completely. Smothering is rather too much to say. Distorting all the programmes is what I mean.

Re the inter-State stations. Sometimes the heterodyne is really bad, particularly on 3LO. Is there any way of overcoming this? Your sets may not be selective, perhaps, you will say. I might just mention, in order to dispel any such thoughts, that these sets I know are selective, several being super hets.

If it is not making too big a matter I would like your magazine to take this up, and try to overcome what might be termed a nightmare as far as reception is concerned by the listeners in Townsville.—Yours, etc.,

Townsville, Q. D. CAREY.

(We suggest that Mr. Carey use a .0001 condenser in the aerial lead, increase cutting between primary and secondary coils, or, if this does not remedy the trouble, then a wave trap will be necessary.)

At Last—a Bouquet!

Dear Sir,—I have noticed in the "Safety Valve" of late a number of complaints about the management of broadcasting. This has so incensed me that I really think it is about time somebody defended our "A" stations.

The majority of people with decent radio sets are quite satisfied with the programmes as they stand, and it appears to me as if most of the complaints come from people who are the owners of worthless sets or are too ignorant to realise the difficulties of arranging a programme for some weeks ahead. If they would only stop to think that the programmes are arranged to suit the requirements of thousands of listeners, and no two persons' tastes are alike, they would realise how egotistical they are.

As for our highbrow, "Gunn," from Preston, Victoria (December 28 last), he strikes me as being too self-centred to think of anybody but himself, and would suggest that the people of Victoria subscribe for a station ESPECIALLY for him. What's more, there may be a lot of lowbrows in Australia, but I think that the social standard of Australia suffered a severe setback when he was placed in our midst.

I wish to say that the music as broadcast from our "A" class stations is thoroughly enjoyable on the whole, and the staffs of our stations deserve great credit for the way they have arranged programmes to give pleasure to all except a few who are born with a grouch, cue with a grouch, and look like one.

Why not let the staffs of the stations have a week's holiday, and let this class of person arrange a programme with all its attendant

worries? After that we will see if they still have complaints to make against those now doing their utmost.—Yours, etc.,
Lismore. "RALLAH."

Gone Gunning

Dear Sir,—I have noticed that something corresponding to the name of V. SHANE 'OG, I mean O'G., has done me the great honor of criticising some remarks of mine in a late issue of your amusing rag. He concludes by confiding that if the writer was sincere a Gunn is not the correct weapon for exterminating "comedians, jazz melodists, pseudo-classical singers, and boxing announcers; at least, not in New South Wales." I am afraid his contention is absolutely correct. If a "Gunn" could possibly do this it would be done. I cannot do it; and I say so, pointing out, however, that it should be done. This 'OG, I mean O'G., not the least of whose merits to distinction as an Irishman is a low, vulgar, and particularly distasteful habit of punning in names, says that I am conscious of my condescension. Can anyone (excepting, of course, Mr. V. Shane 'OG, I mean O'G.) speak of present-day programmes without feeling conscious of his condescension? The programmes are bad enough to make every thinking man in Australia a perfect snob. If, as Mr. 'OG, I mean Mr. O'G., says, the programmes DO appeal to the majority of listeners, then the following things can be said about the majority of tralian listeners: They are fundamentally low-minded and depraved. They lack all sense of artistic balance and proportion, and are, therefore, intemperate livers. They have neither the powers of critical judgment nor the inborn instinct of good music, news, or topical discussions. In fact, as civilised beings, they are not. I will conclude by confiding that, while the programmes may not suit a GUNN, they may be tolerably tolerable to an 'OG, I mean, O'G.—Yours, etc.,
Preston, Victoria. A. L. GUNN.

Gives of His Best

Dear Sir,—"Non-Egotist" asks: "Who is the 2BL early morning announcer?" May I reply? One of the few announcers that likes his work; does not appear to watch the clock for closing down; and tries his very best to give listeners all the pleasure that can be derived from broadcasting.

Is "Non-Egotist" so well educated in music that the explanation of good records irritates him, I wonder? Perhaps others are not; and, besides being afforded the interesting knowledge at the patience of the announcer, they certainly do appreciate the record music the more. The announcer referred to never has to our knowledge used the first person when playing records. He always says: "We will now have

As regards the King and country lie, well, his patriotism is an example to others. Let me remind "Non-Egotist" that announcers are born, not made, and personality is a priceless gift. In the interests of broadcasting may we have the pleasure of hearing him for many years to come.—Yours, etc.,
Coogee. (Mrs.) G. McDONALD.

The "Bubbling Brook"

Dear Sir,—I wish to endorse the remarks of "Non-Egotist" with reference to 2BL's early morning announcer, known in these parts as "Babbling Brook." It seems so strange for a grown man to ramble in speech like a child, and 2BL would be a lot better without him.

Another matter I would like to bring before your notice is of the poor daytime reception of 2BL in these parts compared with that of 2FC. The reception of 2BL is very husky, and is accompanied by a continuous gushing noise; the volume is also faint. I would like to hear if any other country listeners have the same trouble.—Yours, etc.,
Dunedoo. B.J.W.

Travelled Talker

Dear Sir,—"Non-Egotist's" letters calls for some comment. I differ from him, and always think the few remarks on the records or artist or place, etc., add very much to the interest and pleasure of the item. Perhaps "Non-Egotist" is a great traveller, and knows all about these things; but others do not, and they much appreciate these remarks. I trust the announcer will continue them.—Yours, etc.,

Bexley. (Miss) H. M. KING.

Delightful Informality

Dear Sir,—As one who has never missed an early morning session at 2BL for months past I resent "Non-Egotist's" remarks in your issue of January 11.

In my opinion, and also in the opinion of many of my friends, the chief charm about the session from 8 to 10 at 2BL is the delightful informality. It would, to my mind, be a great pity if the announcer cut out his very interesting description of musical records or his comments on current affairs.

I think the early morning sessions at 2BL are quite unlike any others. One feels one is listening to an old friend speaking, and also one who takes an immense interest in his work. The announcer obviously has seen and read, and knows a great deal about music, and it is such a pleasure to listen to him. Here I might also mention the Sunday session between 12.3 and 2, which, since he took it over, is most enjoyable. It is quite a treat to my family.

I do not think there is any announcer in Australia who could read a book in the same intensely interesting and dramatic way as Captain Stevens does at 2BL. I like the little bits he tells us of the army and life in India. When we come across in a book "So and So laughed and chuckled in such a way," Captain Stevens does not read it precisely as it is written. He really laughs or chuckles, and one feels the character lives.

Long may the "Cheerio Man" at 2BL be allowed to continue his good work in his own inimitable and original way.—Yours, etc.,

Cremorne. (Mrs.) NINA MORLAND.

"Nuff Said!"

Dear Sir,—"Non-Egotist" has put the case exactly. Nothing remains to be said.—Yours etc.,
Marrickville. A. L. JENNINGS.

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1 1/2lb. Reel 24 D.C.C. Wire	2	6
1 Wetless Grid Condenser, .00025, with Clips	1	9
1 Terminal Board (engraved)	2	3
1 30 Ohm U.S.L. Rheostat	2	6
1 Wetless Condenser, .001	1	6
6 Lengths Square Buswire	0	6
1 Plywood Baseboard, 11 x 7	1	1
1 Luzerne Hard Rubber Panel, 12 x 7 x 3-16	4	3
1 Bakelite Former, 3 x 5	1	8
1 Radion Former, 2 x 2	1	4

Total, 36/1, Cost.

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The Countryman's ONE Valve

One-valve Receivers are not advisable for the country, but they are economical, and the one described here is best suited for country use if one is to be made.

Receiver

HERE is a one-valve receiver that will give excellent loud-speaker volume on local stations for the city listener, and excellent headphone strength for country listener.

It will be noticed, on reference to the circuit diagram, that there are only two coils in the receiver. The primary, or aerial coil, is tapped, and supplies inductance for the secondary coil. The remaining coil supplies regeneration.

Tuning is accomplished by means of a single variable condenser of .0005 mfd. For best results this condenser should be of the S.L.F. type. As for the circuit itself, the experienced radio fan will see that it closely resembles the "Old Reliable," which is noted for its volume and sensitivity. Therefore, for the country listener, this receiver is ideal.

CONSTRUCTION.

Commence by giving the baseboard a coat of shellac varnish, which can be made by dissolving shellac flakes in methylated spirit. Lay the baseboard in a place free from dust to let it dry. This procedure will only take a few minutes, and whilst the baseboard is drying, mount the variable condenser on the ebonite panel. The centre hole for the condenser, i.e., the hole for the spindle, should be drilled in the very centre of the panel, 6 inches from the side, and 3 inches from the bottom.

The rheostat should be mounted on the left-hand side of the panel, in a spot 3 inches from the bottom, and 3 inches from the left-hand side of the panel. Next mount the jack on the right-hand side of the panel.

Three holes should be drilled in the panel, approximately one-eighth of an inch from the bottom (depending on the thickness of the baseboard), one hole in the centre, and

What You Will Need

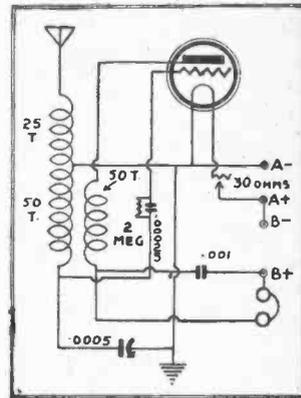
- One UX-199 valve.
- One valve socket.
- One S.L.F. variable condenser, .0005 mfd.
- Half-pound 24-gauge D.C.C. wire
- One grid-leak, 3 megohms.
- One fixed condenser, with clips, .00025 mfd.
- One battery strip.
- One S.C. Jack.
- One 30 ohm rheostat.
- One fixed condenser, .001 mfd.
- Six lengths bus-bar.
- One wooden baseboard, 12 inches x 8 inches.
- One ebonite panel, 12 inches by 6 inches.
- One ebonite former, 3in. diameter, 6 inches long.
- One ebonite former, 2½ inches diameter, 2 inches long.

one on each side, equidistant about 4 inches from the centre hole, for mounting.

The baseboard will be dry now, so the panel should be mounted, then you can commence making your coils.

Take the large former, and wind on 75 turns as tightly as possible. At the 25th

The circuit diagram.



turn make a tapping, 1 foot long. Leave about 9 inches of wire free at each end of the coil. If the turns have a tendency to slip a little collodion will be found useful here, but use no more than is necessary.

Now wind the reaction coil, and wind on 50 turns in the same manner. You will find when you have almost finished this coil that there is not enough room to hold comfortably all the turns on this coil, so wind the remaining turns in the grooves made by previous turns, leaving approximately ¼ inch spare on each side of the former.

Mount the smaller coil inside the larger by means of metal-thread screws. You will have ample room, since there is half an inch almost spare.

Next mount the valve socket and the battery strip, also the coil combination, and you are ready for wiring, which is at once simple and interesting.

WIRING.

First clip the grid-leak into the grid condenser of .00025 mfd., then mount one side of this direct to the grid terminal of the valve socket. Always, when building a receiver, wire filaments first. Remember to keep grid and plate leads short, and make certain they do not run parallel to one another.

With a piece of bus-bar connect the A positive terminal on your battery-strip to the B negative terminal, and thence to one side of the filament (on the valve socket) to the tapping on the large coil, then also to the moving plates of the variable condenser, and thence to the earth terminal.

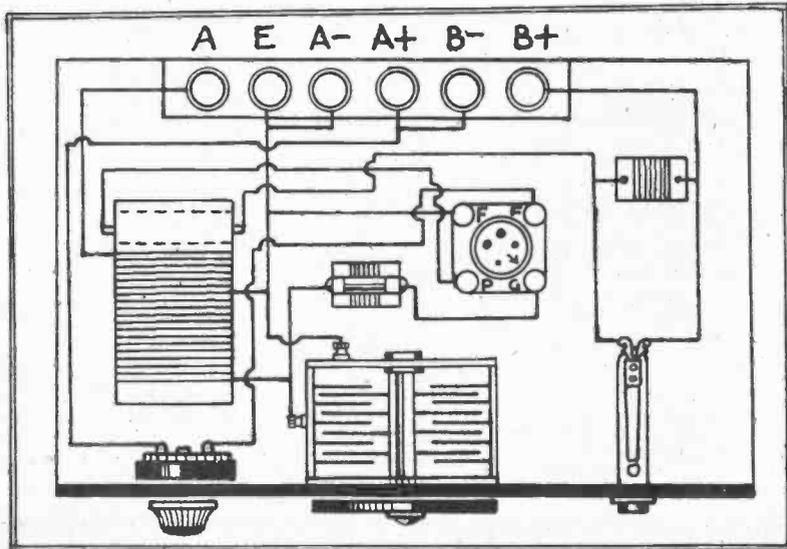
Now take a lead from the A negative terminal on the battery strip to the contact arm of your rheostat, and from the remaining terminal of the rheostat run a lead to the A negative terminal on the valve socket.

Next connect the grid terminal of the valve (if you have not already done so), to one side of the grid-leak and condenser, and from the remaining side of the condenser connect a wire to the last turn of the large coil, and also to the fixed plates of the tuning condenser. Connect the first turn of the large coil to the aerial terminal.

Run a lead from the first turn of the smaller coil (it is advisable to make this lead flexible for the time being) to the plate terminal of the valve socket, and connect the other end of this coil by another flexible lead to one side of the jack, and also to one side of the .001 fixed condenser. The other side of the fixed condenser should then be connected to the B plus terminal on the battery strip. This terminal should then be connected to the remaining side of the jack. This finishes the wiring.

TESTING AND ADJUSTING.

Place the valve in its socket, and connect B plus to the positive terminal of a 45 volt "B" battery. Then connect up the A plus, A minus, and B minus, as shown on the circuit diagram. Don't forget the aerial and earth in your eagerness, as I did—but even



If this happens, you will find the receiver will still give you reception.

Slowly turn on the filament rheostat, when the valve should light up. Rotate the tuning dial until you hear a station. Tune this station in as loudly as you possibly can.

If the receiver whistles pull the smaller coil outwards a little, until this whistle stops, and reception is good. If, however, you get no whistle at all, and reception is very faint, reverse the leads to the small coil, i.e., the

reaction. It was for this reason that I suggested flexible leads.

The object of these adjustments is to get the receiver so arranged that it is at all times on the very point of oscillation. If the receiver is adjusted beyond this point you will not only ruin your own reception, but also that of others.

As a sign that you have adjusted the receiver correctly, when tuning in a station you will hear a high pitched note that

rises in tone as you pass over it. However, you must find the lowest point of this note, then gradually adjust the coil and condenser until the station is received at good volume. This is much easier than it sounds. Once the correct position for the reaction coil is found it will not require altering.

Now set to work and build this really efficient little set.

Your Choice of an Aerial

The conclusion of the article which appeared in the last issue of "Wireless Weekly." Various forms of aerials are described here, including the Loveless aerial, underground aerials, underwater aerials, short-wave aerials, etc.

LOVELESS AERIAL

An interesting form of indoor aerial which was described recently in an American journal is reported to give better results than an outdoor aerial, although this is a matter for proof individually. This is known as the Loveless Aerial, named after the originator, and although the writer has not yet tried it, readers are advised to give it a trial. At any rate, the construction is simplicity itself, and reminds one of the dear old days of gigantic loose couplers.

Two cardboard tubes are required, both seven inches long, and one 13 inches in diameter, and the other about 12½ inches in diameter, to slide into the other. Wind 40 turns of ordinary insulated wire on each, and fasten the wire through a couple of holes in the cardboard, allowing sufficient over to connect to the set. Only one end of each coil is used. The rest is what we used to call "dead end." Note that the wires run in the same direction, and telescope the smaller into the larger tube.

Hang the whole arrangement from the ceiling near the set. The top turn of the outside coil goes to the earth terminal of the set and earth, with the other end of the coil remaining disconnected.

Then connect the bottom turn of the inside coil to the aerial terminal of the set. The top turn of this coil remains unconnected also. All that remains is to adjust the coupling of the two coils for best results. The idea is certainly original, and the ease

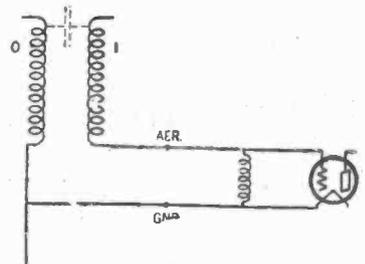
with which it may be tried places it within reach of all.

UNDERGROUND AERIALS

Since I have touched on the subject of an aerial of this nature, I will say a few words regarding an underground system. A properly constructed underground aerial system can be highly efficient and of material advantage in any country where static is prevalent. It must, however, be REALLY an underground system, and no half measures must be adopted or the whole business will be a waste of time and money. I do not advise anyone to even consider the idea unless they have the ground space available, and unless the ground is of a "workable" nature.

The procedure is to dig a trench about three feet deep, running straight for a distance of at least 80 feet. The aerial itself should consist of heavy-insulated wire, such as house lighting cable, or, better still, lead-covered cable. The free end of the aerial should be thoroughly insulated by sealing the end in a small glass bottle, filled with blumen or pitch, and the whole length of the wire enclosed in iron conduit. If possible, the aerial should continue right under the operating room, and brought straight up to the receiver by the shortest possible route, still encased in the conduit.

If the lead-in is brought up out of the ground, and run up the side of a wall without any earthed conduit, the effect of the underground aerial will be nullified, as the unshielded lead-in will act as an aerial itself



The circuit of the Loveless aerial.

and pick up static in the usual way. This will be greatly accentuated in the case of a powerful tuned R.F. type receiver using two or more stages of screen grid R.F. amplification.

A correspondent in Gunnedah tells me that the underground aerial system he has installed is his salvation, as during the summer it is only possible to hear about 10 per cent. of even the programmes from 2FC and 2BL on the usual outdoor aerial.

UNDERWATER AERIALS

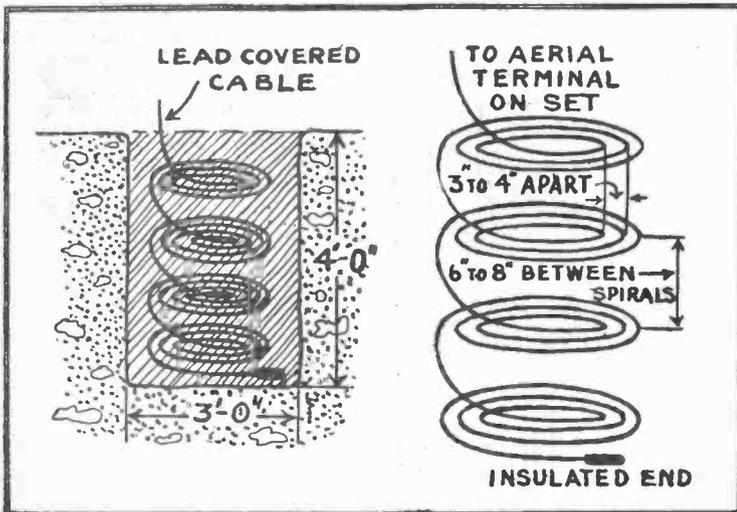
Experiments have recently been conducted in America with underwater aerials, and the results obtained have justified the tests for various reasons. When a wire is placed in fresh water, it has been found that it can be submerged as deep as 60 feet without any appreciable decrease in signal strength. Yet, in salt water, the signal strength drops off rapidly when the wire is submerged to any great depth. The underwater aerial is quite satisfactory for portable use, as camps are usually located near a lake or water supply. It is important, as with the underground aerial, that the end of the wire is made watertight, since if water enters through the insulation, the wire will be earthed and the results obtained will be very poor.

An illustration of an underwater aerial is given with this article, and tests with this type showed that it is possible to carry on steady reception from a distant station while a heavy thunderstorm was directly overhead. It is practically impossible to do anything like this when using the regular overhead aerial, and it would be sometimes rather dangerous to attempt it.

SHORT-WAVE AERIALS

There are many conflicting opinions on aerials for short-wave reception. Some short-wave operators advocate the use of a very long aerial, placed about 12 feet above ground. This type of aerial is naturally highly directional, and unless it is used in the "beverage" manner, with the free end earthed through a high resistance it is a collector of more static interference than is good for a short-wave receiver.

In 1929 we are using very sensitive and powerful short-wave receivers, making use of screen-grid R.F. amplifiers, and in view of the increased sensitivity, my own experience is that a short vertical or semi-vertical aerial is ideal. A diagram shows how such an aerial may be arranged. B is a 30-foot mast supporting A, a broadcast receiver aerial. C are 4ft extensions, with the lower one 20 feet from ground level. D are iron straps holding the extensions by means of nuts and bolts. E is the short-wave aerial proper, consisting of a copper tube 10 feet long and ¼ in. in diameter. The ends of



The underground aerial in detail.

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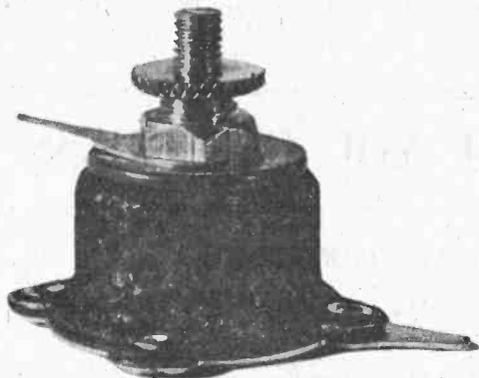
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the tube are hammered flat and then drilled so that wire may be passed through for attaching insulators. F are the insulators at each end. G is the lead-in, consisting of 14 gauge enamelled wire soldered to the copper tube at the base. H is the lead-in insulator. I the receiver; and J are four laths for strengthening the extensions.

Such a short-wave aerial system is easy to erect on an existing mast—if the mast is well stayed and you have a long ladde;—and it has one great advantage, which is freedom from mechanical noise, due to friction or vibration, which would be reproduced in the receiver in the form of scratches similar to static.

STATIC CHARGES.

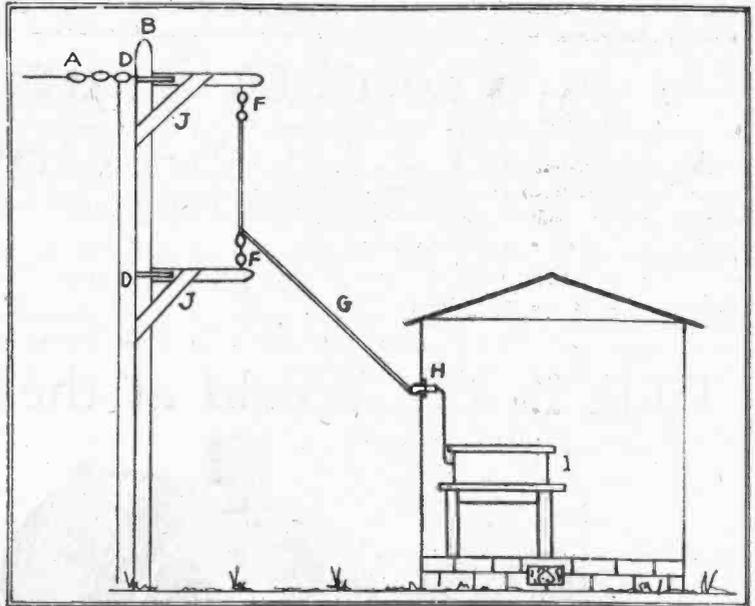
An example of the energy which may be picked up by a large body of metal close to the aerial of a powerful transmitting station was given in an unusual occurrence in London recently. A crane standing on a site in Portman Square, about 120 yards away from the transmitting aerial of the 2LO station of the BBC in Oxford Street, became alive with energy.

The first indication that anything unusual had taken place was when the men working the crane received shocks as they touched the hook or the buckets. The shocks were heavy enough to raise blisters, and when a voltmeter test was taken it showed a reading of over 350 volts! It was considered necessary to provide the workmen with rubber gloves, and the B.B.C. arranged to ring a bell to warn that transmission was about to start. Subsequent tests showed that matches and petrol could be fired by the induced power from the crane.

I hope that motorists will not assume from this that their cars will burst into flames on passing 2FC or 2BL.

ELECTRIC EGGS.

Two years ago I had myself an interesting example of the energy induced in nearby objects by my own experimental transmitting station, 2NO. At that time the station was using an input power of 250 watts on 32 metres for communication with English experimenters. A new aerial system was under test, using a special neutralised feeder system. In order to find if the neutralising feeder was doing its work properly, I climbed on the roof of the operating room and held a wavemeter with a 500 milliamperemeter indicator between the feeders. Only a small reading resulted, but on walking across the garden with the meter in my hand, the indicator suddenly flowed over to 250 milliamperes on my passing near the next door neighbor's fowlyard fence, which consisted



An aerial designed for short-wave reception.

mostly of wire-netting. I often wondered if his supply of eggs increased.

HINTS AND TIPS.

In conclusion, a few aerial tips will be of interest to readers.

In the first place, do not run your aerial over a public highway, because the authorities will assuredly demand its removal.

Never erect over power lines or telephone lines. If a gale brings your aerial down not only will there be a firework display but it will cost you good money.

There is no need to use very heavy insulators—use rather a string of smaller ones.

At the same time, do not forget that insulation of the aerial is of paramount importance.

Include in the supports of the aerial a spring at each end (of the spring mattress variety), especially if a tree supports the aerial at one or both ends.

A balance weight on the aerial halyard will keep the aerial taut under all weather conditions by allowing for contraction and expansion of the rope.

Let the aerial down periodically, and clean the soot from the insulators. Soot is carbon, and is a good conductor!

Don't expect a frame or loop aerial to work on a crystal set. And make sure that your earth connection is REALLY so.

Often a small fixed condenser of .0001 mfd capacity, in series with the aerial lead, will improve selectivity, and it cannot do any harm.

I could go on talking about aeriels until doomsday, but space forbids, so I will conclude this article with well-timed advice for this time of the year.

Make adequate provision for the earthing efficiently (outside the building) of an outside aerial when a storm is in the vicinity. Do not be scared that your aerial is an attraction to lightning. On the contrary, a properly-earthed aerial is a certain protection to a house during a thunderstorm. Remember that all around you are overhead power lines and telephone wires which are seldom known to suffer from lightning discharges.

WHO LAUGHS BEST? --- £2/ 2/- IF YOU CAN GUESS!

ON Monday evening, January 28, 2BL will broadcast a novel competition.

The artists pictured on Page 3 will compete in a laughing competition in order to see who laughs best according to popular vote. Each will tell a short anecdote and then laugh.

Listeners are invited to fill in the adjoining coupon, numbering in the order of their preference for his or her laugh each artist named.

A prize of £2/2 will be awarded to the listener whose vote most nearly approximates the popular vote.

All coupons should bear readers' name and address, and should be endorsed, "Laughing Competition," and forwarded either to "Wireless Weekly," 51 Castlereagh Street, Sydney, or to the N.S.W. Broadcasting Co., Market Street, Sydney.

The Editor's decision is final.

LAUGHING COMPETITION

- | | | |
|--|---|--|
| <input type="checkbox"/> Mr. Montgomery Stuart. | <input type="checkbox"/> Mr. Scott Alexander. | <input type="checkbox"/> Miss Dorothy Manning. |
| <input type="checkbox"/> Mr. J. G. Lockley ("Redgum"). | <input type="checkbox"/> Mr. Carlton Fay. | <input type="checkbox"/> Mr. Wally Baynes. |
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One Valve Socket	1	3	One Fixed Condenser, .001	1	6
One S.L.F. Variable Condenser, .0005 Mfr.	11	6	Six Lengths Bus Bar	0	5
Half-pound 24-Gauge D.C.C. Mfd.	1	9	One Bakelite Panel, 12in. by 6in.	3	0
One Grid-leak, 3 Megohms	1	3	One Former, 3in. diameter, 6in. long, Dilecto	4	0
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One S.C. Jack	1	7			

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R.C.A. Speaker, Model 100A	£10 10 0	Deposit	£1/6/3; 52 Weekly Payments, 3/11
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HITTING BELOW the BROADCAST BELT



(Short-wave and Amateur Notes by VK2NO)

THE good old mornings of strong signals have returned awhile, and the DX fan may set his alarm clock and arise with the knowledge that he will find the London evening programme in full swing from 5SW with plenty of punch and pure Oxford accent from the announcer. If anyone had told me early in 1924 that we should be able to hear broadcasting stations located on the other side of the world I think I should have been sarcastically polite. This thing has come to pass; is a regular feature day by day; and already we are blasé about it to a degree.

When 5SW first started his tests a year or so ago, and I suddenly picked up his razor-blade carrier wave on 25 metres and heard preliminary announcements, I got quite a thrill.

That thrill still remains, for it is not difficult to realise that when one is listening to the announcer at Savoy Hill and it is a beautiful sunny morning in Sydney, there is probably a great contrast just where that distant voice originates. The Strand, with its glassy, surfaced road, polished by the swarm of traffic—and most likely under a heavy pea soup fog—swims before the eyes of those to whom it is familiar.

Similarly, there are many Australians who have sat around the fireside somewhere in England with the biting cold outside and heard the announcer at 2FC or 3LO say that "it is a fine morning here. . . a day of sunshine. . . etc.", and those Australians have probably sighed for their own climate.

About August, 1924, an enthusiastic transmitter colleague in London expressed it as his opinion that he saw no reason why English amateurs should not be able to communicate with Australians with moderate power if the correct time of the day or night could be hit upon. Like many others I was incredulous and ridiculed the idea. Right after this Mr. Goyder, G2SZ, a student of Mill Hill School, suddenly heard signals from Z4AA—Mr. Frank Bell, of Palmerston, New Zealand. G2SZ, called Z4AA, and they opened communication. Goyder was dubious, and thought that possibly some less distant experimental station was fooling him, and requested Bell to cable confirmation. The cable promptly arrived, and then the rush started. All one could hear on 90 metres from 4 a.m. to 6 a.m. and 5 p.m. to 7 p.m. GMT was a medley of British amateurs calling "Test N.Z. Test Aust. . . Receivers began to improve and other New Zealanders were worked, and then Mr. Howden (3BQ), and Chas. MacLurean (2CM) came to light.

If ever there were "good old days" of experimental radio communication these were they! Three years went by, and wide-world communication between private individuals took place smoothly day and night. Now in 1929 the experimenter is faced with the problem of fighting his way back to the long-distance work formerly indulged in through a formidable barrage from local experimental stations. All experimental stations of the world are more or less obliged to operate in the same narrow channels, and it is safe to predict that the former enthusiasm will be a thing of the past.

Nothing daunted, however, Australian transmitters are going ahead on the new allocation, and in a few instances one or two old-time chats are being indulged in with the more powerful Americans. The Americans are complaining bitterly that they find the greatest difficulty in locating Australian signals. At the right time of the year, probably in April or May, Australian transmitters should have no trouble in locating and working the Englishmen on 42 metres, provided the Australian gets out of bed early enough. From 4 a.m. to 6 a.m., Sydney time, the air should be fairly clear. On occasions English signals have been quite strong on the old 45 metre band, and perhaps the increase in frequency will make all the difference.

Complaints are beginning to fly around regarding the use of ICW and 'phone on the 42 metre band. It should be needless to point out that the use of telephony, and particularly .CW on this wave band, should be discouraged recognising at the same time, of course, that at present there is no wave available in the region of 80 metres. Nevertheless, it is of little use every one going to the trouble to see that they have a real 1929 signal, only to find the whole band cluttered up with side bands from 'phone and ICW. Our old Chief of the Rag Chewers' Club, VK2NS, tells me that he can hear the buzzer from one very well-known N.S.W. country station over half the band. Better drop that pseudo VZGY note, Ray!

VK2NS' second op. has netted his AOPC, and will shortly be on the air at VK2RA. His address is R. A. Priddle, 158 Rockett Street, Bathurst, N.S.W.

Possibly those who have been in touch recently with our old friend, Finnish 2NM, will be pleased to have the following information. It will be quite a surprise to many to know that in such a small country as Finland there are considerably more experimental transmitters than in Australia. Most of these stations are active, and a few of them, with 2NM in prominence, have been in touch with Australia. K. S. Sainio, Finnish 2NM, writes to say that their address for cards is now SRAL—QSL c/o Pohjola, Helsinki, Suomi, Finland.

Television.

It is interesting to note in connection with the television article in last issue that the most distant report of reception of the transmission in question was received by WGY from two Los Angeles hams, Messrs. Elba Lee and Kenneth Ormiston. Mr. Ormiston reported as follows: "Results only fair, due to fading of twenty-one metre wave. Voices very strong, with occasional glimpses of faces."

An independent investigator, Mr. Camilli, of Pittsfield, Mass., also reported reception of the television signals. He stated that the signals were much better after midnight. But by far the most interesting report we have heard was from TDX, Tasmania, who reported, not having received the television pictures themselves, but having heard and identified the signals from the television station on an ordinary receiver. Mr. W. T. Meham, of the General Electric Co., commenting on TDX's reported reception, writes as follows:—

"We were very glad to learn that a Tasmanian amateur has picked up our television signals. Our station, WGY, operating on 790 kilocycles, began a regular schedule of television several months ago, and later this was extended to our two short wave stations, 21.96 and 31.4 metres. Prior to your report from Tasmania the greatest distance reported was Los Angeles, Calif. At the present time our television schedule is Sunday evening 11.15 to 11.30 E.S.T. on 21.96 metres, and Tuesday evening 11.30 to 12.00 on 31.4. This is a 24-line picture. It is possible that in the near future transmission will be made on a wave length between 100 and 150 metres, and that transmission on 790 kilocycles will be discontinued. Just what we will do with our short wave stations is not as yet determined. There is no assurance either that we will continue with a 24-line picture, as it is possible that the development may be along the line of a 48 or 60 line picture. We worked on the 2-line picture because we were able to confine that to our frequency channel.

"At no time have we offered any information to the amateur on the construction of television receivers, for the simple reason that to do so would imply an intention to continue operation on our present system, whereas our developmental engineers may change the system over night, and a receiver made to get a 24-line picture would be practically useless. I will be very glad to keep you posted on developments here."

New Japanese Call Signs

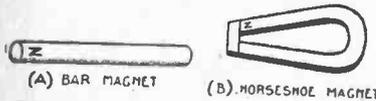
- J1A G Hirain Radio Laboratory, Iba, Ibaraki-ken.
 J1OT Tokyo Electric Co., Kawasaki, near Yokohama.
 J1CW H. Takeuchi, 419 Ikebukuro, near Tokyo.
 J1CX H. Horikita, 597 Shimobabukuro, Elara-machi, near Tokyo.
 J1CZ K. Rimuro, c/o Mr. T. Saganu, 3495 Magome-machi, near Tokyo.
 J1DA T. Senba, 680 Simanumachi, Denen-Chofu, Tokyo.
 J1DB M. Sumi, 85 Mukojima, Shibuya-machi, near Tokyo.
 J1DC T. Seki, 33 Sakusabe, near Chiba.
 J1CB K. Kusama, 1581 Atsugaya-cho, near Kobe.
 J1CC K. Kajiki, 160 Toyosumi-cho, Osaka.
 J1CD Y. Tanigawa, 4 Yamamoto-dori, Kobe.
 J1CE M. Takebe, 496 Sakuragi-cho, Tanodan, Kyoto.
 J1CF Y. Kikuchi, 35 Naka-2, Dojima, Osaka.
 J1CG G. Kikuchi, 2249 Korpen-hama, near Kobe.
 J1CH T. Hayashi, Hisharijanka, Kawabeguni, Hyogo-ken.
 J1DD K. Kasahara, 880 Tennoji-cho, Osaka.
 QSL service of J.A.R.L. is:—
 C/o K. Kasahara, 880 Tennoji-cho, Osaka, Japan. All cards sent to that address will be forwarded to each station.

PROVING RADIO!

No. 5 This week we deal with that mysterious and unaccountable force: Magnetism. Various kinds of magnets are described, and the method of magnetising metal discussed.

BEFORE continuing with our weekly experiments I wish to bring before readers' notice the fact that many are writing to me for further particulars of the short-distance transmitter and microphone which I promised you in a later issue. I am afraid I cannot comply with these requests just yet, because one must first have a knowledge of the elementary principles of radio before he can even hope to build a simple transmitter correctly; and further, as this series is intended for the genuine student who desires carefully to work his way through until he can sit for his A.O.P.C. examination, it would not be diplomatic (to say the least) to give details of this apparatus before the reader knows what he is doing.

We shall, therefore, proceed with the nickel-plating.



For nickel-plating, clean the object to be plated with vinegar as before, then put one teaspoonful of sodium carbonate in a tumbler half-full of water, and stir until the chemical is dissolved. Connect the object with the cathode (negative) terminal of the battery, and connect a clean piece of nickel with the anode (or positive) terminal of the battery, and immerse both leads in the solution. Very soon you will see that the object is taking on a whitish color. This is the nickel that is being deposited on it.

Now, before I go any further, I just want to tell you (reverting to resistances) that the water resistance is only one of many methods for setting up a resistance. Everything has resistance. Some matter, such as copper, has very little resistance, and such matter is called a conductor. Any matter which has a particularly large resistance, and will not allow a current to flow through it is called an insulator. In radio, resistance is usually accomplished by means of wire, and this wire is usually of a special type, such as nichrome.

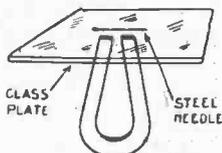


Fig. 2.

We now pass on to a more interesting phase—that of magnetism. The experiments following are easily and cheaply performed. Magnets are of two kinds—iron and steel. When iron is magnetised it remains magnetic only as long as the magnetising force is applied to it; but when steel is magnetised it remains magnetic for an indefinite length of time. Iron magnets are, therefore, temporary magnets, and steel magnets are permanent magnets.

Magnets of both kinds are usually made up

in two different shapes—that is, bar form and horseshoe form. In the first case, the piece of iron or steel is a straight rod, and in the second it is bent so that its ends are close together. This latter type is more generally known. Both types are shown in Fig. 1.

How does a magnet attract iron? We shall see. Mix some iron and brass filings, some sawdust, sugar, or sand on a plate, and then move one of the poles of the bar magnet over the mixture, when it will be found that only the iron filings are attached to it. Take the horseshoe magnet, and bring the ends close to a needle, when it will attract the latter. Now hold the curved end of the magnet close to the needle, and it will be found that it has scarcely any attractive power. In other words, the action of a magnet is confined almost entirely to its ends.

LINE OF FORCE.

Let us watch the action of a magnet at a distance. In the first experiment it was observed that the needle was pulled to the poles of the magnet through a little space, and this showed that the magnetic energy or "lines of force" which are formed by it act at a distance. Lay the needle on a sheet of glass, and hold the magnet under it (Fig. 2), then

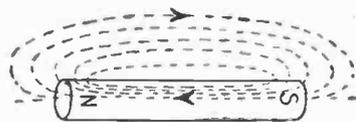


Fig. 3.

that the needle will follow the magnet. The glass does not in the least cut off the magnetic action. If you were to lay the needle on a sheet of iron and try the experiment that way you would find that the needle would not follow the magnet, because the iron (being a conductor of electricity) short-circuits the magnetic lines of force. Glass, of course, is an insulator—that is, it does not conduct electricity.

In a bar magnet the magnetic lines of force flow from the South pole (negative pole) to the north pole (positive pole) through the air round the magnet, as shown in Fig. 3. A horseshoe magnet is only a bar magnet bent so that its ends are close together, but this makes it more powerful, because the magnetic lines of force do not have to pass through so great an air gap, as shown in Fig. 4. Since iron and steel are better conductors of magnetic lines of force than air a little piece of iron, called a keeper, is usually placed over the ends of the horseshoe magnet, as this will make the magnet retain its strength for a longer time than when the poles are left free in the air. Magnets can be bought at electrical and some stationers' shops.

Though the large magnets used on car dynamos are exceedingly powerful they can usually be bought for a few pence at a garage.

It is difficult, I know, to try to understand magnetic lines of force; but we are out to PROVE the existence of this premon-

non. We shall see with our own eyes. Lay a bar magnet on a piece of white paper, and over this place a sheet of glass. Now fill a salt dredger with iron filings, and sprinkle them on the glass all over the magnet. Tap the edge of the glass now and again with a pencil, and this will help the filings to arrange themselves along the magnetic lines of force as shown in Fig. 5.

Repeat the experiment with a horseshoe magnet, and it will be seen that the lines of force between the poles are stronger than they are between the poles of a bar magnet.

MAKING A MAGNET.

If you have one magnet it is an easy matter to make others from it. If you have a screw-driver to desire the magnetise (for holding iron screws whilst they are being placed in awkward corners), just rub the end of the screw-driver over one pole of the magnet, and (removing the handle) rub this end with the other pole of the magnet—then replace the handle. Dip the end of the screw-driver in some iron filings, and you will soon see when it is magnetised.

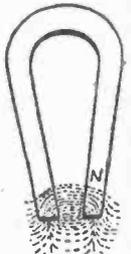
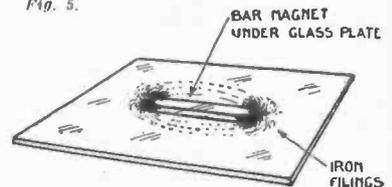


Fig. 4.

You can make a magnetic compass in the same way. Magnetise a needle, then place it on a cigarette paper, and gently lower it into a tumbler filled with water. The needle will begin to turn slowly round, and finally it will point to the North and South Poles. Doing away with the water you can tie a strand of silk thread to the centre of the needle, and the other end of the silk to some support, so that the needle can move freely.

For the sake of those who have no knowledge of toy magnets I will give a few notes. Every magnet has two poles—one is called the north, and the other the south pole. The north pole of the magnet is usually marked with the letter N, or with the plus sign. Now,

Fig. 5.



just as with static electricity (discussed in previous issues), the two like poles of two different magnets will repel each other, while unlike poles attract each other.

If you hold the north pole of a bar magnet to the south pole of a compass needle the latter will be attracted to the former; while, conversely, if you hold the north pole of the magnet near the north pole of the needle the latter will swing away from the magnet. This, of course, will also happen when you hold the south pole of the magnet near the south pole of the needle, because they are of like polarity.

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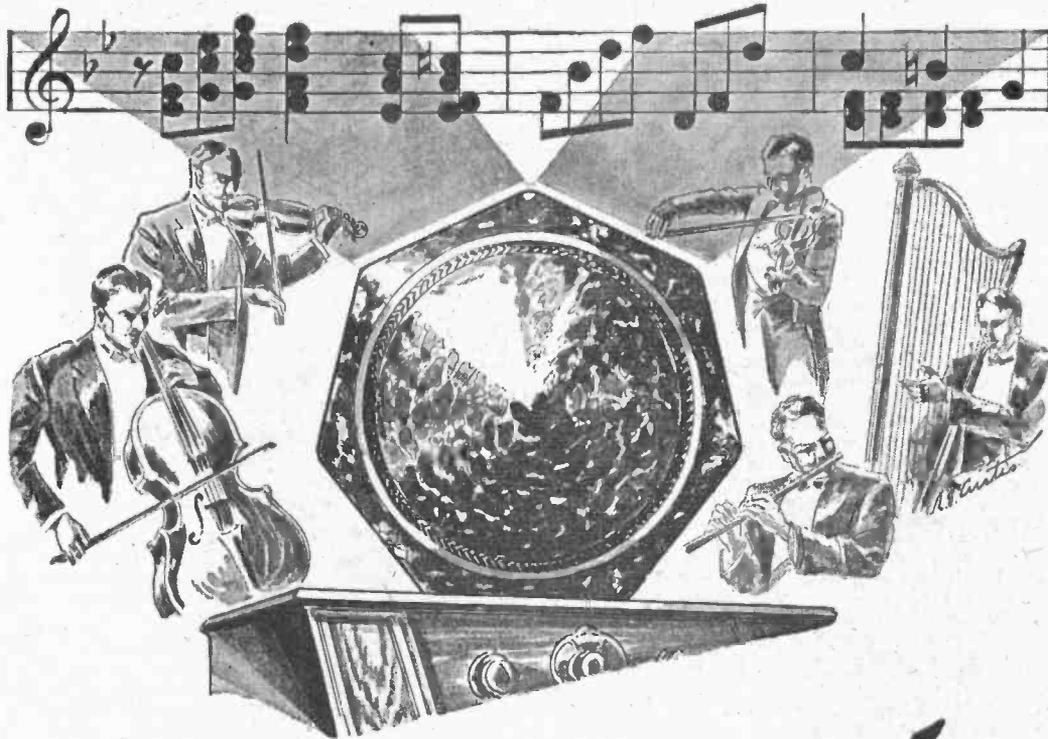
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BROADCAST TRANSMISSION AROUND SYDNEY

Extracts from a paper read before the Sydney Division of the Institute of Engineers of Australia.

(By Leonard Samuel Calvert Tippett, B.Sc., B.E., and William George Baker, B.Sc., B.E.)

THE following paper gives the results of a series of measurements of the field strength of 2FC, Sydney, in the neighborhood of the metropolis. The method of measurement is described, and the results shown in the form of curves.

The absorption of energy is very large towards the north, and very small to the south. The equivalent conductivity of the ground is determined from theoretical considerations, and lies between 10-14 and 5.10-14 e.m.u.

The power radiated by the station is estimated to be 4100 watts, or 82 per cent. of the input.

In carrying out this investigation one of the authors has paid more particular attention to the field work, while the other has concentrated more especially on the analysis of the results obtained, and upon the deductions which can be derived from them.

The advantage of these measurements is twofold. In the first place, they give information concerning the results obtainable by the listener-in, and show how much of the power supplied is actually radiated, and how far it reaches while keeping strong enough to constitute a real service to the public. For this reason, it has become practically necessary for broadcasting stations to have information concerning their field strength.

In the second place, the measurements are valuable from a scientific point of view; they increase our knowledge of the propagation of waves, at least in the particular locality.

Measuring sets have been developed by some of the leading electrical companies abroad, such as the Western Electric Co. These sets are obtainable, but are complicated and expensive. It was considered advisable to make a preliminary set of measurements with simple apparatus. More refined or more distant measurements will require elaborate apparatus, but a great deal may be done with a simple set-up of readily-obtainable parts. In any case, a preliminary survey would scarcely justify the use of the more refined and expensive apparatus.

The present series of measurements has been made at such distances that there is

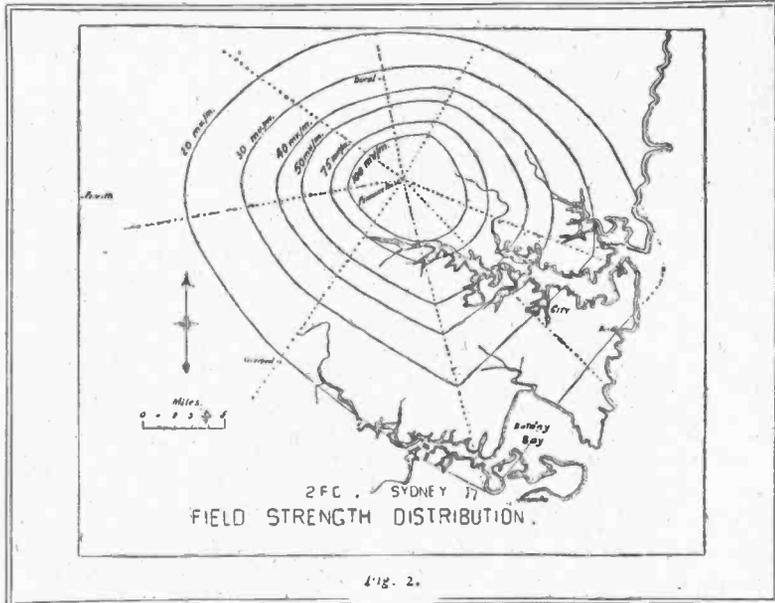


Fig. 2.

practically no return of energy from the upper atmosphere, so that the authors have measured the ground wave. The signals are of nearly equal strength by day and by night, and there is no fading.

If the measurements were carried out to a distance of 100 miles or so, fading would occur, and many measurements would be required at each point. This is an additional reason for a quick preliminary survey at shorter distances. The distant measurements would give valuable information if the installation of relay stations were contemplated, but the preliminary survey is needed to guide the taking of the more distant measurements, to avoid considerable waste of time, and also to prevent missing any important peculiarities which may occur in any locality.

Description of Apparatus and Its Calibration

It was decided that a distance of 20 miles from the transmitter should be covered in the present series of experiments. Actually this was not possible in a northerly direction owing to unexpectedly large absorption, but was easily realisable to the south. Preliminary investigations showed that the voltage across the loop would lie between 0.1 and 5.0 volts, so that the measuring apparatus would have to cover this range.

The signals were received on a loop antenna

tuned by a variable condenser. The voltage was measured by means of a thermionic voltmeter.

The condenser was a General Radio precision 1500 micro-microfarad instrument. The calibration curve is practically straight over the greater part of the scale.

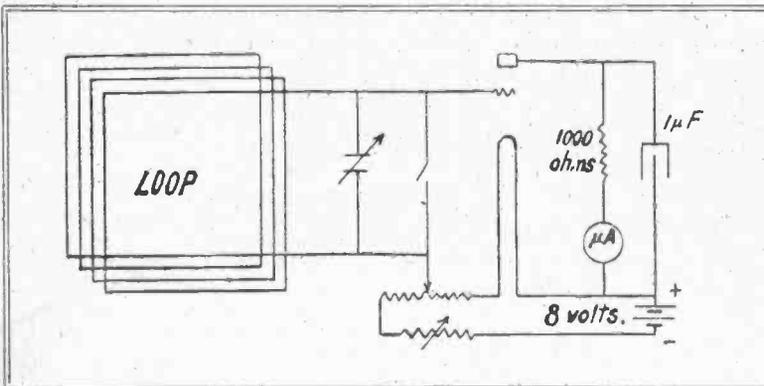
The loop antenna consisted of seven turns of 243/36 stranded "litz" wire, each wire being enamelled; there was no additional covering. The wire was wound on a square former of 3ft. side. This wire was supplied by Messrs. Amalgamated Wireless (Australia), Ltd.

The voltmeter used was of the Moulton type, and was constructed in the Engineering School of the University of Sydney. The diagram of connections of the instrument is given in Fig. 1. A potentiometer is used to apply a negative bias to the grid of the valve; this bias can be set at three different values. The galvanometer was a portable Siemens instrument.

Such a thermionic voltmeter has a calibration independent of frequency, and may be calibrated at 50 cycles per second, provided that the grid is always negative with respect to the filament. However, the authors found it impossible to obtain sufficient sensitivity with this condition fulfilled.

If the grid becomes positive during a portion of the cycle, it will collect a current. This acts as a shunt on the input, and the calibration then depends on frequency, wave form, and the input circuit impedance. If the same apparatus is always used, a series of measurements of the field strength of one station may be made even if grid current be collected, as the calibration is perfectly definite. Each of the sources of error is maintained constant during the whole of the measurements. The difficulty of calibration is, however, much greater, as it must be done at high frequency.

For purposes of calibration, the authors made up an additional voltmeter, which is free from grid current. This is as described by W. B. Medlam in "Experimental Wireless," Vol. III, p. 670, 1926. The plate current flows through a high resistance so connected that an additional bias is given to the grid. This enables the grid to be kept negative even for high input voltages, and the scale of the instrument becomes nearly



linear. Such an instrument is more suitable for laboratory measurements, but is too bulky to be used in the field. In order to avoid any possibility of wave form error, this was calibrated at high frequency by means of a thermocouple. The frequency chosen for calibration was that of Station 2FC, 6C, kilocycles per second. The transfer calibration to the field voltmeter was made by inducing voltages from a small local oscillator into the loop used in the field, and measuring the voltages with both instruments, in turn. The output of the oscillator may be kept constant by observation of its plate current. As this calibration uses the actual apparatus used for the measurements, there should not be any doubt of its reliability.

The remainder of the calibration work consists of the determination of the ratio of reactance to resistance for the loop, and in the determination of the effective height; the latter is calculated from the dimensions.

The loop has a certain amount of self-capacity due to the proximity of its turns, which acts as an increase of the tuning capacity. This may be determined by measuring the capacity required to tune to two known wave lengths, say the wave lengths of 2FC (442m.) and 2BL (353m.). The authors found these to be 440.6 mmF for 2FC, and 259.4mmF for 2BL.

Plan of Measurements

The plan adopted for the measurements was to take a number of straight lines radiating from the transmitting station, and to measure the field strength at several points along each of these lines, so as to find out the law according to which the field strength diminishes in each direction as the distance from the transmitter was increased. The directions chosen were such as to follow roads, and hence give plenty of accessible points. They were as follow:—

1. N.N.W., in a line to Dural.
2. N.N.E., in a line to Berowra.
3. E.S.E., in a line to Balmoral.
4. S.E., in a line to the University.
5. S.S.E., in a line to Cronulla.
6. S.W., in a line to Liverpool.
7. W., in a line passing near Penrith.
8. N.W., in a line to Windsor.

Measurements were taken at distances of two or three miles, suitable sites being chosen by driving along the roads. Open spaces were chosen.

At each position the apparatus was set up, and the condenser was adjusted to give the maximum deflection of the voltmeter. The loop was then rotated to give the maximum possible reading, but no measurement was made of directional errors in the setting of the loop.

Measurements were made in the daylight during the transmission of the ordinary programmes of the station, the wave being modulated. The variation of deflection with variation of modulation was too small to be taken into account.

One peculiar effect was observed. It was found that at some points different results were obtained on rotating the loop through 180 degrees. A similar change occurs on interchanging the terminals of the loop. The authors did not investigate this effect in very great detail, as it was found that it only occurred in the immediate neighborhood of trees, buildings, or power lines.

By taking another position, say, 50 yards from the first, the effect disappears, and the correct value of field strength in the neighborhood is obtained. The authors hope to investigate this effect in greater detail in the future.

Discussion of Results

The lines of equal field strength are shown on the accompanying map; the attached numbers give the field strength in millivolts per metre.

The results for each direction are shown by plotting the field strength against the distance from the transmitting station. Smooth curves have been drawn, and in choosing the

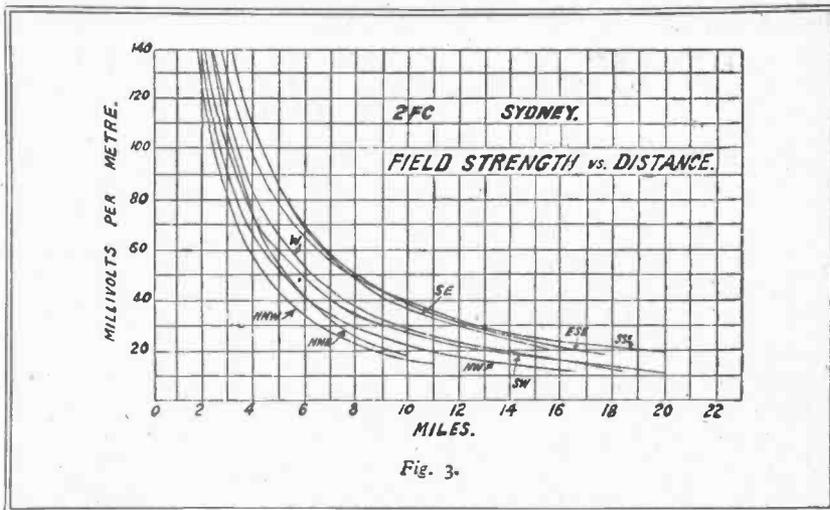


Fig. 3.

position of the curve allowance was made for the local topography, whether the site was in a valley or on a hill.

The absorption depends on the nature of the country. It is seen to be very large to the north, and small to the south. The country to the north is very rocky and wooded, while to the south the ground slopes down gradually from a height of 400ft. to sea level, part of the path being over the harbor.

Further measurements are needed in a north-easterly direction towards Newport, and also towards Bondi (S.E. by E.). This latter direction follows the length of the harbor, and so the absorption should be negligible. The increase of absorption in a south-easterly direction is probably due to passing over many buildings.

The authors intend to carry the measurements to greater distances, to see how far the field strength will follow these formulae. This will require more sensitive apparatus.

The absorption in a given direction is only an average for the country passed over, and the true curves are probably not very smooth. However, the effect of hills has to be considered, and it seems necessary to allow for these by taking a smooth curve.

Conclusion

The chief conclusions that the author's have been able to draw from the present series of measurements are:—

1. The absorption of the signals is very great towards the north, and very small towards the south.
2. The conductivity of the ground allowing for the effect of buildings, trees, etc., varies between 10-14 and five times this value. A large part of this variation is probably due to the presence of trees in large numbers to the north. The conductivity of the ground itself has not been determined.
3. The power radiated by the station is about 4100 watts, or about 82 per cent. of the input.
4. With regard to the probable range of thoroughly satisfactory service to listeners the required field strength, according to Goldsmith (P.I.R.E., Vol. 14, p. 575, 1926) lies between 1 and 10 millivolts per metre, and is nearer the latter value. What, then, is the distance at which the field strength falls to 5 millivolts per metre? On calculating from the formula which expresses the results of the measurements, the following figures were found:—

TABLE OF SATISFACTORY SERVICE RANGE

Based on Field Strength of 5 mv. per metre, calculated from the curves.

N.N.W.	26 miles	S.S.E.	77 miles
N.N.E.	23 "	S.W.	50 "
E.S.E.	55 "	W.	43 "
S.E.	44 "	N.W.	35 "

It may be clearly understood that the above figures are based on extrapolation, and may be considerably modified by a change in the absorption as the distance increases.

It would seem that a good service may be relied upon for at least 20 miles in any direction, and usually at twice this distance. Of course there may be valleys in which the signal strength is exceptionally low, but the above figures refer to open spaces.

Acknowledgments

The above work was carried out in the Electrical Engineering Department of the P. N. Russell School of Engineering, University of Sydney, at the suggestion of Professor J. P. V. Madsen, M.I.E.Aust.

In conclusion, the authors desire to express their indebtedness to the N.S.W. Broadcasting Co., Ltd., Sydney, which has provided the means necessary for carrying out this work, by the establishment of a Research Fellowship at the Sydney University; also to the Radio Research Board, which has provided an additional subsidy to meet expenses in connection with the work.

Their thanks are also due to Messrs. Amalgamated Wireless (Australasia), Ltd., for the supply of material, and to Mr. A. T. MacLaren, of the University of Sydney, for assistance in carrying out the experimental work.

DX and Sleep

MR. GEORGE A. FORNIER, of Washington, U.S.A., thinks the 2BL programmes "sure are great. The only trouble is that a fellow has to lose lots of sleep to listen in to you." He usually listens in after 3 a.m.

For Hire

AN English firm has begun the free instalment of wireless sets, including erection of aerial, earth, loud speaker, and all accessories at a hire charge of 4/9 per week. The minimum period of the hiring contract is six months.

Sleeping Dogs

A QUERYIST to a New Zealand paper wanted to know: "My set works just as well without an earth. Why is this?" The answer began: "There is something wrong." What on earth! As a friend remarked: if he could get is (son-and-so) set to work either with or without an earth, he would scarcely risk rocking the boat by writing to a newspaper about it.

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

AUSTRALIA.		Metres. Watts.		Metres. Watts.		Metres. Watts.		
New South Wales.								
Metres. Watts.								
2FC—N.S.W. Broadcasting Co. Ltd. Market St. Sydney, 0700-2230	442	5000	ness College, Melbourne	255	500	2103—Silent Tues.	808 500	
2BL—N.S.W. Broadcasting Co. Ltd., Market St. Sydney, 0800-2330	253	5000	Queensland.				4YA—Radio Broadcasting Co. of New Zealand, Dunedin, 1700-2200. Silent days Mon. and Thurs.	463 750
2GB—Theosophical Broadcasting Station, 29 Bligh St., Sydney, 1000-2200	316	3000	4QG—Queensland Govt. Radio Service, Brisbane, 0300-2200	885	5000	FOREIGN		
2KY—Trades and Labour Council, Goulburn St., Sydney, 0900-2200	350	1500	4GR—Gold Radio Service, Margaret St., Toowoomba	294	100	GREAT BRITAIN.		
2UW—Radio Broadcasting Ltd., Palling's Building, Ash St., Sydney, 1230-2230	267	500	South Australia				210—British Broadcasting Co., Savoy Hill, London, 1900-0850	361.4 3000
2UE—Electrical Utilities Ltd., 619 George St., Sydney, 0730-2330	293	250	5CL—Central Broadcasters, Ltd. 53 Franklin St., Adelaide, 1100-2310	409	5000	6XX—British Broadcasting Co., Daventry, 1900-0850	1604.3 5000	
2MK—Mockler Bros. Ltd., Hawick St., Bathurst	275	250	5DN—5DN Pty. Ltd., 2-4 Montpelier St., Parkside	313	500	UNITED STATES.		
2HD—H. A. Douglas, King St., Sydney	293	100	5KA—Sport Radio, Ltd., 51 Kintore Av., Prospect	250	1000	KDKA—Westinghouse Electric and Manufacturing Co., E. Pittsburg, Pa.	315.6 50000	
2BE—Burgin Electric Co., 340 Kent St., Sydney. At present off the air	316	100	West Australia.				KFI—Earle C. Anthony Inc., 1000 So. Hope St., Los Angeles	468.8 5000
Victoria.								
2LO—Dominions Broadcasting Co., 120A Russell St., Melbourne, 0715-2340	371	5000	5VF—Commonwealth Government Broadcasting Station, Perth, 1230-2330	1250	5000	KGO—General Electric Co. Ltd., Oakland, California	384.4 5000	
2AR—Dominions Broadcasting Co., 120A Russell St., Melbourne, 1000-2200	481	5000	5TL—Tasmanian Broadcasters Pty., 95 Elizabeth St., Hobart, 1130-2204	535	3000	KOA—General Electric Co. Ltd., 1370 Krameria St., Denver, Colorado	326.9 5000	
2UZ—O. J. Nilson and Co., Bourke St., Melbourne	319	100	Tasmania.				WEAF—National Broadcasting Co., 1950 Broadway, New York	491.6 50000
2DB—Druleigh Busi-			NEW ZEALAND.				WGY—General Electric Co., No. Sceneday, N. Y.	378.5 50000
			4YA—Radio Broadcasting Co. of New Zealand, 419 Queen St., Auckland, 1500-2203. Silent day Mon.	323	500	WJZ—National Broadcasting Co., 195 Broadway, New York	454.3 30000	
			2YA—Radio Broadcasting Co. of New Zealand, Wellington, 1500-2200. Silent day Wed.	420	5000	EUROPE.		
			3YA—Radio Broadcasting Co. of New Zealand, Christchurch, 1500-			FL—Eiffel Tower, Paris, France	2650 5000	

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

AUSTRALIA.		Metres.		Metres.		Metres.		Metres.		
2ME—A.W.A. (Syd.) , relays 2FC, times irregular, usually Mon., from 0430-0800										
2YC—Ray Alford (Syd.), relays 2BL, times various	32.5		WBEZ—Springfield, Relays WBH	66.04		2400 Sat.: 0100-0400 Sun. 21		2300, Mon.: 0820-0700, Wed.: 0900-0930, Sun. Picture transmissions, 0900-1100, Tues. and Sat. 42.12		
3ME—A.W.A. (Melb.), relays 2LO, times various. Usually heard about 0430-0630	32		2XAF—Schenectady, Tues. 0900-1500; Wed., 0900-1430; Fri., 0900-1500; Sun., 0900-1500	82.4		PCU—The Hague, 0300-0600, Wed. and Fri., 0900-2400, Sat., 0100-0400.	27			
6AG—W. E. Coxon (Perth), relays 5VF, times various. Usually 2130-0200 daily	22.9		WLV—Ohio, 0900, except Sat. and Mon.	52.02		UNION OF SOVIET SOCIALIST REPUBLICS.				
GREAT BRITAIN.										
6SW—Marconi Co. (London), relays 2LO, 0400-0800, daily, except Sun. and Mon. From 0330 on alternate Saturdays; and 2100-2230 daily	25		KDKA—East Pittsburg, Daily, from 0900	43.35, 43		RPN—U.S.S.R., Moscow	29. 60, 60			
2YT—Marconi Radio, Poldhu, Times various 25, 32, 42, 94			WJZ—New Brunswick, Irregular, usually after 0900	43.35, 61.06		RFM—U.S.S.R., Siberia	60. 30			
2NM—Gerrard Marconi, Caterham, Surrey, 1700-0400, 0600 (Sun.), 1000, Thurs. and Sat.	32.5, 23		TXAO—Portland, Oregon, Daily from 0900-2300	53.54		ITALY.				
6LW—Beam Station, all times (Dorchester)	15.7		2XG—Rocky Point, from 2400 Mon. and Fri.	16.02		IMI—Milan	45			
6LQ—Beam Station, all times throughout day. (Gongar)	24.6		2XE—Richmond Hill, Relays WABC daily, from 0800	22.1		IFO—Italy	33.5			
6PB—Beam Station, Grimsby (Beam Station). All times	25.9		WOWO—Fort Wayne, Indiana, Relays Columbian stations daily, 0800	22.8		IAX—Rome	45			
UNITED STATES.										
2XAD—G.E.C., Schenectady, Relays WGY, 0830-1300 Mon., 0400-0600 Tues. and Fri., 0800-1300 Thurs. and Sat.	21.36		8XK—E. Pittsburg, Relays KDKA, 0300-0600, Tues. and Wed.	26.8		IFA—Rome	34.5			
6XZAR—San Francisco, 1000 daily	83		2XAG—New York, Telephony, irregular	26.82		SOUTH AFRICA.				
6XU—Council Bluffs, Relays Columbian Broadcasting stations	61.06		2XAL—New York, Relays WRNY, 0900-1400 Tues.; 1100-1200 Wed.; 1200-1300 Sat.	30.97		JB—Johannesburg	20. 25			
6XBA—Newark, N.J., Relays V.A.A.M., 1000-1500 Wed., Fri., and Sun.	65.13		6XA—Detroit, Mich. Relays WJR daily	32		JAPAN.				
6XF—Cleveland, daily from 1500	68.04		WYG—Brooklyn, Daily, 0900	64		JHRB—Ibarakiken, nightly	37.5			
6XAL—Inglewood, daily			2XE—New York, Relays WABC and WBOQ daily, 0900	58.5		JIPP—Tokyo	20. 20			
			2XA—Houston, Transatlantic telephony	22.99		JIA—Iwatsuki	29			
			INDO-CHINA.				JKZB—Tokyo	20. 29		
			EVA—Hanoi, No information available	31.85		GERMANY.				
			HOLLAND.				AGJ—Nauen, Daily, 0.500	56.7		
			PCL—Kootwijk, 2240-2400 Wed., and from 0200 Thurs.	21.96		AGN—Nauen, Press and news reports to ships 19.	26.4			
			PCM—The Hague, Irregular	25		AGA—Nauen, Press and news daily	25.3			
			PCF—Eindhoven, 0300-0600, Wed. and Fri.; 0900-2400 Sat.; 0100-0400 Sun.	51.4		AGC—Nauen, Throughout day	17.3			
			PCV—Kootwijk, 0300-0600 Wed. and Fri.; 0900-			AFK—Doberitz, Tues., Thurs., Sat., 0500-0600 (Call sounds like "Ar-Mr-Car")	37.55, 67.55			
						NORWAY.				
						LGN—Bergen, 0900, Irregular	30, 31.25			
						Stavanger, News bulletins, 0400	12.14			
						DENMARK.				
						TRK—Copenhagen, Irregular	23.2, 32.8			
						TRL—Copenhagen	42.12			
						Motala, Tests irregularly after midnight	41			
						MOROCCO.				
						ATN—Casablanca, 1930-0620, Weather report	51			

Local Programmes, Friday, January 25

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 share market, 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. 10.45: A talk of "Home Cooking and Recipes" by Miss Ruth Furst. 11.0: "Big Ben;" A.P.A., and Reuter's cable services. 11.5: Close down.

MID-DAY SESSION.

Announcer: A. S. Cochrane.

12.0: "Big Ben" and announcements. From the Sydney Cricket Ground, description of play in the Sheffield Shield match, Victoria v. New South Wales. 1.30: From the Studio—Stock Exchange, second call. 1.32: Weather forecast. 1.34: "Evening News" mid-day news service; Producers' Distributing Society's report. 1.42: Rugby wireless news. 1.45: Studio music. 2.0: "Big Ben;" close down.

AFTERNOON SESSION.

Announcer: Laurence Halbert.

Accompanist: Ewart Chapple.

2.30: Programme announcements. 2.32: Record recital. 3.0: "Big Ben;" pianoforte reproduction. 3.15: Popular music. 3.30: Eric Cox, boy soprano. 3.37: Hilda Nelson, contralto. 3.45: A reading. 4.0: "Big Ben;" Hilda Nelson, contralto. 4.7: Popular music. 4.15: From the Sydney Cricket Ground, description of the inter-State cricket match, New South Wales v. Victoria. 5.40: Close down.

EARLY EVENING SESSION.

Announcer: A. S. Cochrane.

5.41: The chimes of 2FC. 5.45: "Hello Man" talks to the children—Letters and stories. 6.10: The "Farmyard Five" from Kookaburra Gully. 6.30: Dalgety's market reports (wool, wheat, and stock). 6.40: Fruit and vegetable markets. 6.43: Stock Exchange information. 6.45: Weather and shipping news. 6.48: Rugby wireless news. 6.50: Late sporting news told by the 2FC Racing Commissioner. 7.0: "Big Ben;" late news service. 7.10: From the Aeolian Company's Hall—Special dinner music recital.

EVENING SESSION.

Announcer: Laurence Halbert.

Accompanist: Ewart Chapple.

7.40: Programme announcements. 7.45: Pianoforte reproduction. 7.52: Cricket results, New South Wales v. Victoria, for the benefit of country listeners. 7.54: Popular music. 8.0: "Big Ben;" From the Prince Edward Theatre—The Prince Edward Theatre Orchestra, conducted by Will Prior; Eddie Morton at the Wurlitzer organ. Prologue and incidental music to 8.50: From the Studio; weather report. 8.51: Charles Lawrence and Rae Foster in popular duets. 9.0: "Big Ben;" Light Music Four, instrumentalists. 9.15: Joe Cahill, entertainer. 9.22: Carlos Fakola, novelty pianist. 9.29: Charles Lawrence and Rae Foster in popular duets. 9.39: Light Music Four, instrumentalists. 9.44: Joe Cahill, entertainer. 9.51: Carlos Fakola, novelty pianist. 10.0: "Big Ben;" a talk on the Burns' Anniversary by Rev. G. Cowie. 10.10: Light Music Four, instrumentalists. 10.27: To-morrow's programme. 10.30: National Anthem; close down.

2BL

MORNING SESSION.

Announcer: A. C. C. Stevens.

6.0: G.P.O. clock and chimes; metropolitan weather report. 8.1: State weather report. 8.2: Studio music. 8.15: G.P.O. chimes; news

from the "Daily Telegraph Pictorial." 8.25: Studio music. 8.30: G.P.O. chimes; studio music. 8.35: Information, mails, shipping, arrival, departures, and sailings. 8.38: News from the "Daily Telegraph Pictorial." 8.45: G.P.O. chimes; studio music. 9.0: G.P.O. clock and chimes; studio music. 9.30: Half an hour with Silent Friends. 10.0: G.P.O. clock and chimes; close down.

MID-DAY SESSION.

Announcer: Basil Kirke.

11.0: G.P.O. clock and chimes; 2BL Women's Sports Association, conducted by Miss Gwen Varley. 11.30: Advertising Hints. 11.40:

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Women's session, conducted by Mrs. Cranfield. 12 (noon): G.P.O. clock and chimes; special ocean forecast and weather report. 12.3: Studio music. 12.30: Shipping and mails. 12.35: Market reports. 12.45: Cricket scores. Sheffield Shield match, Victoria v. New South Wales, played at the Sydney Cricket Ground. 12.48: "Sun" mid-day 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. clock and chimes; close down.

AFTERNOON SESSION.

Announcer: Basil Kirke.

Accompanist: Kathleen Roe.

2.15: From the Sydney Cricket Ground, description of the inter-State cricket match, New South Wales v. Victoria. 4.0: Romano's Dance Orchestra, conducted by Bennie Abrahams. 4.10: From the studio—Hilda Walker, soprano. 4.17: Jock M'Lean, violinist. 4.24: Romano's Dance Orchestra, conducted by

Bennie Abrahams. 4.30: From the studio—Hilda Walker, soprano. 4.37: "Sun" news service. 4.40: Romano's Dance Orchestra, conducted by Bennie Abrahams. 4.50: From the studio—Jock M'Lean, violinist. 4.57: "Sun" news service. 5.0: "Our Serial Story." 5.10: Billie Treswell, popular vocalist. 5.17: Pianoforte reproduction. 5.24: Billie Treswell, popular vocalist. 5.30: Popular music. 5.37: Features of the evening's programme. 5.40: From the Sydney Cricket Ground, description of the inter-State cricket match, New South Wales v. Victoria, until stumps drawn.

EARLY EVENING SESSION.

Announcer: J. Knight Barnett.

6.0: Children's Session—music and entertainment, letters and stories. 6.30: "Sun" news and late sporting. 6.40: Special dinner recital. 7.10: Cricket scores. 7.15: Australian Mercantile, Land, and Finance Co.'s report; weather report and forecast by courtesy of Government Meteorologist; Producers' Distributing Society's fruit and vegetable market report, grain and fodder report ("Sun"); dairy produce report ("Sun"). 7.25: Mr. Pim and Miss Pam in advertising talks and nonsense. 7.55: Programme and other announcements.

EVENING SESSION.

Announcer: J. Knight Barnett.

Accompanist: G. Vern Barnett.

8.0: G.P.O. clock and chimes; the Savoyans' Dance Band. 8.10: From the Arcadia Theatre, Chatswood, Nicholas Robins at the Wurlitzer organ. 8.30: From the studio, W. E. Lewis, baritone. 8.37: The Savoyans' Dance Band. 8.52: W. E. Lewis, baritone. 9.0: G.P.O. clock and chimes; weather report; a talk on racing by C. R. Dexter. 9.15: The Savoyans' Dance Band. 9.30: Cliff Gane, comedian. 9.37: Bernice Patterson, popular vocalist. 9.44: The Savoyans' Dance Band. 9.55: Cliff Gane. 10.2: Bernice Patterson, popular vocalist. 10.10: From the Arcadia Theatre, Chatswood, Nicholas Robins at the Wurlitzer organ. 10.30: From the studio, 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 down.

The Light Music Four, who will be heard to-night. Left to right: Brycc Carter, cello; Hora e Keats, piano; Duic'e Blair, violin; and Mr. Vincent Aspel, violin.



Interstate Programmes, Friday, January 25

3LO

EARLY MORNING SESSION.

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

MORNING SESSION.

Announcer: Frank Hatherley. 11.0: 3LO's different dainties for the daily dinner. To-day's radio recipe—Cheese fondue. 11.5: Grace Tyers—"Great Russian Writers and Their Stories"; (11) Turgenie—Varvara Petrovna, and the story of "Mumu." 11.20: Musical Interlude. 11.25: "Au Fait" will speak on "Fashions." 11.40: Sonora recital.

MID-DAY SESSION.

Announcer: Frank Hatherley. 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; Reuter's and the Australian Press Association cables; "Argus" news service. 12.20: The Station Orchestra—Overture, "Don Juan" (Mozart); "Melodie" (Chuk). 12.30: Jean Sinclair, contralto—"Sons of Shikana" (Elgar); "They Say" (Warwick Evans). 12.37: Stock Exchange information. 12.40: The Station Orchestra—Fantasia, "Iolanthe" (Tschalkowsky). 12.50: Bertha Jorgensen, violin—"Love-song" (Seldel); "Meteorological Information"; weather forecast for Victoria, New South Wales, Tasmania, and South Australia; ocean forecasts; river reports; rainfall. 1.4: The Station Orchestra—Scherzo (Mendelssohn); "Dote for Niente" (Holmer). 1.11: Jean Sinclair, contralto—"Land of Hope and Glory" (Elgar); "Wegelied" (Brahms). 1.18: The Station Orchestra—Selection, "Irene" (Tierney). 1.28: Bernard Manning, bass-baritone—"Come Away Dear" (Mozart); "O Mistress Mine" (Quilter). 1.35: The Station Orchestra—"Ballet la Bource." 1.45: Close down.

AFTERNOON SESSION.

Announcer: Frank Hatherley. Accompanist: Agnes Fortune. 2.15: The Strand Trio—"Op. 154, G Major" (Reisiger); Moderato; Scherzo. 2.28: Molly Mackay, soprano—"Full Moon"; "A Young Girl's Song" (Montague Allergo). 2.35: Cecil Parkes and May Broderick—Sonata for Violin and Piano, No. 4 Major (Dobzay); Allegro; Menuet. 2.50: Molly Mackay, soprano—"Thou Art Like a Lovely Flower" (Schumann); "Les Cloches" (Debussy). 2.57: Frank Johnstone, cello—"Cantilena" (Coltermann); "Eclair" (Popper). 3.4: The Strand Trio—"Melodie" (Moszkowski); "Gavotte" (Martini-Parkes); "Flower Waltz" (Tschalkowsky). 3.12: Miss Frances Fraser will speak on—"Robbie Burns and His Songs, and Miss Ella Riddell will illustrate the talk with songs chosen from the following: "Of at the Airts," "Aiton Water," "Highland Mary," "Oh, Wert Thou in the Cauld Blast," "For the Sake of Somebody." 3.42: (Gensler). 3.52: Edward Hocking, tenor—"Ah Moon of My Delight" (Lehmann); "Mary of Allende" (Old English). 3.59: H. Collier, mouth organ—"Life's Dream is Over" (Humoresque), selected. 4.0: The Station Orchestra—"Andante from Fourth Symphony" (Schubert). 4.16: Gertrude Hutton, contralto—"The Knottling Song" (Purcell); "Obstination" (Fontenailles). 4.23: H. Collier, mouth organ—"The Bells" (St. Saens); "The Soldier" (Dobzay); "Ramonita" (with variations). 4.30: Edward Hocking, tenor—"My Mary Sweet and Brown" (Kilner); "All in a Lily White Gown" (Martin). 4.37: The Station Orchestra—Suite, "Joyous Young" (Coates). 4.47: Gertrude Hutton, contralto—"A Feast of Lanterns" (Bantock); "Easter Carol" (Shaw). 4.54: The Station Orchestra—"Moment Musicale" (Schubert). 5.0: "Herald" news service; Stock Exchange information. During the afternoon results of the Ninth races, progress scores of the cricket match, England v. South Australia, at Adelaide, and also the Sheffield Shield match, N.S.W. v. Victoria, at Sydney, will be given as they come to hand. 5.10: Close down.

EVENING SESSION.

Announcer: Maurice Dudley. 6.0: Answers to letters and birthday greetings by "Billy Bunny." 6.25: Musical Interlude. 6.30: Captain Donald MacLellan has another thrilling story for you.

NIGHT SESSION.

Announcer: Maurice Dudley. 6.30: Official report of the Newmarket stock sales by the Associated Stock and Station Agents, Bourke Street, Melbourne; fish market reports, by J. R. Borrett, Ltd.; market reports by The Victoria Produce Co-operative Company Ltd., poultry, grain, hay, straw, tute, dairy produce, potatoes, and onions; market reports of fruit by the Victorian Fruiters' Association; retail prices; wholesale prices of fruits by the Retail Fruit Merchants Association; citrus fruits. 7.30: News section; stumps scores cricket matches, England v. South Australia, at Adelaide, and New South Wales v. Victoria, at Sydney. 7.43: Birthday greetings by "The Birthday Club." 7.45: The auspices of the Department of Agriculture, Mr. B. P. Krone, fruit packing expert, will speak on "Fruit Packing." 8.0: A maker of history. 8.1: H. K. Love will speak on "Recitalities." 8.20: Royal Caledonian Pipe Band—March, "Bonnie Ann"; Strathpey, "Ben Eoy!"; Reel, "M'Allister's Dirk." 8.15: Ella Riddell, contralto—"The Star or Robbie Burns." "O Whistle and I'll Come to You." 8.22: Collingwood Citizens Band—Selection, "In Edinburgh Town." 8.32: W. D. Leckie will speak on "Robert Burns on Himself." 8.47: Royal Caledonian Pipe

Band—"The Road to the Isles"; "Barren Rocks of Ader"; "A Man's a Man for a' That." 8.52: Ella Riddell and James Hill, contralto and baritone—Duets, "Hoo Can Ye Gang, Laddie"; "Huntingtower." 9.0: The Collingwood Citizens' Band—One Step, "All Scotch"; Old Scotch ballad, "Mary"; cornet solo. 9.10: James Hill, baritone—"Bye, Bye, Like a Red, Red Rose"; "Aiton Water." 9.17: Royal Caledonian Pipe Band—"Scottish Quicksteps." 9.22: Eric Welch will speak on to-morrow's races at Moonee Valley. 9.32: Collingwood Citizens' Band—Selection, "Musical Switch." 9.42: Molly Mackay, soprano—"Carnival of Venice" (Benedict); "The Spinning Wheel." 9.50: Collingwood Citizens' Band—(11) "Flowers of Australia." 9.58: Bernard Manning, bass-baritone—"Wayfarers' Night Song" (Ronald); "Crown of the Year" (Martin). 10.5: "Argus" news service; British official wireless news from Rugby; meteorological information; road notes, supplied by the Royal Automobile Club of Victoria; announcements. Weekly seasonal gardening reminders, supplied by Leslie Brunning. 10.17: Collingwood Citizens' Band—Gavotte, "White Lillies"; March, "Simplicity." 10.27: Molly Mackay, soprano—"Love's a Rosebud" (Mallinson); "Les Papillons" (Chansson). 10.34: Collingwood Citizens' Band—"Military Church Parade." 10.42: Bernard Manning, bass-baritone—Request numbers. 10.51: The Radi-o-Aces—"Ups and Downs" (Ross); "I Can't Do Without You" (Berlin); "Mississippi Mud" (Harris); "Tin Pan Parade" (Whiting); "Day Dreams" (Hallam); "Jeanine" (Gilbert); "Dream House" (Fox); "Tiger Rag" (Moore); "That's My Weakness Now" (Steph); "Get Out and Get Under the Moon" (Tobias); "Sleepy Baby" (Kahn); "The Prime Song" (Jrumit); "Sincerely I Do" (Davis); "Bally Rog" (Friend); "Good-night Waltz" (Bibo); "Good-night Chorus." 11.40: 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, a cookery and household talk by "The Etiquette Girl." 11.30: Music. 11.35: More social news. 11.45: Music. 12.0 (noon): Close down.

MID-DAY SESSION.

Announcer: R. Wight. 1.0: Market reports and weather information. 1.20: From the Paris Cafe, lunch-hour music. 2.0: Close down.

AFTERNOON SESSION.

3.0: A programme of electrically reproduced records, 3.1: Mail train running times. 3.1: 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 stories conducted by "The Sandman." 7.0: News in brief. 7.5: Stock Exchange news. 7.6: Metal quotations. 7.7: Market reports. 7.25: Penwick's stock report. 7.30: Weather information. 7.40: Announcements. 7.42: Standard time signals. 7.45: To-morrow's sporting fixtures reviewed.

NIGHT SESSION.

Announcer: H. Humphreys. In remembrance of Australia's National Day to-night's programme will consist of music, songs, and poems written by Australian authors or by residents of Australia. 8.0: The Studio Orchestra, "Advance, Australia Fair." 8.5: May Jordan, soprano—"I Passed by your Window" (May Brahe), "To a Miniature" (May Brahe). 8.12: The Studio Orchestra, "Back to Croalingalong" (Dunlop). 8.17: Claude Walker, tenor—"Oh, Henry Lawson." 8.27: Hilda Woolmer, pianist, "Waltz" (H. Scott MacCallum). 8.30: The Studio Orchestra, vocal numbers—"Wodonga," "Yarra-wodonga." 8.50: Vera Parker, contralto—"Down Here" (May Brahe), "That's All" (May Brahe). 8.57: H. Scott MacCallum, violinist, "Intermezzo" (Esther Kahn). 9.0: Metropolitan weather forecast. 9.1: Mr. W. V. Hefferan (president of the Australian Natives' Association) will deliver a short address. 9.11: The Studio Orchestra, overture, "Martiana" (Wallace). 9.20: Week-end road information for motorists, officially supplied by the Royal Automobile Club of Queensland. 9.28: Ernest Barry, pianist—readings from Australian poets. 9.34: Hilda Woolmer, pianist—"In the Cloisters" (George Sampson), "A Little Dance" (George Sampson). 9.39: Rhoda G. Husband, soprano—"Love's a Rosebud" (Mallinson), "Les Papillons" (Chansson), "That's All" (May Brahe). 8.57: H. Scott MacCallum, violinist, "Intermezzo" (Esther Kahn). 9.0: Metropolitan weather forecast. 9.1: Mr. W. V. 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EVENING SESSION.

7.0: G.P.O. chimes. 7.1: S. C. Ward and Co.'s Stock Exchange information. 7.5: General market reports. 7.10: 5CL's sporting service by "Silvius." 7.25: Resume of cricket by "Willow." 7.35: Recital of Columbia recordings on the "Sonora." 7.45: P. H. Nicholls. A talk on "A Month with Shakespeare: 'A Merchant of Venice.'"

NIGHT SESSION.

8.0: G.P.O. chimes. Orchestral and ballad concert. 8.1: Station orchestra. "Potted Overtures" (Engelman). 8.9: Fred Williamson (tenor). "Lolita" (Pecora). "Maire, My Girl" (Marshall) (with orchestral accompaniment). 8.14: George Whittle (humorist) in a humorous interlude. 8.22: Station orchestra. Selection, "Going Up" (Hirsch). 8.30: Fred Williamson (tenor). "I Hear You Calling Me" (Coates). "Mother Machree" (Ball). 8.36: William Davey (xylophonist). "Breast" (Hainley). "Flapperette" (Greer). 8.41: Beatrice Kingston (soubrette). "Song of Hawaii" (Bories). "Forgotten" (Hagan) with orchestral accompaniment. 8.47: Station orchestra. "Oriental Fantasy" (Lofler). 8.54: Senia Chostiakoff (Russian tenor). "There is just a Little Bit of Heaven." "Diane" (with orchestral accompaniment). 9.0: G.P.O. chimes. 9.1: Meteorological information. 9.2: Overseas xray report. 9.3: William Davey (xylophonist). "Crazy Words" (Ager). "Dainty Miss" (Barnes). 9.10: George Whittle (humorist) in a humorous interlude. 9.18: Station orchestra. Entracte, "Early Roses" (Baron). 9.24: Beatrice Kingston (soubrette). "Spanish Moon" (Terese). "Sing Me a Baby Song" (Donaldson). 9.30: Hans Bertram (pianist). Selected pianoforte solos. 9.50: Lionel Clarke (baritone). "Close Props" (Charles). "The Toreador's Song" (Carroll). 9.56: Station orchestra. "The Trumpet Call" (Jalowicz). 10.0: Senia Chostiakoff (Russian tenor). Selections from his repertoire. 10.4: Station orchestra. "Lucky Hours" (Platen). 10.9: Lionel Clarke (baritone). "The Floral Dance" (Moss). "The Blue Dragons" (Russell). 10.15: "The Advertiser" general news service. 5CL's sporting service, by "Silvius." Meteorological information. 10.30: Our Good-night Thought. "Light, whether it be material or moral, is the best reformer." 10.31: By courtesy of S.L.O. Melbourne, modern dance numbers by the famous Radi-o-Aces. 11.10: God Save the King.

6WF

9 a.m.: Tune in. 9.5: A description of the arrival of H.M.A.S. Canberra. 12.30: Tune in. 12.35: Markets, news, etc. 1.0: Time signal. 1.1: Weather news supplied by the Meteorological Bureau of West Australia. 1.3: The Studio Trio and vocal numbers. 2.0: Close down. 3.30: Tune in. 3.35: Afternoon tea music relayed from the Rosebud Cafe; vocal numbers from the studio. 4.30: Close down. 6.45: Tune in. 6.48: Bedtime stories for the kiddies. 7.5: Light music by the Station Trio. 7.30: Commercial and general information. 7.45: Talk by the sporting editor of the "Truth" Newspaper Co., Ltd. 8.0: Time signal. 8.1: Weather notes supplied by the Meteorological Bureau of West Australia. 8.3: Vocal and instrumental artists from the studio. 9.0: "Tropical Troubadours"—the latest vocal and instrumental numbers rendered by the "Troubadours" Band of H.M.A.S. Canberra, relayed from the Temple Court Cabaret. (Other notable events in connection with the visit will be broadcast.) Late news items supplied by the courtesy of the "Daily News" Newspaper Co., Ltd. Weather notes supplied by the Meteorological Bureau of West Australia. Ships within wireless range. 12.0: Close down. 10.45-metre Transmission: Simultaneous broadcast on 104.5 metres of programme given on 1250 metres, commencing at 6.45 p.m.

7ZL

MIDDAY SESSION

Announcer: Jack Broadbent. 11.30: Selections by the Melody Masters. 11.34: Weather information. 11.35: Selections by the Melody Masters. 11.55: Tasmanian stations. a.m. weather information. 12.0: G.P.O. clock chime. 12.1: Shipping information; ships within wireless range; mail notices; housewives' guide. 12.8: Selections by the Melody Masters. 12.11: British official wireless news. 12.20: Selections by the Melody Masters. 12.29: Announcements. 12.33: Selections by the Melody Masters. 12.55: "Mercury" news service; produce sales held at railway. 1.10: Selections by the Melody Masters. 1.30: Close down.

AFTERNOON SESSION

Announcer: Jack Broadbent. 3.0: G.P.O. clock chimes the hour. 3.1: Selections by the Melody Masters. 3.4: Weather information. 3.5: Selections by the Melody Masters. 4.30: Close down. 4.15: Readings from the "Weekly Courier." "What energetic men are doing." 4.30: Close down.

EARLY EVENING SESSION

Announcer: Jack Broadbent. 6.15: Answers to letters and birthday greetings by "Uncle David." 6.20: Selections by the Melody Masters. 6.40: Request numbers for the wee folk. 6.50: Selections by the Melody Masters. 7.0: "Uncle David" will entertain the wee folk.

EVENING SESSION

7.15: A. M. O'Leary will speak on "Cricket." 7.30: A Studio concert by the Discus Ensemble and 7ZL artists—Ketyelby's Orchestra. "Bells Across the Meadows"; orchestra. "In a Fairy Realm." 7.37: Doris Barker, soprano, selected. 7.42: Lella Read, piano solo, selected. 7.47: Harry Foster, baritone, selected. 7.52: Silver Brass Band, "The Mikado," parts 1 and 2. 7.59: Kitty Crowder, contralto, selected. 8.6: Silver Stars Band. "Faust," parts 1 and 2. 8.14: Doris Barker, soprano, selected. 8.20: Paul Whiteman and his Orchestra. "My Hero," "The Merry Widow." 8.27: Harry Foster, baritone, selected. 8.34: Silver Stars Band, "Madame Butterfly," parts 1 and 2. 8.40: Kitty Crowder, contralto, selected. 8.47: J. M. Counsel, "A Musical Hour with the Old Masters." "Mercury" special Tasmanian news service; British official wireless; Tasmanian district weather report. 10.0: G.P.O. clock chimes the hour. Close down.

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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 share market, metal quotations; wool sales, breadstuffs markets, inter-State markets, produce markets. 7.40: Studio music. 8.0: "Big Ben," close down.

MORNING SESSION.

Announcer: Laurence Halbert.

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

MID-DAY SESSION.

Announcer: Laurence Halbert

12.0 (noon): "Big Ben." From the Sydney Cricket Ground, description of play in the Sheffield Shield match, Victoria v. New South Wales. 1.30: From the Studio; Stock Exchange, first call. 1.32: Weather forecast. 1.34: "Evening News" mid-day news service; Producers' Distributing Society's report. 1.42: Rugby wireless news. 1.45: Studio music. 2.0: "Big Ben;" close down.

AFTERNOON SESSION.

Announcer: Laurence Halbert

2.30: From the Sydney Cricket Ground, description of the play in the Sheffield Shield match, Victoria v. New South Wales. Note.—Anniversary Day, if possible the transmission will be arranged direct from Kurnell, where the landing of Captain Cook is celebrated today. 5.40: Close down.

EARLY EVENING SESSION.

Announcer: A. S. Cochrane.

5.41: The chimes of 2FC. 5.45: The children's session, conducted by the "Hello Man"—Letters and stories. 6.30: Music and entertainment. 6.40: Weather intelligence, shipping, Stock Exchange. 6.45: Rugby wireless news. 6.50: Sporting news: late news, and studio music. 7.10: The 2FC Dinner Quartette, conducted by Horace Keats—(a) "There are Fairies" (Klein), (b) "My Inspiration" (Nicholls), (c) "Sunny" (Kern), (d) "Sweet Suzanne" (Gilbert), (e) "The South Pacific" (Travers).

EVENING SESSION.

Announcer: Laurence Halbert.

Accompanist: Ewart Chapple.

7.40: Programme announcements.
7.45: Pianoforte reproduction.
7.52: Cricket results for the benefit of country listeners, Victoria v. New South Wales.
7.54: Popular music.
8.0: "Big Ben." From the Crystal Palace—The Crystal Palace Orchestra, conducted by Harry Cross.
8.20: From the Studio—R. A. Bartleman, baritone.
8.27: Kathleen Roe, pianoforte solos.
8.37: "The Two Old Cronies," entertainers.
8.47: Hilda Sutton and Leila Jobb, the Melody Maids.
8.57: Weather report.
8.58: From the Speedway, description of the races.
9.8: From the Studio—R. A. Bartleman, baritone.
9.15: Kathleen Roe, pianoforte solos.
9.22: "The Two Old Cronies," entertainers.
9.32: From the Crystal Palace—The Crystal Palace Orchestra, conducted by Harry Cross.
9.52: From the Speedway, description of the races.
10.2: From the Studio—Nea Hallett in popular melodies.
10.9: Dance Band.
10.19: Nea Hallett, in popular melodies.
10.26: Dance Band.
10.36: Late weather report.
10.38: Dance Band.
10.57: To-morrow's programme.
10.59: Dance Band.
11.30: National Anthem; close down.

2BL

MORNING SESSION.

Announcer: A. C. C. Stevens.

8.0: G.P.O. clock and chimes; metropolitan weather report. 8.1: State weather report. 8.2: Studio music. 8.15: G.P.O. chimes; news from the "Daily Telegraph Pictorial." 8.25: Studio music. 8.30: G.P.O. chimes; studio music. 8.35: Information, mails, shipping, arrivals, departures, and sailings. 8.38: News from the "Daily Telegraph Pictorial." 8.45: G.P.O. chimes; studio music. 9.0: G.P.O. clock and chimes; studio music. 9.30: Half an hour with Silent Friends. 10.0: G.P.O. clock and chimes; close down.

MID-DAY AND AFTERNOON SESSION.

Announcers: A. C. C. Stevens, Basil Kirke.

11.0: G.P.O. clock and chimes; women's session, conducted by Mrs. Cranfield; what's on at the pictures and theatres; novel suggestions to listeners; week-end specials. 11.30: Advertising hints. 11.40: Gardening talk. 12.0 (noon): G.P.O. clock and chimes; special ocean forecast and weather report. 12.3: Studio music. 12.30: "Sun" news service. During the afternoon descriptions of the races in running will be broadcast from the A.J.C. meeting at Randwick. Cricket results, Sheffield Shield match, Victoria v. New South Wales, played at the Sydney Cricket Ground, will be broadcast. Musical items from the studio will be given during intervals.

EARLY EVENING SESSION

Announcers: Basil Kirke and J. Knight Barnett.

5.40: Children's session; music and entertainment. 6.0: Letters and stories. 6.30: "Sun" news service. 6.40: 2BL Dinner Quartette—(a) "Smiles, then Kisses" (Ancliffe), (b) "The Street Singer" (Fraser-Simson), (c) "Nicolette" (Conelly), (d) "Reverie" (Murdow), (e) "Tokui" (Condor), (f) "Spanish Dance" (Moszkowski). 7.10: Cricket scores. 7.12: Complete sporting resume; complete racing resume. 7.30: Mr. Pim and M'ss Para in advertising talks and nonsense. 7.55: Programme and other announcements.

EVENING SESSION.

Announcer: J. Knight Barnett.

Accompanist: G. Vern Barnett.

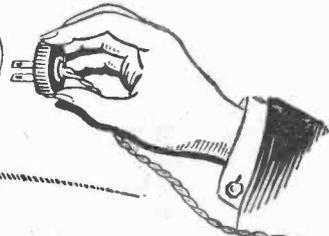
8.0: G.P.O. chimes; and the Kookaburras, saxophone sextet.
8.10: Grace Quine, popular numbers.
8.17: The Kookaburras, saxophone sextet.
8.30: Popular programme.
9.45: Lillian Frith, mezzo—(a) "Walata Mori" (Hill), (b) "Call of the Maytime" (Brave).
9.52: The Kookaburras, saxophone sextet.
10.0: G.P.O. chimes; Grace Quine, popular vocalist.
10.7: Romano's Dance Orchestra, conducted by Bonnie Abrahams.
10.17: From the studio, Lillian Frith, mezzo—(a) "Walata Poi" (Hill), (b) "Can't You Hear Me Calling?" (Roma).
10.24: Late weather and announcements.
10.26: Romano's Dance Orchestra, conducted by Bonnie Abrahams.
10.57: From the studio, to-morrow's programme.
10.59: Romano's Dance Orchestra, conducted by Bonnie Abrahams.
During intervals between dance groups "Sun" news will be broadcast.
11.30: National Anthem; close down.

PERLIN BATTERIES, HALF-PRICE

ATTENTION is drawn in this issue to a special advertisement of Perlin Batteries being offered at half-price. These batteries are nominally the most costly battery on the market, but are now offered by Boyd Edkins, Ltd., at half-price. They have a straight line of discharge, which means uniformly perfect reception, and are not harmed by long periods of inactivity or by short circuit. Any clean water may be used—distilled water is not necessary.

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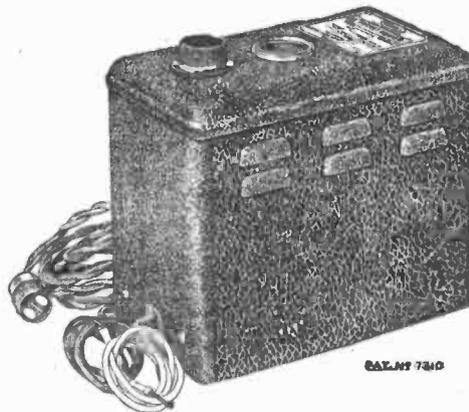


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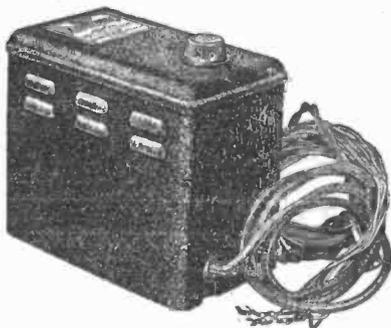
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MELBOURNE

Interstate Programmes, Saturday, January 26

3LO

EARLY MORNING SESSION.

Breakfast hour, 7.15 to 8.15, same as Friday.

MORNING SESSION.
 Announcer: Frank Hatherley. Accompanist: Agnes Fortune. 11.0: The Strad Trio—"Op. 164 O Major" (Reissiger); Andante, Finale. 11.13: Bernard Manning, bass-baritone—"In the Silent Night" (Rachmaninoff); "Invictus" (Huhn). 11.20: Eric Welch will speak on to-day's races at Moonee Valley. 11.30: Cecil Parkes, violin—"Hindoo Chant" (Korsakoff); "Rondino" (Beethoven); "Girl with the Flaxen Hair" (Debussy-Parkes); "Goblin Dance" (Bazzini). 11.42: Jean Sinclair, contralto—"The Sands o' Dee" (Clay); "The Silver Ring" (Chaminade). 11.49: May Broderick, piano—"Capriccio No. 2 E Minor" (Mendelssohn); "Fire Music from Gotterdamering" (Wagner); "Presto" (Beethoven).

MID-DAY SESSION.

Announcer: Frank Hatherley. Accompanist: Agnes Fortune. 12.0: Mid-day news session—same as Friday. 12.20: The Strad Trio—"Andante" (Beethoven); "Gavotte" (Chopin); "The Three Fours Waltz" (Coleridge Taylor). 12.29: Molly MacKay, soprano—"Caro Nome" from "Rigoletto" (Verdi); "Boat Song" (Ware). 12.36: The Station Orchestra—"Le Philtre" (Auber). 12.48: Stock Exchange information. 12.49: Bernard Manning, bass-baritone—"Autumn Winds"; "Roses Red in the Garden" (Ronald). 12.56: The Station Orchestra—"Travellers" (Second Movement from 4th Symphony, Tchaikovsky); "Bugle Code, trumpet—"Because" (by request, "D'Harlelot"). 1.27: Molly MacKay, soprano—"A Mood" (Travers); "Daffodil Gold" (Chopin). 1.34: The Station Orchestra—"Fantasie, "Hoppliana" (Chopin). 1.45: Close down.

AFTERNOON SESSION.

Announcer: Frank Hatherley. 1.58: Description of Tweedside Hurdle Race, two miles, Moonee Valley races, by Eric Welch. 2.5: Sonora recital. 1.15: Description of pennant cricket match, Melbourne v. Northcote, at M.C.C., by Rod MacGregor. 2.28: Description of Niddrie Handicap, 5/4, Moonee Valley races. 2.35: Description of pennant cricket match, Melbourne v. Northcote, at M.C.C. 3.58: Description of William Reid Stakes, 6f., Moonee Valley races. 3.5: Description of pennant cricket match, Melbourne v. Northcote, at M.C.C. 3.38: Description of Warwick Highweight Handicap, 6f., Moonee Valley races. 4.0: Sonora recital. 4.18: Description of Caldermeade Handicap, 1 1/4 m., Moonee Valley races. 4.25: Description of pennant cricket match, Melbourne v. Northcote, at M.C.C. 4.48: Description of Cranmanian Trial Handicap, one mile, Moonee Valley races. During the afternoon results of the Nhill races will be given as they come to hand, also progress scores cricket match, England v. S.A., at Adelaide, and New South Wales v. Victoria, at Sydney.

EVENING SESSION.

Announcer: Maurice Dudley. 5.50: Sporting results. 6.0: Answers to letters and birthday greetings by "Little Miss Kookaburra". 6.25: Musical interlude. 6.30: "Little Miss Kookaburra" will tell the second story—"Robinson Crusoe".

NIGHT SESSION.

Announcer: Maurice Dudley. Accompanist: Agnes Fortune. 7.5: Stock Exchange information. 7.15: Market reports. 7.30: News session—stumps scores cricket matches, Melbourne v. Northcote at M.C.C., England v. S.A. at Adelaide, and New South Wales v. Victoria, at Sydney. 7.43: Birthday greetings. 7.45: Out of the past. 7.48: Edward E. Prescott will speak "Australian Plains and Heath". 8.2: A maker of history. Programme announcements. Tasmanian letter to 3LO from the "Courier", Launceston. 8.5: The Station Orchestra—"Overture, "Bunrasiun Luta" (Kela Bela). 8.15: J. Alexander Brown, baritone—"Sea Fever" (Treland); "Pale Moon" (Logan). 8.22: The Station Orchestra—Selection. "Eugene Onegin" (Tschalkowsky). 8.29: Mollie Warden, soprano—"Silent Noon" (Vachon Williams); Selected. 8.36: Guitford Bishop, violin—"Arioso" (Schaefer); selected. 8.42: The Sundowners' Male Quartette—"Be-leave Me Ye All" (Brewer); "I Miss Yer, Lise" (Crumli) (soloist, Robert Allan). 8.50: The Station Orchestra—Suite, "Gabrielle" (Rossel). 9.0: The song feature of the week. 9.5: Eric Welch will describe to-night's events at the Stadium. 9.20: Jean Lewis, contralto—"When Art Dead, My Dearest" (Coleridge Taylor); "Queen Mary's Song" (Barnes). 9.27: The Station Orchestra—Selection. "Lily of Killarney" (Benedit). 9.37: J. Alexander Brown, baritone—"The Sword" (Wandford-Pindon); "Lad Mine" (Tehr); "The Station Orchestra—Selection. "Meftostole" (Belto). 8.52: Mollie Warden, soprano—"La Serenata" (Ravaal); "Spring Night" (Schumann). 10.0: Eric Welch will describe the night's events at the Stadium. 10.15: The Sundowners' Male Quartette—"Peter" (G. Ring Dem Bells" (Burligh); "Steal Away" (original arrangement). 10.22: The Station Orchestra—"Overture to an Irish Comedy" (Havill). 10.32: Jean Lewis, contralto—"Caro Mio Ben" (Gordon). 10.37: The Sundowners' Male Quartette—"I Tore Do Your Picture" (Donaldson); "Chloe" (Marr); "The Red-o-Aces—"Googly Gro" (David); "Guess Who's in Town" (Bazzini); "That Stolen Melody" (Fisher); "Tenora" (Gilbert); "That's What You Mean To Me" (David); "Lazy Feet"—piano solo (Maaman); "Just Like a Melody Out of the Sky" (Donaldson); "Be-loved" (Kahn); "Because My Baby Don't Mean

Maybe Now" (Donaldson); "I Love to Dunk a Hunk of Sponge Cake" (Castili); "Ramona" (Wayne); "Clarinet Marmalade" (Perfus); "Nebraska" (Revel); "Forever More" (Burnet). 11.40: God Save the King.

3AR

"Clarinet Marmalade" (Fergus); "Nebraska" (Revel); "Forever More" (Burnet). 11.40: God Save the King. 10.0 to 10.59: Same as Friday.

MORNING NEWS SESSION.

11.0: Ned Tyrrell's Radi-o-Aces. "My Blackbirds are Bluebirds Now" (Friend); "Guess Who's in Town" (Bazzini); "Because My Baby Don't Mean Maybe Now" (Donaldson). 11.20: British official wireless news. Rates of exchange as supplied by Messrs. Thos. Cook and Sons. 11.30: Ned Tyrrell's Radi-o-Aces—"Just Like a Melody Out of the Sky" (Donaldson); "Rain" (Ford); "Mine, All Mine" (Ruby); "Dolores" (Kassell); "Down Where the Sun Goes Down" (Byron); "Don't Keep Me in the Dark, Bright Eyes" (Jezani). 12.0: Close down.

AFTERNOON SESSION.

Announcer: C. J. O'Connor.—3.0: A gramophone recital of the world's best music. 5.0: Close down.

EVENING SESSION.

6.0: Sweet songs from the Serenada.

NIGHT SESSION.

Announcer: John Stuart.—8.0: All sporting results, including cricket, South Australia v. England, at Adelaide. Inter-State cricket, Victoria v. New South Wales. 8.22: "The Bugles" (Burrin); "Sarkone" (Rimmer). Selection. "The Daughter of the Regiment" (Donizetti). 8.40: Captain Donald McLean will play a round unvarnished song. "Go Shakespear, "A Bachelor's Love Song" 9.10: Prahran City Band—"In a Monastery Garden" (Ketybel); "Minuet" (Boccherini). 9.20: Mr. and Mrs. Graham Burgh, duets, "The Bells" (Scott); "Maying" 9.27: Prahran City Band—Chorus—"Comrades in Arms" (Adams); "Le Soir" (Gounod). 9.37: The Radio Melody-makers. In fifteen minutes of symphony and song. 9.52: Prahran City Band—Intermezzo—"My Syrian Maid" (Rimmer); March, "On Mary Shore" (Code). 10.3: The Radio Melody-makers, in fifteen minutes of symphony and song. 10.10: Prahran City Band—selected. 10.15: Ruby Dunstan, soprano. "Orpheus with his Lute" (Sullivan); "The Cuckoo" (Lehmann). 10.22: "Age" news service, exclusive to 3AR. Cricket results. Announcements. 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.

AFTERNOON SESSION.

Race meeting. 5.0: Close down.

EARLY EVENING SESSION.

6.0: Mall train running times; special "Queenslander" bi-weekly news service for distant listeners. 6.30: Bedtime stories conducted by "Uncle Ben". 7.15: To-day's race results in brief. 7.20: General sporting notes. 7.30: Balling notes by Mr. Fred Smith.

NIGHT SESSION.

8.0: Orchestral music, Verna Morcom. 8.15: From the Studio—A short song recital by Verna Morcom, soprano, "E'en as a Lovely Flower" (Bridge); "Someone" (Besley); "Bubble Song" (Shaw); "Tung Yang" (Bantock); "The Frog" (Scott); "Smile of Spring" (Fletcher). 8.30: From the Speedway, motor cycle races. 8.45: From the Savoy Theatre, orchestral music. 9.0: From Lennon's and the Speedway, dance music and descriptions of Love, 10.0: "The Sunday Mail" news, weather news; close down.

5CL

MORNING SESSION.

Announcer: J. L. Norris.—11.0: G.P.O. Chimes. 11.1: Last minute selections for Moonee Valley races, by Eric Welch. 11.2: Melbourne. 11.3: Sonora recital (Brunswick recordings). Dave Rubingoff, violinist, with orchestra, "Last Night I Dreamed You Kissed Me" (Kahn); Royal Hawaiians, Hawaiian instrumentalists, "I Love the Love" (Lemoine); pianist, "Mine, All Mine"; Walter B. Rogers and his band, "Pride of the Wolverines"; The Angelo Persians Dance Band, "The Sphinx" (Warren). 11.20: 5CL's sports results. 11.25: Sonora recital (Brunswick recordings). Miniature Concert Orchestra. "Over the Waves Waltz"; "Wedding of the Winds"; Cotton and Morpheus, vocal duet, with guitar and violin, "That's What I Love that Girl"; "Because My Baby Don't Mean Maybe Now"; Harry Richman, comedian, with orchestra, "I Just Roll Along"; "Laugh, Clown, Laugh"; Frank Mann, tenor, with orchestra, "The Frog" (Scott); Eddie Dunstetter, pipe organist, "Kiss Me Again"; "Serenade" (Rimlpanto). Allen McQuah, tenor, "Tomorrow" (Hirsch); "Girl of My Dreams" (Clapp). Six Jumping Jacks orchestra, "I Love that Girl" (Rock). "Dolores"; Nick Lucas, vocalist, "Sunshine"; Jack Denny and his orchestra, "Mississippi Lullaby". Request numbers. 11.45: "The Advertiser" general news service. 12.0: British official wireless news. 12.0: G.P.O. Chimes. 12.1: From the Adelaide Oval: Description of the International cricket, England v. South Australia, by 5CL's sporting commissioner. 1.15: Close down.

AFTERNOON SESSION.

2.30: Moonee Valley Race Results. 2.31: Description of the international cricket match, England v. South Australia, by 5CL's sporting commissioner. 3.0: Moonee Valley race results. 3.8: Senia Chostakoff, tenor, selections from his repertoire. 3.11: Jean Finlay, pianist, selected pianoforte solos. 3.16: Description of the international cricket match, England v. South Australia, by 5CL's sporting commis-

sioner. 3.30: Moonee Valley race results. 3.34: Description of the international cricket match, England v. South Australia, by 5CL's sporting commissioner. 4.0: Moonee Valley race results. 4.2: Senia Chostakoff, Russian tenor, selections from his repertoire. 4.8: Jean Finlay, pianist, selected pianoforte solos. 4.11: Sonora recital of Parlophone recordings. 4.15: Description of the international cricket match, England v. South Australia, by 5CL's sporting commissioner. 5.0: Resume of Moonee Valley race results, 6.5: Birthday greetings, correspondence, songs, and stories, by "The Wattle Lady". 6.30: Close down.

EVENING SESSION.

7.0: G.P.O. Chimes. 7.1: S. C. Ward and Co.'s Stock Exchange information. 7.8: International and Inter-State cricket scores. 7.10: Rev. G. E. Eale, B.A., talk on "The Immortal Memory of Robert Burns". 7.25: Resume of South Australian cricket by "Willow". 7.35: C. G. Riley, talk on "Items of Interest". 7.50: 5CL's sports service. Including Moonee Valley race results, cricket scores, and result of to-day's race, at Port Phillip Bay, for 14th. Dinghy Championship.

NIGHT SESSION.

Announcer: Jean Finlay.—8.0: G.P.O. Chimes. 8.1: Harry Hutchins, violinist, "Serenade" (Tschalkowsky); "Am Meer" (Schubert). 8.8: Senia Chostakoff, Russian tenor, selections from his repertoire of the Volga Boatman". 8.12: Fred Brown, cornetist, "Only a Year Ago"; "O Flower Divine" (Wood). 8.18: Fred Guster, bass, "The Hour" (Flegel); "Singing the Rosewinds" (Tobis); "Our Fairies, violinist, "Zapatado" (Sarazate). 8.30: From the A.N.A. Hall. A.N.A. Annual Celebrations. Toast. The Day we Celebrate. Linda Ward, soprano, selected numbers. 7.50: The A.N.A. Fred Williamson, tenor, selected solo. Response to toast. Messrs. G. W. Robinson (chief president), and George Waterford (general secretary). 9.10: Senia Chostakoff, Russian tenor, "Monotonously Ring the Little Bells" (Jaroff). "It is Peaceful and Serene." 9.18: Fred Brown, cornetist, "The Rosary" (Nevin); "Only a Smile" (Zemke); 9.22: Fred Guster, bass, "The Cobler's Song" (Norton); "The Fishermen of England" (Phillips). 9.28: Jean Finlay, pianist, selected pianoforte solo. 9.30: Toast. To our Parliament. N. M. Roberts (vice-president). Linda Ward, soprano, selected numbers. 9.35: The Federal Parliament. A representative of the Prime Minister, Mr. Norman Makin, representing Mr. Scullin, Federal Parliament. Hon. G. L. Hill, M.P., Leader of the Opposition. 10.15: "The music in my heart I bore, Long after it was heard no more. 10.31: By courtesy of 3LO, Melbourne. Modern dance numbers by the famous Radi-o-Aces. 11.10: God Save the King.

6WF

12 noon: Tune in. 12.5: Musical programme, including pianoforte solos by Miss Audrey Dean. 12.45: General information. 1.20: The signal, including running commentary of the first event of the summer meeting at Ascot. 3.15: Musical programme from the studio, with detailed events relayed from the Ascot race track. 5.15: News. 6.45: Tom 6.45: Aunty Ann will talk to the kiddies. 7.10: Latest sporting results. 7.30: Markets, news, etc. 7.45: Light music. 8.0: Time signal. 8.1: Weather bulletin supplied by the Meteorological Department, West Australia, at an altitude of 6.3: Instrumental and vocal numbers from the studio. 8.0: Late news items by courtesy of "The Daily News"—Newspaper Co., ships within range announcement. 10.30: Oct. 4.0: 5-metre T.S. transmission. Simultaneous broadcast of 5 metres programme given on 1250 metres, commencing at 6.45 p.m.

7ZL

MIDDAY SESSION.

11.30: Same as Friday until 12.30: Anticipations. 3LO, Melbourne, Sporting Commissioner. Last-minute selections for Melbourne races; also selections for Sydney races by special representative. 12.33 to 1.30: Same as Friday. 2.0: Running description of Tweedside Hurdle Race, run at Moonee Valley Racecourse, Moonee Valley, Victoria. 2.30: Running description of Niddrie Handicap, run at Moonee Valley Racecourse, Moonee Valley, Victoria.

AFTERNOON SESSION.

Announcer: Jack Broadbent. 3.0: Running description of William Reid Stakes, 6 furlongs, run at Sydney Racecourse, Victoria. 4.5: Transmission from the North Hill Oval cricket stadium, New Town v. North-west, described by A. M. O'Leary. 3.40: Running description of Warwick Highweight Handicap at Moonee Valley. 3.45: Cricket match. 4.0: Selections by the Melody Masters. 4.15: Running description of Caldermeade Handicap at Moonee Valley. 4.20: Selections by the Melody Masters. 4.25: Cricket match. 4.50: Running description of Cranmanian Trial Handicap at Moonee Valley Racecourse. 4.55: All sporting results to hand. 5.0: Close down.

EARLY EVENING SESSION.

8.0: All sporting results to hand. 8.15: Selections by the Melody Masters. 8.45: "Uncle David" will entertain the week folk. 7.0: Answers to letters and birthday greetings by "Uncle David". 7.5: Selections by the Melody Masters. 7.15: News session.

LATE EVENING SESSION.

7.30: Lady Ashbolt will speak on "A Duty We Owe the Child". 7.40: A talk by E. J. Pollard, "Objects Y.M.C.A." 7.50: Anniversary of Fall of Kham, Y.M.C.A. Gordon killed. Talk by J. M. Counsel. 8.0: G.P.O. clock chimes the hour. 8.30: Transmission from the Continental, Macquarie Street, Hobart. Theo Pipkin and his Continental orchestra. 10.20: From the studio. News session. Close down.

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Local Programmes, Sunday, January 27

2FC

MORNING SESSION.

Announcer: A. S. Cochrane.

- 10.0: "Big Ben" and announcements.
- 10.2: Studio music.
- 10.15: News service.
- 10.30: Studio music.
- 11.0: Morning service, broadcast from St. Patrick's, conducted by Rev. Fr. Hurley.
- 12.15: Approx. close down.

AFTERNOON SESSION.

Announcer: C. R. Hall.

- 2.30: Programme announcements.
- 2.32: Children's session, conducted by the "Hello Man." Chat about the Cheer Up Society, by Uncle Frank.
- 3.0: From the Lyceum: Pleasant Sunday Afternoon, arranged by Central Methodist Mission.
- 4.45: Studio music.
- 5.0: "Big Ben." Close down.

EVENING SESSION.

Announcer: Laurence Halbert.

- 6.0: "Big Ben." Programme announcements.
- 6.5: "Australia in English Eyes." by Francis Jackson.
- 6.20: From Petersham Congregational Church. Organ recital, arranged by Ambrose Gibbs.
- 7.15: From Petersham Congregational Church:—
Evening service, conducted by Rev. A. P. Doran.

Invocation and Lord's Prayer.

Hymn, "Praise, My Soul, the King of Heaven."

Psalm 51.

Lesson, 12 Romans.

Hymn, "Gracious Spirit, Holy Ghost."

Prayer.

Anthem.

Hymn, "Lead, Kindly Light."

Sermon.

Hymn, "Jesu, Lover of My Soul."

Benediction.

Vesper.

8.30: From King's Cross: Wurlitzer organ recital.

8.50: From the Studio: Lillian Frith, mezzo,

(a) "Damon" (Strange),

(b) "The House of Happiness" (Hope).

8.57: Russell Rix, bass-baritone,

(a) "Though Faithless Men" (Halevy),

(b) "The Blind Ploughman" (Clarke).

9.4: "Big Ben." From King's Cross: Wurlitzer organ recital.

9.24: From the Studio: Russell Rix, bass-baritone,

(a) "Thank Me Not" (Mallinson).

(b) "The Curfew" (Gould).

9.31 Lillian Frith, mezzo,

(a) "Break o' Day" (Sanderson).

(b) "O Lovely Night" (Ronald).

9.38: From King's Cross: Wurlitzer organ recital.

10.0: Recital of selected records of the world's greatest artists.

10.30: National Anthem. Close down.

2BL

MORNING SESSION.

Announcer: A. C. C. Stevens.

- 11.0: G.P.O. clock and chimes. Morning service, broadcast from Newtown Methodist Mission. Minister: Rev A. E. Walker
- 12.15: Approx. From the Studio: "Sun" news service.

12.30: Studio music.

2.0: G.P.O. clock and chimes. Close down.

AFTERNOON SESSION.

Announcer: J. Knight Barnett.

- 3.0: Studio music.
- 3.30: From the Band Rotunda, Manly Beach. The Manly Municipal Military Band, conducted by Mr. James Pheloung.
- 5.0: G.P.O. clock and chimes. Close down.

EVENING SESSION.

Announcer: J. Knight Barnett.

- 6.0: G.P.O. clock and chimes. Children's session, conducted by Uncle Peter.
- 6.20: Letters and stories.
- 6.30: Studio music.

7.0: Evening service, broadcast from Petersham Baptist Church.

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

9.30: From the Studio: Alfred Cunningham, baritone.

9.37: Gerald Walenn, violinist.

9.44: Alfred Cunningham, baritone.

9.51: Gerald Walenn, violinist.

9.58: Late weather forecast.

10.0: G.P.O. clock and chimes. National Anthem. Close down.

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Interstate Programmes, Sunday, January 27

3LO

Announcer: Frank Hatherley.—10.30: Bells from St. Paul's Cathedral. 10.45: Express train information. British official wireless news from Rugby. News from yesterday's papers. 11.0: Morning service from First Church of Christ, Scientist, Melbourne. Voluntary (organ), "Evensong", hymn No. 234, "Holy Bible, Book Divine; Scriptural reading, "Nehemiah, 8:1-12, Romans 15:4; silent prayer, followed by the audible repetition of the Lord's Prayer, with its spiritual interpretation from page 16 of the Christian Science text-book, "Science and Health, with Key to the Scriptures," by Mary Baker Eddy; hymn, No. 196, "Shepherd, Show Me How to Go"; solo, "Consolation," by Mendelssohn. Truth. Offertory (organ), "Chanson," by Friml; hymn No. 25, "O Lord, Where'er Thy People Meet"; reading, the Scientific statement of being, from page 468 of the Christian Science Text-book and the correlative Scripture, according to 1 John 3, 1-3; benediction, 11 John 3; postlude (organ), "Marche Funebre and Chant Seraphique," by Alexandre Guilmont. 12.15: Close down.

AFTERNOON SESSION

Announcer: Frank Hatherley.—2.0: Sonora recital of the world's most famous records. 3.0: Pleasant Sunday Afternoon Service, Central Mission, Wesley Church; chairman, Rev. J. H. Cain. Hymn No. 22, "How Sweet the Name of Jesus Sounds"; prayer; musical selection, "The Rosary" (Meyrin), conductor; hymn No. 76, "Tell Me the Old, Old Story"; solo, Miss Dorothy Humphreys; orchestra; solo, Miss Dorothy Humphreys; notices, offering, and orchestra. Address. National Anthem. Benediction. Orchestra.

EVENING SESSION

Announcer: Frank Hatherley.—5.45: Shipping information. 6.47: Answers to letters and birthday greetings. 6.58: "Bobby Bluegum" has a special story for you. 6.45: Adult birthday greetings and programme announcements.

NIGHT SESSION

Announcer: Frank Hatherley. Accompanists: Mabel Nelson.—7.0: Evening service from Scots Church, Collins Street, Melbourne. Preacher, Rev. Dr. W. Borland, M.A. Psalm (metrical version), 89/15-18, "O Greatly Bless'd the People Are"; prayer; prose Psalm 24, "The Earth is the Lord's"; Old Testament lesson, Isaiah 51/1-8; hymn No. 234, "Thou Hidden Love of God"; prayer of intercession; New Testament lesson, 1 John 4/1-13; anthem, "Comes at Times a Stillness" (Woodward); the Lord's Prayer (the congregation, standing, will unite); sermon, "Prove the Spirits," 1 John, 4-1; prayer; hymn No. 275, "Courage, Brother"; intimations; offering; hymn No. 150, "O Spirit of the Living God"; Benediction. National Anthem. 8.30: The Strad Trio, "Trio in G Major" (Mozart), Allegro Andante Allegretto. 8.45: Millie McCormack, mezzo-soprano, "Voi Che Sapete," from "Figaro" (Mozart), "The First Violet" (Mozart). 9.22: Cecil Parkes, violin, "Concerto, No. 4, in D Major" (Mozart), Allegro (first movement). 9.58: J. Howlett Ross will speak on "Mozart, the Master." 9.13: Cecil Parkes, violin, "Concerto, No. 4, in D Major" (Mozart), Andante Cantabile, Rondo (concluded). 9.27: Bernard Manning, bass-baritone. 9.34: The Strad Trio, "Minuet" (Mozart), Rondo Alla Turca. 9.39: Millie McCormack, mezzo-soprano, "Porgi Amor," from "Figaro" (Mozart), "Ah Lo So," from "The Magic Flute" (Mozart). 9.46: "Ah Lo So," news session. Announcements. 10.0: Close down.

3AR

Announcer: John Stuart. 11.0 a.m.: Morning service from St. Paul's Cathedral, Melbourne, preacher Rev. C. G. T. Martin—Sentence, Exhortation, Absolution. The Lord's Prayer, Versicles and Responses (Ferial), Venite, Psalm 104, 1st Lesson; Te Deum (Strad). The Lord's Prayer, Responses, and the Apostles' Creed, The Collects, Anthem, Intercession. Hymn (A. and M.) 489, "O God, the Joy of Heaven Above"; sermon, Rev. C. G. T. Martin; Hymn 396, Part 2, "Christ is Made the Sure Foundation"; Benediction. 12.15 p.m.: British official wireless news. 12.30: Close down.

AFTERNOON SESSION

Announcer: John Stuart. 3.0 p.m.: A bravura of beautiful band led by the master musicians. Royal Albert Hall Orchestra, "Petrouchka Ballet Music" (Stravinsky); Enrico Caruso, "Eugen Onegin" (Tchaikowsky), "Nero" (Rubinstein); Royal Albert Hall Orchestra, "La Boutique Fantasque" (Rossini-Respighi); Melba and Kubelik, "Il re Pastore" (Mozart), "Ave Maria" (Gounod); Jan Kubelik (violinist), "Concerto No. 2" (Wieniawski); mazurka, "Dudziarz" (Wieniawski); Benno Moisevitsh (piano), "Frühlingssnacht" (Spring Night), Op. 3, No. 12 (Schumann-Liszt); "Traumeswirren" (Dream Visions) (Schumann); Alma Guick (soprano), "Hark, Hark, the Lark" (Schubert), "The Brook" (Delores); Mark Hambourg (pianist), "Waltz in D Flat, Op. 52" (Chopin), "Etude in G Flat" (Chopin). 4.30: Close down.

EVENING SESSION

Announcer: John Stuart. 8.0 p.m.: "Brer Rabbit" in stories for the children. 5.30: Close down.

NIGHT SESSION.

Announcer: John Stuart. 7.0 p.m.: A bravura of beautiful ballads and the works of the master musicians. Frederick Lamond and the Royal Albert Hall Orchestra, "Emperor Concerto, No. 5, Op. 73" (Beethoven); Carlo Caffari (baritone), "Il Barbiere di Siviglia" (Rossini), "Even Bravest Heart" (Gounod); M. Hayward and Una Bourne (violin and piano), "Kreutzer Sonata" (Beethoven); Luisa Tetzlaff (soprano), "Ophelia's Ballad" ("Hamlet") (Thomas), "Linda di Chamounix" (Donizetti). 8.0: Johnston's Studio Boys, March, "Mephistopheles Overture," ("Semiramide"). 8.10: Rosalind Hartung (contralto), "The Heavens are Telling" (Beethoven), "Sunday" (Brahms). 8.17: Johnston's Studio Boys, "Select Sacred Souvenir." 8.27: Victor Baxter (tenor), "How Many Hired Servants" (Sullivan), "Twilight" (Glen). 8.34: Piano recital George Finlay—"Polonaise in A" (Chopin), "Valse Brillante" (Chopin), "Refrain de Berceaux" (Palmgren), "March of the Dwarfs" (Grieg), "Minuetto in A Minor" (Geo. Findlay). 8.54: Rosalind Hartung (contralto), "O, Western Wind" (May Erabe), "Just in the Hush" (Agness Lang). 9.0: Interlude, A. S. Kenyon, "Ethnology of the Australian Aboriginal—Corroborees and Games." 9.15: Johnston's Studio Boys, "Abide With Me," "Titania." 9.25: Victor Baxter (tenor), "The Rosary" (Meyrin), "Voices of the Woods" (Rubinstein). 9.32: Selection, Stephen Adams' Songs. 9.42: Sistine Choir (gramophone record), "Ave Maria" (Vittoria), "Exultate Deo" (Palestrina). 9.50: News service. God Save the

4QG

MORNING SESSION.

11.0: From All Saints' Church of England, morning service. 12.15: Close down.

AFTERNOON SESSION.

3.15: From the Botanic Gardens, band concert. 4.30: Close down.

EARLY EVENING SESSION.

6.30: A session for little listeners, greetings and replies to letters.

NIGHT SESSION.

7.30: From All Saints' Church of England, evening service. At the conclusion of the church service the concert by the Brisbane Municipal Concert Band (conductor, E. J. Jackson) will be relayed from Wickham Park. 9.30: Close down.

5CL

MORNING SESSION.

10.45: Carillon of Bells from the Adelaide Town Hall. 11.0: G.P.O. chimes. 11.1: Divine Service from Black Forest Baptist Church. 12.15: British official wireless news. 12.30: Close down.

AFTERNOON SESSION.

3.0: G.P.O. chimes. A Sonora recital (H.M.V. recordings).

EVENING SESSION.

6.0: G.P.O. chimes. 6.1: S.A. Railway information. 6.2: Birthday greetings, correspondence, songs and stories by "Miss Wireless." 6.30: An interlude of moral and choral selections. 7.0: G.P.O. chimes. 7.1: A religious service from St. Bartholomew's Church, Norwood.

NIGHT SESSION.

8.25: Hindmarsh Municipal Band: March, "A Frangosa March" (Corta); overture, "Raymond" (Rimmer). 6.38: Senia Chostakoff, Russian tenor: Selections from his repertoire. 8.44: Hindmarsh Municipal Band: Selection, "The Magic Flute" (Mozart). 8.59: Aileen Newlyn, soprano, "Star Eyes" (Speaks); (a) "Unfolding," (b) "Lovers in the Lane," (c) "Roseleaves" (From "Life of a Rose"), (Lehmann). 9.7: Hindmarsh Municipal Band: Trombone solo, "The Death of Nelson" (soloist, A. Radcliffe). 9.14: Senia Chostakoff, Russian tenor: Selections from his repertoire. 9.20: Hindmarsh Municipal Band: "Joytime Jingles" (Pether). 9.32: Aileen Newlyn, soprano: "Carnival of Venice" (Benedict), "Mighty Lak a Rose" (Newlyn). 9.38: Hindmarsh Municipal Band: "Morocco," "Hiawatha" (Mozart); march, "Dawn of Freedom" (Rimmer). 9.45: P. H. Nicholls: Talk on "Opening the Gateways of Australia." 9.59: Meteorological information. 10.0: G.P.O. chimes. 10.3: God Save the King.

6WF

10.25 a.m.: Tune in. 10.30: Special half-hour for the enthusiastic listener. 11.0: Morning services relayed from St. George's Cathedral. 12.15: Close down. 3.30: Tune in. 3.35: Vocal and instrumental items from the studio. 4.30: Close down. 7.0: Tune in. 7.5: Bedtime stories for the kiddies. 7.30: Evening service relayed from Charles Street Methodist Church. 8.45: Band concert by the Perth City

Band, relayed from the Government Gardens, Perth. 10.5: Close down. 10.4-6-metre Transmission: Simultaneous broadcast on 104.5 metres of programme given on 1250 metres, commencing at 7 p.m.

7ZL

MORNING SESSION.

10.45 a.m.: Bells from Trinity Church, Warwick Street, Hobart. 11.0: Transmission from St. David's Cathedral, Murray Street, Hobart. 12.30 p.m.: Close down.

AFTERNOON SESSION.

3.30 p.m.: Transmission from the Beaumaris Zoo, Hobart—A band concert by the Municipal Band (conductor, L. M. Harnett). 4.30: Close down.

EARLY EVENING SESSION.

6.15 p.m.: Chorus singing (conductor, Trevor M. Morris of Children's Special Service Mission). 6.45: Bertha Southey Brammall will read poems to the wee folk—Ballad, "Plough Boy."

EVENING SESSION.

Announcer: J. M. Counsel. 7.0 p.m.: Transmission from Melville Street Methodist Church, Melville Street. 8.25: From the Studio:—A Mozart concert specially arranged by J. M. Counsel. 9.40: News session. Close down.

MIDDAY SESSION.

Announcer: Jack Broadbent. 11.30 to 1.30: Same as Friday.

AFTERNOON SESSION.

Announcer: Jack Broadbent. 3.0 p.m.: G.P.O. clock chimes the hour. 3.1: Musical selections. 3.4: Weather information. 3.5: A popular and classical programme by the Discus Ensemble—Johan Strauss and Symphony Orchestra, "The Gipsy Baron," Parts 1 and 2 (Strauss); Edna Thornton (soprano), "For Every Day" (Russell), "Vale" (Farewell) (Russell); Robert Radford (bass), "Blow, Blow, Thou Winter Wind" (Radford), "Erl King" (Schubert); Royal Philharmonic Orchestra, "Don Juan," Parts 1 and 2 (Strauss); John McCormick (tenor), "Ah, Moon of My Delight" (Lehmann), "Drink To Me Only" (Celcotti); Edna Thornton (soprano), "Flower Song" ("Faust") (Gounod), "Pierce Flames" (Verdi); Kirby Lunn (contralto), "The Pretty Creature" (arr. Wilson), "Boat Song" (Stanford); Kettleby's Orchestral Orchestra, "Bells across the Meadow" (Kettleby), "In a Fairy Realm" (Kettleby); Cecil Sherwood (tenor), "Eleanor" (Taylor), "Soft Beams the Light" (Donizetti); organ solo by Patman, "In a Motherly Garden" (Kettleby), "Sanctuary of the Heart" (John Brownlee, "Eagle" (Farewell) (Mourning), "I'll Not Complain" (sung in German). 4.30: Close down. During the afternoon progress results will be given of the cricket match, English XI v. Australia, at Adelaide, South Australia.

EARLY EVENING SESSION.

Announcer: Jack Broadbent. 6.15 p.m.: Musical selections. 6.25: Doreen Eley (15 years of age), piano recital. 6.30: The "Story Lady" will tell a story to the wee folk. 6.40: Musical selections. 7.0: Answers to letters and birthday greetings by "Uncle David." 7.0: Musical selections. 7.15: News session.

EVENING SESSION.

7.30 p.m.: W. E. Fuller will speak on "Literary Lapses and Library Lists." 7.45: C. L. Colvin will speak on "Australia's Most Spectacular Regatta." 8.0: G.P.O. clock chimes the hour. 8.6: A band concert by the Pavilion Dance Band and Mdlle. Columbia (V. Byrne, conductor); Gresham Singers, "O, Peaceful Night" (Gorman), "What Ho! What Ho!" (Beale). 8.13: Pavilion Dance Band, fox trot, "Adoree" (West); fox trot, "Song of the Vagabonds" (Friml); waltz "Ramona," 8.22: Norm. Clarke and his South Sea Islanders, "Lei Lani" (Wreath of Heaven) (Heagney), "Dreamy Hilo Bay" (Clarke). 8.29: Pavilion Dance Band: Fox trot, "The Best Things in Life are Free" (De Sylva); fox trot, "Get Out and Get Under the Moon" (Tobias); Yales, "Chio-e" (Song of the Swamp) (Moret). 8.38: Emma Destinova (soprano) and Dinah Gilly (baritone), "The Wedding" (folk song), "My Homeland" (folk song) in Czech, with orchestra. 8.45: Pavilion Dance Band—Fox trot, "That's My Weakness Now" (Green); fox trot, "Good News" (De Sylva); waltz, "Jeannine" (I Dream of Lillac Time) (Schilkret), 8.54: Jack Lumsdaine and Len Mummy—"Good Night" (Wood), "That's My Maunty" (Perse). 9.2: Pavilion Dance Band—Fox trot, "Old-fashioned Locket" (Wimbrow); waltz, "Was It a Dream" (Coslow); fox trot, "Oh, You Have No Idea" (Dougherty). 9.10: Vaughrae Leath (baritone)—"Dirty Hand, Dirty Feet" (Jolson); "Giggling Gertie" (Dryer). 9.17: Pavilion Dance Band—Fox trot, "Without You, Sweetheart" (De Sylva); Yales, "Varsity Drag" (De Sylva); fox trot, "Lauretta" (Silver), 9.26: George Ross (baritone), "Plenty of Sunshine" (De Sylva); Gerald Adams (tenor), "Send for Me" (Bibo). 9.33: Pavilion Dance Band—Fox trot, "After Laughter Comes Tears" (Tobias); Yales, "Sunshine" (Berlin); fox trot, "Luck in Love." 9.42: Seger Ellis (baritone), "Last Night I Dreamed I Kissed You"; Hawaiian guitar, "Aloha Land." 9.50: News session. 10.0: G.P.O. clock chimes the hour. Close down.

Local Programmes, Monday, January 28

2FC

EARLY MORNING SESSION

Announcer: A. S. Cochrane.

7.0 a.m.: "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 share markets, 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 a.m.: "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.

Note: Race results. 11.29: Programme announcements. 11.30: From the Sydney Cricket Ground. Description of the Sheffield Shield Match, N.S.W. v. Victoria, played at Sydney. 1.15 p.m.: From the Studio. Weather intelligence. 1.18: "Evening News" mid-day news service. Producers' Distributing Society's report. 1.28: Stock Exchange, second call. 1.30: Popular music. 2.0: "Big Ben." Close down.

AFTERNOON SESSION

Announcer: Laurence Halbert.

Accompanist: Ewart Chapple.

2.30 p.m.: Programme announcements. 2.32: Record recital. 2.45: A talk by Miss B. McCaulay, "The Value of Games." 3.0: Pianoforte reproduction. 3.15: Popular music. 3.30: Ethel Muller, contralto. 3.37: Carlos Fakola, novelty pianist. 3.45: A reading. 4.0: "Big Ben." Ethel Muller, contralto. 4.7: Carlos Fakola, novelty pianist. 4.15: From the Sydney Cricket Ground, description of the Sheffield Shield match, Victoria v. N.S.W. 5.40: Close down.

EARLY EVENING SESSION

Announcer: A. S. Cochrane.

5.41 p.m.: 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) "Saskatchewan" (Gilbert), (b) "The Little Dutch Girl" (Kalman), (c) "Bolero" (Mozzkowski), (d) "Nocturne in E Flat" (Chopin), (e) "In the Woodshed" (Siegel).

EVENING SESSION

Announcer: Laurence Halbert.

Accompanist: Ewart Chapple.

7.40 p.m.: Pianoforte reproduction. 7.45: Programme announcements. 7.48: Cricket scores, Sheffield Shield match, Victoria v. N.S.W. M. A. Noble will give his impressions of the Sheffield Shield match. 8.0: "Big Ben." From the Lyceum Theatre. The Lyceum Theatre Orchestra, conducted by Frank McCann.

8.20: From the Studio: The first of a short series of appearances by Browning Mummery, prior to his departure for America.

8.34: The "Light Music Four," instrumentalists—

- (a) "Soaring" (Schumann),
- (b) "Bacchanale—Autumn and Winter" (Glazounov).

8.44: Victor Evans, basso.

8.51: Kathleen Roe, pianoforte solos.

9.0: "Big Ben." Weather report.

9.1: The "Light Music Four," instrumentalists—

- (a) "First and Third Movements from 'Scheherazadi'" (Rimsky-Korsakoff)
- (b) selected.

Browning Mummery

The New South Wales Broadcasting Co. present an exclusive feature from 2FO to-night. Mr. Browning Mummery, the famous Australian tenor, who has figured in many famous operatic appearances, will be heard for the first time.

9.16: Browning Mummery.
9.30: Kathleen Roe, pianoforte solos.

9.40: Victor Evans, basso.
9.47: The "Light Music Four," instrumentalists—

- (a) "Scenes Poetiques" (Godard),
- (b) selected.

10.2: A recital of selected records of world-famous artists.

10.27: To-morrow's programme announcements.

10.30: National Anthem. Close down.

See Page 3 for To-night's Laughing Competition

2BL

MORNING SESSION.

Announcer: A. C. C. Stevens.

8.0: G.P.O. clock and chimes. Metropolitan weather report. 8.1: State weather report. 8.2: Studio music. 8.15: G.P.O. clock and chimes. News service from the "Daily Telegraph Pictorial." 8.25: Studio music. 8.30: G.P.O. clock and chimes. Studio music. 8.35: Information, mails, shipping, arrivals, departures, and sailings. 8.38: News from the "Daily Telegraph Pictorial." 8.45: G.P.O. clock and chimes. Studio music. 9.30: Halt an hour with silent friends. 10.0: G.P.O. clock and chimes. Close down.



Mr. Charles Lawrence, who will be heard from 2BL to-night.

MID-DAY SESSION.

Announcer: Basil Kirke.

11.0 G.P.O. clock and 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. clock and chimes. Special ocean forecast and weather report. 12.3: Studio music. 12.30: Shipping and mails. 12.35: Market reports. 12.45: Cricket scores, Sheffield Shield match, N.S.W. v. Victoria. 12.48: "Sun" mid-day news service. 1.0: Studio music. 1.15: From the Sydney Cricket Ground. Cricket impressions by M. A. Noble. 1.20: Studio music. 1.35: Talk to children, and special entertainment for children in hospital. 1.57: Cricket scores. 2.0: G.P.O. clock and chimes. Close down.

AFTERNOON SESSION.

Announcer: Basil Kirke.

Accompanist, Kathleen Roe.

2.0: From the Sydney Cricket Ground, description of the Sheffield Shield match, Victoria v. N.S.W. 4.0: Cricket impressions from the Sydney Cricket Ground, by M. A. Noble. 4.5: From the Studio: Popular music. 4.12: Captain Fred Arons will speak on "Some Earlier Attempts at World Peace." 4.30: Ivy Ross, soprano. 4.37: "Sun" news service. 4.40: From Romanos: Romano's Dance Orchestra, conducted by Bennie Abrahams. 4.50: From the Studio: Ivy Ross, soprano. 4.57: "Sun" news service. 5.0: Our serial story. 5.10: Pianoforte reproduction. 5.20: "Sun" news service. 5.25: Popular music. 5.37: Features of the evening's programme.

EARLY EVENING SESSION.

Announcer: J. Knight Barnett.

5.40: From the Sydney Cricket Ground, description of the Sheffield Shield match, Victoria v. N.S.W. 6.0: Children's session, conducted by Uncle Peter. Letters and stories. Music and entertainment. 6.30: "Sun" news and late sporting. 6.40: 2BL Dinner quartette: (a) "Valse Parisienne" (Roberts), (b) Serenade" (Pierre), (c) "The Geisha" (Jones), (d) "Zazra" (Bowen), (e) "In a Hongkong Street" (Humphries), (f) "Jeannine" (Shilkret). 7.10: Cricket scores, Sheffield Shield match, Victoria v. N.S.W. 7.12: Australian Mercantile, Land and Finance Co.'s report. Weather report and forecast, by courtesy of Government Meteorologist. Producers' Distributing Society's Fruit and Vegetable Market report. Grain and Fodder report ("Sun"). Dairy Produce report ("Sun"). 7.25: Mr. Pim and Miss Pam in advertising talks and nonsense. 7.55: Programme and other announcements.

EVENING SESSION.

Announcer: J. Knight Barnett.

Accompanist: G. Vern Barnett.

8.0: G.P.O. clock and chimes. Topical choruses.

8.3: From the Lyric Wintergarden, conducted by Horace Watts.

8.23: From the Studio: Robert Gilbert, baritone.

8.30: Foster and Finlay, instrumentalists.

8.38: Charles Lawrence, entertainer. "The Art of Entertaining."

8.48: The Savoyans' Dance Band.

8.58: Iverna Kyle, in popular numbers.

9.5: Weather report.

9.6: "Our Laughing Competition"

9.26: George Illis, saxophone solo.

9.33: Robert Gilbert, baritone.

9.40: Basil Grey, cellist.

9.47: Charles Lawrence, entertainer.

(a) "Old English Gentleman."

(b) "Poor Old Nose."

9.57: Foster and Finlay, instrumentalists.

10.4: Iverna Kyle, in popular numbers.

10.11: The Savoyans' Dance Band.

10.32: Late weather report.

10.34: The Savoyans' Dance Band.

10.57: To-morrow's programme.

10.59: The Savoyans' Dance Band.

11.30: National Anthem. Close down.

Welcome News!

It's Three Years since our advertisements last appeared in the "Wireless Weekly." But the new form of this Journal leads us to once again place before its readers good values in radio components.

	s.	d.		s.	d.
Tefag Adjustable Diaphragm 4000 Ohm 'Phones	12	6	Pilot Resistograd or Tone Control	6	9
Terraphon Lightweight 8000 Ohm 'Phones	12	6	Pilot 30 Henry 85 m.a. Chokes	17	6
Beede 0-50 Volt Meters	3	6	Advance Back Panel Vernier Dials	1	6
Beede Accumulator Test-meters	3	0	'Phone Cords, complete	1	6
Centralab 30 Ohm Special Rheostats	3	6	10ft. Speaker Cords, with tips	1	0
Centralab Tone-control Plug (Modulator)	5	6	Solder Outfit, Iron, Flux, and Solder	1	3
Soldafux, a Wonder Flux Fluid, per bottle	1	6	Solder Outfit, Blow Lamp, Iron and Flux	4	9
British N.P. Enamelled Engraved Terminals	0	4	Carborundum Crystal Detectors	8	6
S.P.D.T. Panel Mounting Switches	0	9	Simplex Permanent Crystal Detector	3	6
S.P.D.T. Panel Mounting Switches	1	0	Lightning Arrester Switches	1	3
Copper Adjustable Earth Clips	0	3	Fixed Lightning Arresters, Porcelain	1	6
British Empire U.X. Valve Sockets	1	0	Record Bell Ringing Transformers	7	6
Pins and Sockets for Short Wave Kits, per pr.	0	3½	Eby 'Phone Post (takes 4 pair 'Phones)	1	3
Ecs Plugs and Sockets, 5 colours	0	6	Marvel Accumulator Hydrometers	3	6
Celastite 5 Way Battery Cable (Special)	3	0	Lewcos Short Wave Kit, complete	18	6
Celastite Flex for Wiring, all colours, 25ft.	3	0	Pacent Genuine .0005 S.L.F. Condensers	10	6
A.S.L. Special Bakelite Vernier Dial	6	0	Eclipse 3 Coil Tuners	10	6
Pilot New Model Back Panel Vernier Dial	9	6	Sentinel Reinartz Coils	2	6
Pilot Bakelite 3½ to 1 Audio Transformers	10	0	Muter Grid Leak Clips, mounted on Bakelite	0	6
Ediswan 45-amp. Actual 2-volt Glass Cell, 18/6; 10-way Battery			Cables, with spade-ends, 3/6; Block 4 M.F. Fixed Condensers, 7/6;		
Block 2 M.F. Fixed Condensers, 4/-; Block 1 M.F. Fixed Condensers, 2/6; Panel Mtg. Volt Meters, /-6, 0-120, 13/9; H. and H.			Toggle Type Battery Switches, 1/6.		

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Interstate Programmes, Monday, January 28

3LO

EARLY MORNING SESSION.

7.15 to 8.15: Same as Friday.
MORNING SESSION.
 Announcer: Maurice Dudley.—1.0: 3LO's different salutes for the daily dinner; to-day's radio recipe: Kisses. 1.15: Eric Welch will speak on to-day's races at Williamstown. 1.15: Musical interlude. 1.20: Under the auspices of the Boy Scouts' Association, Mr. W. D. Kennedy will speak on "Scouting and Character Building." 1.35: Musical interlude. 1.40: Under the auspices of the Workers' Educational Association. 1.55: Musical interlude.

MIDDAY SESSION.

12.0: Melbourne Observatory time signal. Express train information. 12.1: British official wireless news from Rugby. Reuters and the Australian Press Association cables. 12.15: 12.15: News market stock rates. Entries for the market for Tuesday, Wednesday, and Thursday, by the Association Stock and Station Agents, Bourke Street, Melbourne. 12.20: Community singing, transmitted from the Auditorium, Collins Street, Melbourne. Conductor, G. J. Mackay. Syd. Burchall, baritone (by permission of J. C. Williamson, Ltd.), in selections from his repertoire. 1.45: Stock Exchange information. Meteorological information. Weather forecast for Victoria, New South Wales, Tasmania, and South Australia. Ocean forecasts. River reports. Rain-fall. 1.55: Close down.

AFTERNOON SESSION.

Announcer: Maurice Dudley.—1.58: Description of Laverton Hurdle Race, two miles, at Williamstown races, by Eric Welch. 2.5: Sonora recital. 2.15: Description of pennant cricket match, South Melbourne v. Prahran, at South Melbourne, by Eod McGregor. 2.39: Description of Juvenile Handicap, 5/2 furlongs, Williamstown races. 2.40: Description of pennant cricket match, South Melbourne v. Prahran, at South Melbourne. 3.7: Description of Foundation Day Cup, 1 1/2 miles, Williamstown races. 3.15: Description of pennant cricket match, South Melbourne v. Prahran, at South Melbourne. 3.43: Description of Steeplechasers' Flat Race, 1/2 mile, Williamstown races. 3.50: Description of pennant cricket match, South Melbourne v. Prahran, at South Melbourne. 4.0: Sonora recital. 4.13: Description of A.N.A. Handicap, 6 furlongs, Williamstown races. 4.20: Description of pennant cricket match, South Melbourne v. Prahran, at South Melbourne. 4.37: Description of Newport Welter, 1 mile, Williamstown races. 4.50: Description of pennant cricket match, South Melbourne v. Prahran, at South Melbourne. 5.0: "Herald" news service. Stock Exchange information. Acceptances for Geelong races, Wednesday, January 30. During the afternoon results of the Rochester races will be given as they come to hand; also progress scores of the Sheffield Shield cricket match, New South Wales v. Victoria, in Sydney and England v. South Australia, in Adelaide, will be broadcast as they come to hand.

EVENING SESSION.

Announcer: Maurice Dudley.—6.0: Answers to letters and birthday greetings, by "Billy Bunny." 6.25: Musical interlude. 6.30: Capt. Donald Maclean, "Pieces of Eight." 6.50: "Billy Bunny" will tell you a story without a moral.

NIGHT SESSION.

Announcer: Frank Hatherley. Conductor: Agnes Fortune.—7.30: News session. Stumps scores, cricket matches, South Melbourne v. Prahran, at South Melbourne; New South Wales v. Victoria, at Sydney; and England v. South Australia, at Adelaide. Results of the inter-State 141. Dinghy Race on Port Phillip Bay. 7.43: Birthday greetings. 7.45: Out of the past. 7.46: J. Howlett Ross will speak on "The Day We Celebrate." 8.0: A Maker of History. "Old Roads—O-Aces." (Fisher). "Is It Gonna Be Long?" (Whiting). "It Goes Like This" (Caesar). "Roses of Yesterday" (Berlin). "Forever More" (Bennett). "Nebraska" (Allen). "That's My Weakness Now" (Simpson). "Get Out and Get Under the Moon" (Tobias). "In a Bamboo Garden" (Donaldson). "Anything You Say" (Donaldson). 8.30: Hoffman's Dance Band, waltz, "Waves of Oceans." 8.37: Graham Burgin, baritone, "Anchored." 8.40: Hoffman's Dance Band, schottische, "Mandy Adams." 8.44: Madge Agnew, mezzo-soprano, "Roses" (Adams). 8.47: Hoffman's Dance Band, quadrille, "Mikado." 9.3: Don Forbes, tenor, "The Valley by the Sea" (Adams). 9.8: Hoffman's Dance Band, barn dance, "Barney's Goggles." 9.13: Old-time choruses, Graham Burgin and the Boys of the Village, introduced by Frank Hatherley, Mrs. Campbell at the piano. "I'm on My Way to Mandalay." "Sweet Marie." "Oh, Dear, What Can the Matter Be?" 9.19: Hoffman's Dance Band, Valetta, "Supplication." 9.28: Graham Burgin and Don Forbes, baritone and tenor, duet, "Excelsior." 9.31: Hoffman's Dance Band, Alberta, "Announcements and Band, Alberta." 9.35: "Announcements and Band, Alberta." 9.52: Madge Agnew, mezzo-soprano, "Beauty's Eyes" (Tosti). 9.55: Hoffman's Dance Band, waltz, "The Waltz Dream." 10.3: Graham Burgin, baritone, "They're the Heart of the Dance Band, "Cosmopolitan." 10.24: Old-time choruses, Graham Burgin and the Boys of the Village, introduced by Frank Hatherley, Mrs. Campbell at the piano. "Katie," "Off in the Stilly Night." "The Old Home," "Absence Makes the Heart Grow Fonder." 10.52: Hoffman's Dance Band, "The Highland Schottische." 10.57: Madge Agnew, mezzo-soprano, "The Old Scotch Songs." 11.0: Hoffman's

Dance Band, "The Royal Irish." 11.20: "Argus" news service. Meteorological information. British official wireless news from Rugby. Announcements. God Save the King.

3AR

Announcer: John Stuart. 10.0 a.m.: G.P.O. clock says "Ten." 10.1: "Age" market reports—farm and station produce, fruit, fish, vegetables, etc. 10.25: "Age" snipping reports; ocean forecast. 10.30: Mail notices; express train information. 10.35: "Age" news service, exclusive to 3AR. 10.58: Weather forecast. 11.0: Ned Tyrrell's Radi-o-Aces—"Quiqueta" (Wayne). "Dream House" (Fox). "Old Man Sunshine" (Dixon). "Jeannine" (Gilberts). 11.10: Vocal variations. 11.28: Ned Tyrrell's Radi-o-Aces—In the Woodshed She Said She Would! (Johnson). "Got a Big Date with a Little Girl" (Tobias). "Sunshine" (Berlin). "A Stolen Moment" (Fisher). 11.46: Vocal variations. 11.52: Ned Tyrrell's Radi-o-Aces—"Please Tell Me" (Miller). "Adoree" (Silver). "You're in Love, I'm in Love" (Donaldson). "Never Before, Never Again" (Chik). 12.12: Vocal variations. 12.15: Ned Tyrrell's Radi-o-Aces—"Laugh, Clown, Laugh" (Young). "Sticky Paws" (Anders). 12.20: British official wireless news; announcements. 12.30: Close down.

AFTERNOON SESSION.

Announcer: John Stuart. Accompanist: Agnes Fortune. 2.15 p.m.: The Station Orchestra, waltz, "Raymond" (Thomas). 2.25: "Molly Mackay (soprano), "Depuis le Jour" (Charpentier), "The Little Dutchman" (Grieg). 2.32: The Station Orchestra, suite, "Sigurd" (Orff). 2.39: The Station Orchestra, tenor, "I Look Into Your Garden" (Haydn Wood). "Pale Moon" (Logan). 2.47: Percy Courtenay (trumpet), "Little Northern Window" (Anthony Dore). 2.54: The Station Orchestra, "Eplouge" (Marie), "Hungarian Dances" (Brahms). 3.1: Bernard Manning (bass-baritone), request numbers. 3.11: Victor Stephenson (piano)—"Kinderscenen" (op. 15). No. 1. "Valse Nobe." "Abendlied" (Schubert). No. 2. "Valse Nobe." 3.18: (Palmer), "Romance" (Hinton). "Capriccio." No. 2 (Frank Bridge). 3.26: The Station Orchestra, "Scenes Pittoresques" (Massenet). 3.36: Molly Mackay (soprano), "I've Been Awake" (Old English). "The Blue Bonnet" (Schumann). 3.43: Joseph Barrille (flute), "Merry Lark" (Bendix). 3.48: Play produced by J. Beresford Foster, "A Restaurant Ecoule," by Alfred Lester. Cast: The Lady, Molly Locke; The Waiter, Beresford Foster; The Station Orchestra, "Dances Miniatures" (Ansell). 4.13: Victor Baxter (tenor)—"From the Land of Sky-blue Water" (Cadmam). "The Bitterness of Love" (Dunn). 4.20: Myrtle Robertson (violin), "Sonatina in D" (Schubert). 4.27: The Station Orchestra, "Three Songs" (Brahms). 4.34: Bernard Manning (bass-baritone), "Vulcan's Song" (Gounod). "Onaway, Awake, Beloved" (Cowen). 4.41: Tasma Terna (violin), "Nocturne" (Tschalkowsky). 4.48: The Station Orchestra, selection, "The Cinema Star" (Gilbert), "Prelude" (Damroch). 5.0: Close down.

EVENING SESSION.

Announcer: C. J. O'Connor. 6.0 p.m.: Sweet Solace of the Seraphina. 7.0: "Herald" news service. 7.5: S'more Solace. 7.30: Results of cricket, England v. South Australia, at Adelaide; New South Wales v. Victoria, at Sydney.

NIGHT SESSION.

Announcer: C. J. O'Connor. Accompanist: Reg. Brown. 8.0 p.m.: R. C. E. Taylor will speak on "Save the School Sport." 8.5: The Station Orchestra under the auspices of the League of Nations Union. 8.30: Alfred Firman, "Books of Yesterday, To-day, and To-morrow." 8.40: The Station Orchestra, "God Save the King." "Australia, Oh Thy Favored Isle," selected. 8.57: The Station Orchestra, selection. Works by Australian Composers—Fred Hall, "Italian Scenes." "Chanson d'Automne." 9.7: Frank Thomas (baritone), "Alone on a Raft" (Rodney). "The Sweepers" (Elgar). 9.14: Victor Stephenson (piano)—"Humoreske" (York Bowen). "Romance" (Hinton). "Gavotte and Musette" (D'Albert). "Prelude" (Pachulski). "Capriccio" (Frank Bridge). 9.29: Capt. Donald McLean will speak on "Hair-breadth 'Scapes" of the Inimicably Deadly Breach: Or being taken by the Insolent Fee and Sold to Slavery." 9.44: Freda Treweek (mezzo-soprano). "A Swan" (Grieg). "Cradle Song" (Schubert). 9.51: The Station Orchestra, selection, Works by Australian composers—William G. James. 10.0: Frank Thomas (baritone), "My Realm of Love" (Ronald). "Route Marchin" (Stock). 10.7: The Station Orchestra, selections, Works by Australian Composers—Fred Hall, "Intermezzo Brillante." 10.20: "Age" news service, exclusive to 3AR. Results of cricket, England v. South Australia, at Adelaide; New South Wales v. Victoria, at Sydney. 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—"To New Guinea and Back." Part 1, by "Traveller." 11.30: Music. 11.35: More social news. 11.45: Wurlitzer organ. 12.0 (noon): Close down.

MID-DAY SESSION.

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

AFTERNOON SESSION.

Announcer: H. Humphreys. 3.0: Orchestral music by the Tivoli Operatic Orchestra under the baton of

Mr C. Groves. 3.30. Mail train running times; a programme of electrically reproduced records. 4.0: Orchestral music. 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 records. 6.5: A programme of electrically reproduced records. 6.25: Commercial announcements. 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. 7.25: Fenwick's stock report. 7.30: Weather information. 7.40: Announcements. 7.43: Standard time signals. 7.45: Lecture, "The Children's Music Corner," conducted by "The Music Man."

NIGHT SESSION.

"GUESS THE ITEM."
 To-night's programme will take the form of a radio novelty. Instead of the names of the various items which are to be broadcast being set out in the programme, they will be numbered and will be referred to by number only in all announcements.

Listeners will be asked to identify them and to post their efforts to 4QG. The listener No. 10 correctly identifies all the items will receive a prize of £2 2s. In the event of more than one listener correctly naming all the items a drawing will be made to determine the winner. In the event of no person correctly identifying all items the prize will be awarded to the listener who is nearest to being correct.

All items will be well known. The result will be announced at 8.30 p.m. on Monday, February 4.

8.0: From the Studio, orchestral selection, Valse, No. 1. 8.5: C. B. Astley, baritone, Solos, Nos. 2 and 3. 8.14: "The Sandman," a group of mouth organ solos, comprising items 4, 5, and 6. 8.25: Harry Humphreys, elocutionist, Monologue, No. 7. 8.30: Vera Parker, contralto, Solos, Nos. 8 and 9. 8.38: Aeolian Vocalion, Wurlitzer organ solos, Nos. 10 and 11. 8.44: Jack Land, tenor, Solos, Nos. 12 and 13. 8.50: Meteorological weather forecast. 9.2: Arthur Sharman, pianist, Solo, No. 14. 9.6: Phyllis Ferner, soprano, Solos, Nos. 15 and 16. 9.15: "The Sandman," an Accordion Solo, No. 17. 9.20: Orchestral selection, Valse, No. 18. 9.25: A. N. Falk, baritone, Solos, Nos. 19 and 20. 9.34: Aeolian Vocalion, novelty item, No. 21. 9.40: Harry Humphreys, elocutionist, a Dickens' Reading from "No. 22." 9.55: Orchestral selection, Fox Trot, No. 23. 10.0: "The Daily Mail" news, "The Courier" news, weather news; close down.

5CL

EVENING SESSION.

7.0: G.P.O. chimes. 7.1: Victoria M. Wilson, soprano: "Black Roses" (Sibellus) "Invitation" (Barry). 7.7: Jean Finlay, pianist. 7.13: Senia Chostakov, tenor. 7.20: Victor Stephenson, violin, and Williams' race results and International cricket scores. 7.30: The 5CL Twinkler Boys' Club.

NIGHT SESSION.

8.0 G.P.O. chimes. Shakespeare at home. A comedy: "The Merry Wives of Windsor" (Play abridge and produced by Athol Lykke). 9.0: Graham Burgin and Don Forbes, baritone and tenor, "Excelsior." 9.3: Hoffman's Dance Band, Alberta, selected. 9.8: Hoffman's Dance Band, "Beauty's Eyes" (Tosti). 9.22: Hoffman's Dance Band, Balboa, Schottische, "Mandy Jane." 9.27: Graham Burgin, baritone, "Thors." 9.30: Hoffman's Dance Band, waltz, "The Waltz Dream." 9.39: Old-time Choruses: Graham Burgin and the Boys of the Village, introduced by Frank Hatherley; Mrs. Campbell at the piano. 9.45: Hoffman's Dance Band, Lancers, "Cosmopolitan." 10.3: Hoffman's Dance Band, Polka Mazurka, "Little Primrose." 10.9: Don Forbes, tenor: Selected. 10.12: Hoffman's Dance Band: Barn Dance, "When You Make Love." 10.19: Old-time Choruses: Graham Burgin and the Boys of the Village. 10.25: Hoffman's Dance Band: "The Highland Schottische." 10.30: Madge Agnew, mezzo-soprano: "The Old Scotch Songs." 10.34: Hoffman's Dance Band, "The Old Scotch Songs." 10.45: "Announcements and Band, Alberta." 10.52: Hoffman's Dance Band, "Resume of the cricket by 'Willow.'" 11.0: God Save the King.

6WF

12 noon: Tune in. 12.5: Musical programme, including pianoforte solos by Miss Audrey Dean. 12.40: General information. 2.1: First event described of the summer meeting, relayed from the Ascot Racecourse. 3.30: Tune in. 3.35: Musical programme, including running commentary of the events at Ascot Racecourse. 4.30: Close down. 6.45: Tune in. 5.48: Bedtime stories for the kiddies. 7.5: Light music by the Station Trio. 7.30: Commercial and general information. 10.4.5: Talk on animals, by Lieut.-Colonel Le Souef, Director, Zoological Gardens, South Perth. 8.0: Time signal. 8.1: Weather notes supplied by the Meteorological Bureau of West Australia; also announcements. Vocal and instrumental items from the studio. Vaudeville items. 8.0: Late news items, by courtesy of "The Daily News" Newspaper Co.; ships within range announcement; weather report and forecast; station announcements. 10.30: Close down. 10.4.5: me: 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 a.m. to 1 p.m.: Same as Saturday. 1.30: Close down. 2.0: Running description of Laverton Hurdle Race, 2 miles, run at Williamstown Racecourse, Williamstown, Melbourne, Victoria. 2.5: Close down. 2.35: Running description of Juvenile Handicap, 5½ furlongs, run at Williamstown Racecourse. 2.40: Close down.

AFTERNOON SESSION

Announcer: Jack Broadbent. 3 p.m.: G.P.O. James. 3.1: Records. 3.4: Weather information; records. 3.10: Running description of Foundation Day Cup, one mile three furlongs, run at Williamstown Racecourse. 3.15: Records. 3.45: Running description of Steeplechase Flat Race, 1½ mile, run at Williamstown Racecourse. 3.50: Records. 4.15: Running description of A.N.A. Handicap, 6 furlongs, run at Williamstown Racecourse. 4.20: Fashion talk, "Aunt Edna" will give a talk on "Race Fashions." 4.35: Records. 4.45: Running description of Newport Handicap, one mile, run at Williamstown Racecourse. 4.50: All sporting results to hand. 5.0: Close down.

EARL YEVENING SESSION

Announcer: Jack Broadbent. 6.10 p.m.: Cricket results. 6.15: Records. 6.30: Little Sheila Carroll will recite to the children—"The World," "Sands of Dee." 7.0: Answers to letters and birthday greetings by "Uncle David." 7.5: Records. 7.15: News session.

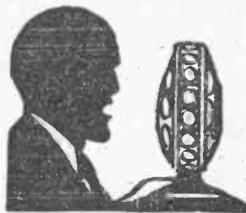
EVENING SESSION

7.30 p.m.: Geo. Collis, Tasmania's champion wrestler, will speak on "Medical Science and Physical Culture." 7.45: Roger Doherty, secretary, Southern Tasmanian Tennis Association, will speak on "Tennis." 8.0: G.P.O. clock chimes the hour. 8.6: Transmission from the Prince of Wales Theatre, Macquarie Street, Hobart—Ted McCann and his orchestra. 9.50: News session. 10.0: G.P.O. clock chimes the hour. "God Save the King." Close down.



JAMES MONTGOMERY FLAGG

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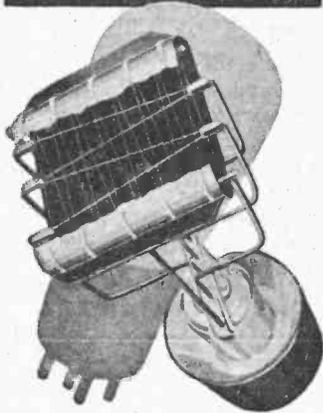
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THE MASTER VALVE

Local Programmes, Tuesday,

2FC

EARLY MORNING SESSION

Announcer: A. S. Cochrane.

7.0 a.m.: "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 share markets, 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 a.m.: "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.

MID-DAY SESSION

Announcer: A. S. Cochrane.

11.29 a.m.: Programme announcements. 11.30: From the Sydney Cricket Ground., Sheffield Shield Match, N.S.W. v. Victoria, played at Sydney. 1.15 p.m.: From the Studio. Weather intelligence. 1.18: "Evening News" mid-day news service. Producers' Distributing Society's report. 1.28: Stock Exchange, second call. 1.30: Popular studio music. 2.0: "Big Ben." Close down.

AFTERNOON SESSION

Announcer: Laurence Halbert.

Accompanist: Ewart Chapple.

2.30 p.m.: Programme announcements. 2.32: Record recital of world famous artists. 3.0: "Big Ben." Pianoforte reproduction. 3.15: Popular music. 3.30: Esther Herford, soprano. (a) "Sweet Lady Moll" (Phillips). (b) "The Snowman" (Pepper). 3.37: Philippa Alston, contralto. 3.45: A reading. 4.0 Esther Herford, soprano, (a) "Ever Song" (Lehmann), (b) "My Bird of April Days" (Besly). 4.0: Philippa Alston, contralto. 4.15: From the Sydney Cricket Ground, description of Sheffield Shield match Victoria v. N.S.W. 5.40: Close down.

EARLY EVENING SESSION

Announcer: A. S. Cochrane.

5.41 p.m.: The chimes of 2FC. 5.45: The Children's Session, conducted by the "Hello Man," assisted by Aunt Eily. Letters and stories, Music and entertainment. 6.30: Dalgely'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) "Beautiful" (Shay), (b) "Cabin Song" (White). (c) "The Fortune Teller" (Herbert), (d) "Fleur-de-Amour" (Fletcher), (e) fox trot.

EVENING SESSION.

Announcer: Laurence Halbert.

Accompanist: Ewart Chapple.

7.40 p.m.: Pianoforte reproduction. 7.45: Programme announcements. 7.48: M. A. Noble will give his impressions on the Sheffield Shield match, N.S.W. v. Victoria. 8.0: From the Band Rotunda, Manly Beach. Ebe Manly Juvenile Band. 8.15: From the Studio, the "Mellow Fellows." 8.25: Mr. Scott Alexander presents a trifling play of pathos and humor, entitled, "Jim Comes Out." Written for Radio by Codrington Ball. Scene, outside the gate of Long Bay Gaol. 8.35: Pianoforte solos by Morris Arlen. 8.47: From the Band Rotunda, Manly Beach. The Manly Juvenile Band. 9.0: "Big Ben." From the Studio. Weather report and forecast. 9.1: Our "Novel Sound" competition. 9.11: The "Mellow Fellows." 9.21: Scott Alexander will present one of Codrington Ball's intriguing vignettes, entitled, "A Yarn in the Park." Scene: A seat in Hyde Park at night. 9.31: From the Band Rotunda, Manly Beach. The Manly Juvenile Band. 9.41: From the Studio. The "Mellow Fel-

lows." 9.51: Studio Dance Band, conducted by Cec. Morrison. 10.1: Popular numbers by Jill Valentine. 10.8: Studio Dance Band, conducted by Cec. Morrison. 10.18: Popular numbers by Jill Valentine. 10.25: Studio Dance Band, conducted by Cec. Morrison. 10.36: Late weather report. 10.37: Studio Dance Band, conducted by Cec. Morrison. 10.53: To-morrow's programme. 10.55: Studio Dance Band. 11.30: National Anthem. Close down.

MR. SCOTT ALEXANDER

Mr. Scott Alexander, who broadcasts from 2FC to-night, has played with Irving. He brought the "Grand Guignol" Playlets to London, and thence to Australia. He has written two hundred and thirty sketches, and played them himself. And he produced the first radio plays broadcast in Australia. In an article on Page 7 he explains his success as a radio dramatist.

2BL

MORNING SESSION

Announcer: A. C. C. Stevens.

8.0 a.m.: G.P.O. clock and chimes. Metropolitan weather report. 8.1: State weather report. 8.2: Studio music. 8.15: G.P.O. clock and chimes. News from the "Daily Telegraph Pictorial." 8.25: Studio music. 8.30: G.P.O. clock and chimes. Studio music. 8.35: Information; mails; shipping, arrivals, departures, and sailings. 8.38: News from the "Daily Telegraph Pictorial." 8.45: G.P.O. clock and chimes. Studio music. 9.0: G.P.O. clock and chimes. 9.30: Half an hour with silent friends. 10.0: G.P.O. clock and chimes. Close down.

MID-DAY SESSION

Announcer: Basil Kirke.

Note: Race results. 11.0 a.m.: G.P.O. clock and 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 noon: G.P.O. clock and chimes. Special ocean forecast and weather report. 12.3 p.m.: Pianoforte reproduction. 12.30: Shipping and mails. 12.35: Market reports. 12.45: Cricket scores. Sheffield Shield match, N.S.W. v. Victoria. 12.48: "Sun" mid-day news service. 1.0: Studio music. 1.15: From the Sydney Cricket Ground, cricket impressions by M. A. Noble. 1.20: From the Studio. Studio music. 1.35: Talk to children, and special entertainment for children in hospital. 1.57: Cricket scores. 2.0: G.P.O. clock and chimes. Close down.

AFTERNOON SESSION

Announcer: Basil Kirke.

Accompanist: Kathleen Roe.

2.0 p.m.: From the Sydney Cricket Ground, description of the Sheffield Shield match, Victoria v. N.S.W. 4.0: Cricket impressions from the Cricket Ground, by M. A. Noble. 4.5: From the studio. Mab Fotheringham, soprano. (a) "Love is Meant to Make Us Glad" (German), (b) "Little Mary Fawcett" (Witty). 4.12: Thelma Houston, contralto. 4.18: From Romano's. Romano's Dance Orchestra, conducted by Bennie Abrahams. 4.30: From the studio. "Sun" news service. 4.33: Mab Fotheringham, soprano. (a) "Woman's Way" (Roedel), (b) "Daddy and Babsy" (Levey). 4.40: From Romano's, Romano's Dance Orchestra, conducted by Bennie Abrahams. 4.50: From the studio, Thelma Houston, contralto. 4.57: "Sun" news service. 5.0: Our serial story. 5.10: Pianoforte reproduction. 5.20: Popular music. 5.25: Complete racing resume. Popular music. 5.37: Features of the evening's programme.

January 29

EARLY EVENING SESSION

Announcers: Basil Kirke

J. Knight Barnett.

5.40 p.m.: From the Sydney Cricket ground, description of the Sheffield Shield match, Victoria v. N.S.W. 6.0: Children's session, conducted by Uncle Bas. Letters and stories. Music and entertainment. 6.30: "Sun" news and late sporting. 6.40: 2BL Dinner Quartette, (a) "From Foreign Parts" (Moskowski), (b) "First Love" (Lehar), (c) "Learn to Smile" (O'Hagan), (d) suite, "The Conqueror" (German), (e) "Cradle Song" (Schubert), (f) "Florindo" (Bergmeim). 7.10: Australian Mercantile, Land, and Finance Club's report. Water report and forecast, 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: J. Knight Barnett.
Accompanist: G. Vern Barnett.

8.0: G.P.O. clock and chimes. Topical chorus.

8.3: From the Warringah Bowling Club. Concert programme, arranged by the club.

8.3: From the Studio. Weather report.

8.4: A topical talk, by S. H. Bowden. Week by Week.

8.19: The Music Makers—

(a) "Schubertiana" (Finck).

(b) "Air de Ballet" (Chaminade).

9.34: John Warren, tenor.

9.41: Amy Ostinga, mezzo-contralto—

(a) "The Birds Go North Again" (Willeby).

(b) "Sealed Orders" (Willeby).

(c) "Stolen Wings" (Willeby).

9.48: The Music Makers—

(a) "A Regret" (Byford).

(b) "Madame Butterfly" (Puccini).

10.0: G.P.O. clock and chimes.

10.7: Amy Ostinga, mezzo-contralto—

(a) "Little Pilgrim" (Willeby).

(b) "Neath Your Casement" (Willeby).

(c) "Voice of the Dove" (Willeby).

10.14: The Music Makers—

(a) "No, No, Nanette" (Youmans).

(b) "Reverie" (Schumann).

(c) "Minuet" (Boccherini).

10.28: To-morrow's programme.

10.30: National Anthem. Close down.

All Done Brown

BROADCASTING artists have been done brown. Mr. Vern Barnett holidayed at Maroubra, and Mr. Jack Barnett at Palm Beach. Mr. Horace Keats was a little touched at Manly (for Heaven's sake don't take that the wrong way), and Mr. Chapple is always swimming. To say nothing of a host of others, including Miss Dunbar and Mr. John Mitchell. But we give the coconut palm to Miss Dulcie Blair. She beats them all to a frazzle, so to speak, by three tones of chocolate frequency.

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Interstate Programmes, Tuesday, January 29

3LO

EARLY MORNING SESSION

7.15 to 8.15: Same as Friday.
MORNING SESSION
 Announcer: Maurice Dudley.—11.0: 3LO's different dainties for the daily two-day radio service, fruit fritters. 11.5: Mrs. Dorothy Silk will speak on "Homecrafts." 11.20: Musical interlude. 11.25: Mr. Loftus Hills. 11.40: Sonora recital.

MID-DAY SESSION
 Announcer: Maurice Dudley. *Accompanist: Agnes Fortune.—12.0: Melbourne Observatory time signal. Express train information. 12.1: Metal prices received by the Australian Mines and Metals Association from the London Stock Exchange this day; British official wireless news from Rugby Reuters and the Australian Press Association cables. "Argus" news service. 12.15: Newmarket stock sales. Official report by the Associated Stock and Station Agents, Bourke Street, Melbourne; also report of the sheep market. 12.30: The Station Orchestra, overture, "Oberon" (Weber). 12.30: Bernard Manning, bass-baritone, "Blow, Blow, Thou Winter Wind" (Quiller), selected. 12.37: Stock Exchange information. 12.40: The Station Orchestra, "Peer Gynt Suite, No. 2" (Grieg). 12.50: Agnes Fortune, piano. 12.57: Veronica Cox, soprano, "Who is Sylvia?" (Schubert), "Ave Maria" (Schubert). 1.4: The Station Orchestra, selection "Bombora" (Bomberg). 1.4: Meteorological information. Weather forecast for Victoria, New South Wales, Tasmania, and South Australia. Ocean forecast. River reports. Rainfall. 1.20: Bernard Manning, bass-baritone, "Troop Not, Young Lover" (Hansley). 1.25: Tom Masters, tenor, "The Station Orchestra, selection, 'La Reine de Saba' (Gounod). 1.37: Veronica Cox, soprano, "The Valley of Laughter" (Sanderson), "Sylvain" (Sinding). 1.45: Close down.

AFTERNOON SESSION

Announcer: Maurice Dudley. *Accompanist: Agnes Fortune.—2.15: The Strad Trio, Op. 121—Variations" (Mozart). 2.25: Molly Mackay, soprano, "Nymphs and Sylvains" (Bemby). "The Hoot Owl." 2.35: Cecil Parkes and May Broderick, violin and piano, "Sonata, Op. 12 in D Major" (Beethoven), Allegro, Theme and Variations (Rondel) (Hansley). 2.45: Tom Masters, tenor, "The Little Old Garden" (Hewitt). 2.58: The Strad Trio, "Drink to Me Only" (arr. Parkes), "Menuett" (Haydn), "Ave Marie Stella" (Grieg), "Gullt Ballet" (Schytte), "Polish Dance" (Schwarzenka). 3.11: J. Harcourt Buley, a surprise story, "The Haunted Ride" (M. B. Spurr), humorous parody "Murphy Shall Not Sing To-night" (W. Shivel), humorous monologue "The Girl on the Stairs" (Hansley). 3.26: The Radi-o-Aces, "I Want to Be Alone with Mary Brown" (Leslie), "Tea Leaves" (Nichols), "Felix, the Cat" (Naustrum). 3.55: Molly Mackay, soprano, "The Wind Song" (Rodgers), selected. 3.42: The Radi-o-Aces, "Polly" (Zamenick), "Back in Your Own Backyard" (Johnson), "Let a Smile Be Your Umbrella" (Pain). 3.51: Sydney Burchall, baritone (by permission, J. C. Williamson, Ltd.). 3.58: The Radi-o-Aces, "Tell Me To-night" (Little), "When You Know Me" (Baden), "The Sorry Sally" (Kahn). 4.7: Tom Masters, tenor, "The Scottish Emigrant's Farewell" (Hume), "I Heard You Singing" (Coates). 4.14: The Radi-o-Aces, "Dream House" (Fox), "Jeannine" (Fox), "Red Head" (Embrey). 4.23: Sydney Burchall, baritone. 4.30: The Radi-o-Aces, "Sentimental Baby" (Palmer), "In My Bouquet of Memories" (Lewis), "Jazz Master," piano solo (Mayer), "Lady of Love" (Hausbaum), "Hum and Strum" (Mayer). 4.40: Announcements. 5.0: The Radi-o-Aces, "Don't Cry, Baby" (Kahn), "Constantinople" (Carlton), "That Melody of Love" (Donaldson). 5.0: "Herald" news service. Stock Exchange information. During the afternoon progress scores of the Sheffield Shield cricket. 5.15: News from South Wales v. Victoria, in Sydney, and England v. South Australia, in Adelaide, will be broadcast as they come to hand. 5.10: Close down.

6.0: Answers to letters and birthday greetings, by "Little Miss Kookaburra." 6.25: Musical interlude. 6.30: "Miss Kookaburra" will continue the story of "Robinson Crusoe."

NIGHT SESSION

Announcer: Frank Hatherley. *Accompanist: Agnes Fortune.—7.3: Stock Exchange information. 7.15: Market reports. 7.40: News session. Stumps scores, England v. Victoria, in Adelaide, and England and New South Wales v. Victoria, in Sydney. 7.43: Birthday greetings. 7.45: Out of the past. 7.46: Under the auspices of the University Extension Board, Rev. W. Cunson, B.A., will speak on "Great Speeches in History." 8.0: A. Maker of History. 8.1: The Station Orchestra, overture "Runyady Laszle" (Erkel). 8.10: Bernard Manning, bass-baritone, "Oh, Thou Sun" (Sionov), request item. 8.17: The Station Orchestra, "Maori Quartet," Part II. (Alfred Hill). 8.27: Harold Elvins, a piano recital. 8.47: Molly Mackay, soprano, "Snowflakes" (Mallinson), "The Kerry Dance" (Molloy). 8.54: The Station Orchestra, "An Angel's Song" (Sammons), "Dance of the Derivishes" (Gendy). 9.0: Jack Lumsdaine, whispering baritone, the latest hits. 9.7: The Station Orchestra, selection, "Katinka" (Friml). 9.15: A travelogue, Prof. R. J. A. Berry, "The Lighter Side of Life in the States." 9.30: Transmission from the Victory Theatre, St. Kilda, orchestra under the direction of Henri Penn. 10.40: "Argus" news service. British official wireless news from Rugby. Announcements. Eric Welch's selections for St. Patrick's Day races at Geelong. 10.51: The Radi-o-Aces, "Anything You Say" (Donaldson), "In a Bamboo Garden" (Donaldson), "Get Out and Get Under the Moon" (Robins), "That's My Weakness Now" (Nebraska) (Atken), "Forever More" (Bennett), "Roses of Yesterday" (Berlin), "Is It Goes Like This" (Caesars), "Is It Gonna Be Long"

(Whiting), "The Dance of the Blue Danube" (Fischer). 11.30: Close down.

3AR

Announcer, John Stuart. 10.0: G.P.O. clock says "Ten." 10.1: "Age" market reports—farm and station product, fish, vegetables, etc. 10.25: "Age" shipping reports, cable forecasts. 10.30: Mail notices; express train information. 10.35: "Age" news service, exclusive to 3AR. 10.59: Weather forecast. 11.0: A recital of the works of the Master Musicians. 12.20: British Official Wireless News; announcements. 12.30: Close down.

EVENING SESSION

Announcer, C. J. O'Connor. 6.0: Sweet Solace ood the Seraphina. 7.0: "Herald" news session. 7.10: Errors of cricket, England v. South Australia, at Adelaide.

NIGHT SESSION

Announcer, C. J. O'Connor. *Accompanist, Reg. Brown. 8.0: Under the auspices of the Town Planning Association, R. J. Haddon, F.R.V.I.A., will speak on "Our Architecture for 1929, what is it to be?" 8.15: A. W. Jackson, Golf. 8.30: Ned Tyrrell's Radi-o-Aces, "Chiquita" (Wayne), "Last Night I Dreamed You Kissed Me" (Kahn), "Tin Pan Parade" (Hilltopper). 8.40: Molly Mackay (soprano), "The Hoot Owl." 8.43: Ned Tyrrell's Radi-o-Aces, "Old Man Sunshine" (Dixon), "Who Knows" (Dixon), "My Dream Sweetheart" (Hall), 8.53: Alan Adcock (entertainer), "Ah, Sweet Mystery of Life" (Herbert), "Evening Star" (Turk), "Down Home" rag (Sweetman). 9.6: Jack Lumsdaine (the whispering baritone), by permission J. C. Williamson, Ltd., "Cute Catches" 9.9: Ned Tyrrell's Radi-o-Aces, "We'll Have a New Home in the Morning" (Buck), "In a Bamboo Garden" (Donaldson), "Anything You Say" (Donaldson). 9.15: Alan Adcock (entertainer), "Ah, Sweet Mystery of Life" 9.20: Ned Tyrrell's Radi-o-Aces, "That Melody I Love" (Donaldson), "Constantinople" (Carlton), "Don't Cry, Baby" (Kahn). 9.33: Molly Mackay (soprano), "Les Cloches" (Strum), "Ned Tyrrell's Radi-o-Aces, "Hum, Hum" (Meyer), "Jazz Master—Piano Solo" (Mayer), "In a Bouquet of Memories" (Lewis). 9.46: Jack Lumsdaine, the Radio Rascal, selected. 9.50: Ned Tyrrell's Radi-o-Aces, "Sentimental Baby" (Palmer), "Jeannine" (Guy). 10.0: Alan Adcock (entertainer), "Chuckles." 10.3: Ned Tyrrell's Radi-o-Aces, "Red Head" (Embrey), "Jeannine" (Fox), "Dream House" (Fox). 10.13: Jack Lumsdaine, the Radio Rascal, request item. 10.15: Ned Tyrrell's Radi-o-Aces, "I'm Sorry, Sally" (Kahn), selected. 10.20: "Age" news service, exclusive to 3AR. Results of cricket, England v. South Australia, at Adelaide. 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: H. Mulcaire. 11.0: Music. 11.5: Social news. 11.15: Talk on "Home Crafts" by Mr. R. L. Reid. 11.30: Music. 11.35: More social news. 11.45: Music. 12.0 (noon): Close down.

MID-DAY SESSION

Announcer: R. Wight. 1.0: Market reports and cable information. 1.20: Lunch-hour music. 2.0: Close down.

AFTERNOON SESSION

Announcer: H. Humphreys. 3.0: A programme of electrically reproduced music. 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 informational shipping news. 6.5: Dinner music. 6.25: Commercial announcements. 6.30: Bedtime stories, conducted by "Uncle Ben." 7.0: News in brief. 7.5: Stock Exchange news. 7.8: Metal quotations. 7.9: Market reports. 7.25: Fenwick's stock report. 7.30: Weather information. 7.40: Announcements. 7.43: Standard time signals. 7.45: Lecture, "A Talk on Photography" by Mr. F. L. South (manager, Kodak, Ltd.).

AFTER SESSION

Announcer: H. Humphreys. 8.0: From the Studio, a programme arranged by Mr. Erich John. Group I: Grand Opera—Instrumental Quartette, "Bridal March" (from "Lohengrin"—Wagner); Double Quartette, "The Home" (from "The Favorite" (Donizetti); Mrs. R. Bell, soprano, "Dusk of the Aria" (from "Cavalleria Rusticana"—Mascagni); George Williamson, tenor, "Questa O Quella" (from "Rigoletto"—Verdi); Double Quartette, "Tyroese Chorus" (from "William Tell"—Rossini); Instrumental Quartette, "Intermezzo" from "Cavalleria Rusticana" (Mascagni). 8.20: Group II—Alpine Songs—Double Quartette, "Witty Ditty" (Schvedabopfi); Mrs. R. Bell, soprano, and Stanley Tamblin, bass-baritone, vocal duet, "Dusk of Twilight"; Double Quartette, "The Jolly Poacher"; Stanley Tamblin, bass-baritone, "Alpine Peace"; "The Holy Mountains Rich in Ore"; Instrumental Quartette, "Tyroese Echoes" (Riviere) 8.40: Group III. Sacred—Double Quartette, "Ave Verum" (Mozart); Mrs. Robert Bell, soprano, and George Williamson, tenor, vocal duet, "Spirit Divine" (Beach); Double Quartette, "Benedictus" (instrumental); Double Quartette, "Ave Maria" (Bach-Gounod). 9.0: Group IV. Classical—Double Quartette, "Choosing the May Queen" (Mozart); Tom Ryan, bass, "Within these Holy Portals" (Mozart); George Williamson and Jack Lord, tenors, "Nights" (Rubinstein); "The Thro' the Meadows" (Rubinstein); Double Quartette,

"Highland Cradle Song" (Schumann); Instrumental Quartette, "Spring Song" (Mendelssohn), Group V. Miscellaneous—Stanley Tamblin, bass-baritone, "Censored" (Berliner); Double Quartette, "Plantation Song" (Gatty); Jack Lord, tenor, "of a Little Dog" (Preston); Instrumental Quartette, "Traumer" ("Dressing"—Schuman). 9.40: Group VI: Light Opera—Double Quartette, "Who Were Yeomen of England" from "Merric England" (German); Mildred Bell, contralto, "O, Who Will I Love is Cruel", from "Merric England" (German); Double Quartette, "Lads and Lassies"; "Florodora" (Stuart); Instrumental Quartette, "Du Antique" (Morse). 10.0: "The Daily Mail" and "The Courier" news, weather news; "Queensland bi-weekly news, service for distant listeners, G. down.

5CL

MORNING SESSION
 11.0: G.P.O. chimes. 11.15: Station quartette. 11.20: "Economist": Kitchen graft and menu talk. 11.25: Station quartette. 12.0: G.P.O. chimes. 12.1: International cricket, England v. South Australia. 12.2: General news. 12.3: Progressives description of international cricket, England v. South Australia. 12.51: S. Railways information; S. C. Ward and Co.'s Stock Exchange information; Meteorological information. 1.0: G.P.O. chimes. 1.1: A description, by sporting commissioner, of the play, England v. South Australia. 1.30: Close down.

AFTERNOON SESSION
 2.30: G.P.O. chimes. 2.31: England v. South Australia, a special description for 5CL. 3.15: Victoria M. Wilson, pianist. 3.21: Jean Finlay, pianist. 3.25: Senia Chostakoff, Russian pianist. 3.31: Progressive description of International cricket. 4.0: Columbia recordings. 4.10: Victoria M. Wilson. 4.16: Jean Finlay, pianist. 4.19: Senia Chostakoff, Russian pianist. 4.25: News Symphony Orchestra. 4.31: Progressive description of International cricket. 4.40: Columbia recordings. 4.50: S. C. Ward and Co.'s Stock Exchange information. 5.0: Closing incidents in connection of International cricket. 5.0: Birthday greetings, correspondence, songs and stories by "The W. Lady." 6.30: Close down.

EVENING SESSION
 7.0: G.P.O. chimes. 7.2: Stock Exchange intelligence. 7.5: General market report. 7.10: 8.15: "Shivus." 8.22: Mrs. L. M. McLeod: A talk on the "Art of Dancing." 7.40: Herbert Basedow, M.P.: An Australian talk. 7.45: G.P.O. chimes. 8.1: News Symphony Orchestra. 8.15: Victoria M. Wilson (soprano). 8.21: News Symphony Orchestra. 8.34: Senia Chostakoff, Russian pianist. 8.40: Fred Brown, cornetist. 8.46: Don Fraser, comedian. 8.52: News Symphony Orchestra. 9.0: G.P.O. chimes. 9.1: Meteorological information. 9.2: Overseas grain report. 9.3: Resume on International cricket, by "Willow." 9.10: Victoria M. Wilson, soprano. 9.15: News Symphony Orchestra. 9.38: Fred Brown, cornetist. 9.44: Don Fraser, comedian. 9.50: News Symphony Orchestra. 10.0: G.P.O. chimes. 10.5: Victoria M. Wilson, soprano. 10.6: News Symphony Orchestra. 10.5: "Advertiser" general news service. Meteorological information. 10.5: Music by Radi-o-Aces. 11.0: God Save the King.

6WF

12.30: P.m. Tune in. 12.35: Markets, news, 1.0: Time signal. 1.1: Weather bulletin, supplied by the Meteorological Bureau of West Australia. 1.3: The Studio Trio and vocal selections. 2.0: Close down. 3.30: Tune in. 3.35: Musical programme from the studio, including pianoforte selections. Mrs. Audrey Dean. 4.30: Close down. 6.45: Tune in. 6.48: Bedtime stories by Miss Westralia. 6.50: Dream Daddy. 7.5: Light music by the Studio Trio. 7.5: Commercial general information. 7.45: Talk by Dr. J. S. Bather; station announcements. 7.5: Time signal. 8.1: Weather notes; station announcements. 9.0: Late news items, by courtesy of "Daily News" Newspaper Co.; ships within range announcement; weather report and forecast; station announcements. 10.30: Close down. 10.45: Simultaneous broadcast on 10 metres of programme given on 120 metres, commencing at 6.45 p.m.

7ZL

MIDDAY SESSION
 Announcer: Jack Broadbent. 11.30 to 1.30: Friday.
AFTERNOON SESSION
 Announcer: Jack Broadbent. 3 p.m.: G.P.O. clock chimes the hour. 3.1: Musical selections. 3.2: Weather information. 3.3: A popular and classical programme by the Discus Ensemble (Johann Strauss and Symphony Orchestra, "The Gipsy Baron," Parts I and 2 (Strauss); Edna Thornton, soprano, "Every Day" (Russell), "Vale"—Farewell (Russell) (Schubert); "Blow, Blow, Thou Winter Wind" (Radford) "The King" (Schubert); Royal Philharmonic Orchestra, "Don Juan," Parts 1 and 2 (Strauss); John McCormack, tenor, "Ah, Moon My Delight" (Lehmann), "Drink to Me Only" (Coccolini); Edna Thornton, soprano, "Flowers Song" (Ketybel), "In a Fairy Sherwood, tenor, "Eleanor" (Taylor), "Soft Beneath the Light" (Donizetti); organ solo by Patman, "In a Monastery Garden" (Ketybel), "Sanctuary of the Heart" (John Brownlee, baritone, "Elegie"—Song



Rock Fishing

Bill and I have been rock fishing. In an hour I lost 50 yards of gut line, four sinkers, five hooks, and three catches of cuttle. As a return I caught one very live eel and the crest of three eels.

We had a wide variety of bait—mud, salted mackerel, prawns, mullet, and sand worms. I owned two gut lines and Bill had a new rod.

Most of the fishing was done by me, Bill usually hooked himself in the net and developed a stiff neck trying to see the place.

When we began, the sea was leisurely lapping a foot below our ledge. Ten minutes later it ascended suddenly and three feet of water tried to push us off.

Apart from torn trousers, cut hands, and a few breaks, a friend had advised me. Some day I will try this when it is raining, but on this occasion I went down on all fours and pressed myself to the rock. This had a suction effect like a limpet.

Apart from torn trousers, cut hands and a temporary sense of drowning, I came through splendidly.

Bill had just hooked himself again when the wave broke, and he sat down with his feet away on the hook. His comments carried to the beach, and an old fisherman left in a hurry. Then he abused me for not having lain down on the beach, most of which had gone with the wave.

Next thing that happened was the eel! Have you ever pulled an angry eel on to a small slippery rock and then tried to find your hook? This eel had swallowed it down to his tail—left it there.

Incidentally Bill said that I caught the eel on purpose to annoy him. I rebuffed him by saying that he seemed to be hooking the same flathead right along!

The next edition of the free Burgess Book of Adventures will surely carry a chapter on my escape from drowning. But don't wait for that—get one of the present consignment from the New System folk, 280 Castlereagh Street, Sydney.

It has more thrills than rock fishing. And that's going some!

Local Programmes, Wed., Jan. 30

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 service. 7.15: Studio music. 7.25: Investment market; mining sharemarkets; metal quotations; wool sales; breadstuff markets; interstate markets; produce markets. 7.40: Studio music. 8.0: "Big Ben;" close down.

MORNING SESSION.

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 down.

MIDDAY SESSION.

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

AFTERNOON SESSION.

Announcer: Laurence Halbert.
Accompanist: Ewart Chapple.
2.30: Programme announcements. 2.32: Record recital of world-famous artists. 3.0: "Big Ben" pianoforte reproduction. 3.15: Popular music. 3.30: Ruby Lesly (soprano). (a) "O My Garden Full of Roses" (Clarke). (b) "Perhaps" (Doster). (c) "When My Ships Come Sailing Home" (Dorel). (d) "Under the Deodar" (Monckton). 3.37: Winifred M'Bride (contralto). (a) "The Heart's Awakening" (Kettelbey). (b) "To You" (Speaks). 3.45: A reading. 4.0: "Big Ben" From the Haymarket Theatre, the Haymarket Theatre Orchestra, conducted by Stan Porter. 4.15: From the studio, Ruby Lesly (soprano). Selected. 4.22: Winifred M'Bride (contralto). (a) "Oh, for a Breath of the Moorlands" (Whelpley). (b) "John" (Lohr). 4.29: From the Haymarket Theatre, the Haymarket Theatre Orchestra, conducted by Stan Porter. 4.45: From the studio. Stock Exchange, third call. 4.47: Popular music. 5.0: Close down.

EARLY EVENING SESSION.

Announcer: A. S. Cochrane.
5.40: The chimes of 2FC. 5.45: The Children's session, conducted by the "Hello Man," assisted by Uncle Ted and "Sandy." Letters and stories. Music and entertainment. 6.30: Dalgety's market reports (wool, wheat, and stock). 6.40: Fruit and vegetable markets. 6.43: Stock Exchange information. 6.45: Weather and shipping news. 6.48: Rugby wireless news. 6.50: Late sporting news. 7.0: "Big Ben." Late news service. 7.10: The 2FC dinner quartette, conducted by Horace Keats. (a) "The Gumnuts' Dance" (Railton). (b) "Forever More" (Burnett). (c) "The Girl from Utah" (Rubens). (d) "On the Way to Kew" (Clarke). (e) "Japansy" (Kenner). (f) "Learn to Smile" (O'Hagan).

EVENING SESSION.

Announcer: Laurence Halbert.
Accompanist: Ewart Chapple.
7.40: Pianoforte reproduction. 7.45: Programme announcements. 7.48: Popular music. 8.0: "Big Ben." To-night is the fourth of our series of classical musical programmes, arranged by Madame Betts-Vincent. Browning Mummery, the celebrated tenor of the late Gilbert and Sullivan Opera Company, will be associated with this programme. 9.0: "Big Ben." Weather report. 9.1: C. R. Hall will give a talk on "Out and About Iraq and Persia: Two Shaggy

Bisutin."
9.16: Second half of the classical programme arranged by Madame Betts-Vincent. 10.15: A talk by G. Price Congrave on his adventures in Papua. 10.30: National Anthem.

2BL

MORNING SESSION.

Announcer: A. C. C. Stevens.
8.0 a.m.: G.P.O. clock and chimes. Metropolitan weather report. 8.1: State weather report. 8.2: Studio music. 8.15: G.P.O. clock and chimes. News from the "Daily Telegraph Pictorial." 8.25: Studio music. 8.30: G.P.O. clock and chimes. 8.35: Information; mails; shipping, arrivals, departures, and sailings. 8.38: News from the "Daily Telegraph Pictorial." 8.45: G.P.O. clock and chimes. Studio music. 9.0: G.P.O. clock and chimes. Studio music. 9.30: Half an hour with silent friends. 10.0: G.P.O. clock and chimes. Close down.

MID-DAY SESSION.

Announcer: Basil Kirke.
11.0 a.m.: G.P.O. clock and 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 noon: G.P.O. clock and chimes. Special ocean forecast and weather report. 12.3 p.m.: Pianoforte production. 12.30: Shipping and mails. 12.35: Market reports. 12.48: "Sun" mid-day news service. 1.0: Studio music. 1.30: Talk to children, and special entertainment for children in hospital. 2.0: G.P.O. clock and chimes. Close down. Note: Race results.

AFTERNOON SESSION.

Announcer: Basil Kirke.
3.45 p.m.: G.P.O. clock and chimes. Popular music. 4.0: From Romano's, Romano's Dance Orchestra, conducted by Bennie Abrahams. 4.10: From the studio. Talk by Basil Kirke. 4.25: Molly Long, contralto, (a) "Down Vauxhall Way" (Oliver), (b) "The Nightingales of Lincoln's Inn" (Oliver). 4.32: From Romano's, Romano's Dance Orchestra, conducted by Bennie Abrahams. 4.40: From the studio, Ida Horwood, mezzo-soprano, (a) "Slave Song" (Del Riego), (b) "I Look into Your Garden" (Wood). 4.47: "Sun" news service. 4.50: From Romano's, Romano's Dance Orchestra, conducted by Bennie Abrahams. 5.0: Our serial story. 5.10: Molly Long, contralto, (a) "The Curtain Falls" (d'Hardelet), (b) "A Little Coon's Prayer" (Hop). 5.17: Ida Horwood, mezzo-soprano, (a) "Still as the Night" (Bohm), (b) "A Blessing" (Wynne). 5.24: Popular music. 5.30: Pianoforte reproduction. 5.37: Features of the evening programme.

EARLY EVENING SESSION.

Announcer: J. Knight Barnett.
5.40 p.m.: Children's music and entertainment. 6.0: Children's letters and stories. 6.30: "Sun" news and late sporting. 6.40: 2BL Dinner Quartette, (a) "Hungarian Dance" (Brahms), (b) waltz "The Girl of the Golden West" (Puccini), (c) "The Waters of Minnetonka" (Lieurance), (d) "Grand Trio Concertant" (Vollveiler), (e) "The Fiddler of June" (Ellrott). 7.10: Australian Mercantile, Land, and Finance Co.'s report. Weather report and forecast, by courtesy of Government Meteorologist. Producers' Distributing Society's fruit and vegetable market report. Grain and fodder report ("Sun"). Dairy produce report ("Sun"). 7.25: Mr. Pim and Miss Pam, in advertising talks and nonsense. 7.55: Programme and other announcements.

EVENING SESSION.

Announcer: J. Knight Barnett.
Accompanist: G. Vern Barnett.
8.0: G.P.O. clock and chimes. Topical chorus. 8.3: The Savoyans' Dance Band. 8.15: A studio production of the comedy, "Tons of Money," by the H. W. Varna Company. Cast: Aubrey Allington, H. W. Varna; Louise (his wife), Mary Rook; Miss Mullett (his aunt), Janet Kelly; Giles (his gardener),
Continued Overleaf.

2BL and 2FC Wednesday
(CONTINUED FROM PAGE 49.)

H. de Witte; James Cheston (his solicitor), J. Furnur; Jean Everard (his visitor), Marjorie Brown; Sprules (his butler), Henry Field; Simpson (his maid servant), Miss Hogan; Enery (the false George Maitland), H. Griesley; George Maitland (the real), William Hume. The scene is at Aubrey's house, Marlow-on-Thames.

- 9.15: Weather report.
- 9.16: Phil Mountain, comedian.
 - (a) "Then Came the Dawn" (Warren),
 - (b) "There Ought to be a Law Against That" (Friend).
- 9.23: Claud Corbett will speak on "General Sporting."
- 9.38: The Savoyans' Dance Band.
- 9.50: Ivy Saxton, in the newest song hits
- 9.57: Lisle Lee, xylophone solos.
- 10.4: Phil Mountain, comedian,
 - (a) "A Real Irish Mother,"
 - (b) "I Want to Go to Bye Bye" (Monckton).
- 10.11: Andrew Madden, euphonium solo.
- 10.18: Ivy Saxton, in the newest song hits.
- 10.23: The Savoyans' Dance Band.
- 10.33: Late weather report.
- 10.35: The Savoyans' Dance Band.
- 10.57: To-morrow's programme.
- 10.59: The Savoyans' Dance Band.
- 11.30: National Anthem.

7ZL Tuesday, Jan., 29
(CONTINUED FROM PAGE 48.)

Mourning, "I'll Not Complain," sung in German. 4.30: Close down. During the afternoon progress results will be given of the cricket match, English XI. v. South Australia, at Adelaide, South Australia.

EARLY EVENING SESSION
Announcer: Jack Broadbent. 6.15 p.m.: Musical selections. 6.25: Doreen Eisey (15 years of age), piano recital, "Selected." 6.30: The "Bory Lady" will tell a story to the wee folk. 8.45: Musical selections. 7.0: Answers to letters and birthday greetings by "Uncle David." 7.5: Musical selections. 7.15: News session.

EVENING SESSION
Announcer: Jack Broadbent. 8.10 p.m.: Cricket results. 6.15: Records. 6.30: Sheila Carrol, will recite to the children—"The World," "Sands of Dee." 7.0: Answers to letters and birthday greetings by "Uncle David." 7.5: Records. 7.15: News session. 7.30: Geo. Collis, Tasmania's champion wrestler, will speak on "Medical Science and Physical Culture." 7.45: Roger Doherty, secretary, Southern Tasmanian Tennis Association, will speak on "Tennis." 8.0: G.P.O. clock chimes the hour. 8.6: Transmission from the Prince of Wales Theatre, Macquarie Street, Hobart—Ted M'Gann and his orchestra. 9.50: News session. 10.0: G.P.O. clock chimes the hour. "God Save the King." Close down.

Neurodyne Patents

THE MARCONI Wireless Telegraph Co. Ltd., has signed an agreement concluding purchase of a license whereby Marconi obtains British Empire rights under all Hazeltine neurodyne radio patents, with the exception of Canada and Australia, where licenses have already been granted. The Marconi Company has the right to sub-license all of its present 2000 sub-licenses. The minimum guarantee of royalty is £10,000 as stipulated, but officials of Hazeltine and Marconi are led to believe that this minimum

Full Figure Television

The demonstration of the play by television using the new portable cameras, was witnessed by a large group of newspaper and magazine writers. Dr. Alexander also exhibited recent television developments of his laboratory including apparatus for the projection of a twelve-inch image on a screen 10 feet from the projector. This apparatus permits the transmission of the full figures of two performers. The head image reproduced was life-size. The projection apparatus included a crater type Moore lamp and a disc with 48 lenses. A large silver screen, not unlike the motion picture screen, received the projected image in clear focus several feet from the disc.



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Interstate Programmes, Wednesday, January 30

3LO

EARLY MORNING SESSION.

11.5 to 8.15. Same as Friday.

MORNING SESSION.

11.0. 3LO's Different Dainties for the Daily Dinner. To-day's Radio Recipe—Wheatmeal Biscuits. Miss I. D. Beavan, "Home-made Confectionery." 11.20: Musical interlude. 7.25: Mrs. M. Shava, "Dishonourable Decoration." 11.40: Musical interlude. 11.45: Mrs. Clarence Weber, Physical Culture expert, will speak—"Physical Culture for Women."

MID-DAY SESSION.

Announcer: Maurice Dudley. Accompanist: Agnes Fortune. 12.0: Melbourne Observatory time signal. Express train information. 12.1: British wireless news from Rugby. Reuters and the Australian Press Association cables. "Argus" news service. 12.15: Newmarket stock sales. Cattle and sheep reports, bullocks and calves, by the Associated Stock and Station Agents, Bourke Street, Melbourne. 12.30: The Radi-o-Aces. "Forever More" (Burnett), "Moraska" (Revel), "Clarinet Marmalade" (Perman). 12.39: E. Mason Wood, baritone, "In Summertime on Bredon" (Fee), "The Little Ships" (Southborough). 12.38: Stock Exchange information. 12.39: The Radi-o-Aces, "Ramona" (Wayne), "I Love to Dunk a Hunk of Sponge-cake" (Castilli), "Because My Baby Don't Mean Maybe Now" (Donson). 12.48: Jack Lumsdaine, the Radio Rascal, "Topical Turns" (The Radi-o-Aces), "Bebe" (Kahn), "Just Like a Melody Out of the Sky" (Donaldson), "Lazy Feet," piano solo (Mason). 1.4: E. Mason Wood, baritone, "The Rose of the Musk" (Jalowitz), "Kitty" (Fletcher). 1.11: Meteorological information. Weather forecast for Victoria. New South Wales, Australia, and Tasmania. Ocean forecasts. River reports. Rainfall. 1.18: Jack Lumsdaine, whispering baritone, will sing numbers from his repertoire. 1.25: The Radi-o-Aces, "That's What You Mean to Me" (Davis), "Chloe" (Kahn), "Lenora" (Gilbert). 1.30: Speeches from the Rotary Club Luncheon. Transmission from the Freemasons' Hall, Collins Street, Melbourne. 2.0: Close down.

AFTERNOON SESSION.

Announcer: Maurice Dudley. Accompanist: Agnes Fortune. 2.15: Description of Trial Handicap, 5 furlongs, St. Patrick's Day races at Geelong. 2.20: The Station Orchestra, "Overture in B Flat" (Schubert). 2.30: Bernard Manning, bass-baritone, "If Thou Wert Blind" (Johnston), "The Curfew" (Gould), "The Station Orchestra Suite" "From the Countryside" (Coates). 2.35: Description of Welter Handicap, 6 furlongs, St. Patrick's Day races at Geelong. 2.50: Molly Mackay, soprano, "Synnove's Song" (Kjerulf), selected. 2.57: The Station Trio, "The Adventurous" (Mozart). 3.0: The Station Orchestra, "Fugue Suite, Op. 22" (Bizet). 3.13: Description of Pony Race, 4 furlongs, St. Patrick's Day races at Geelong. 3.20: Tom Semple, tenor, "When the Night with Silly Silence" (Peccala), "Mornings" (Speaks). 3.27: The Station Orchestra, selection, "The Last Waltz" (Strauss). 3.32: Gertrude Hutton, contralto, "The Cloths of Heaven" (Dunhill), "Plutes of Arcady" (W. G. James). 3.30: Bertha Jorgensen, violin, "Sonata" (Handel). 3.43: Description of St. Patrick's Day Handicap, 1 mile, St. Patrick's Day races at Geelong. 3.50: Molly Mackay, soprano, "Charmante Oiseau" (David), "The Rose Enslaves the Nightingale" (Rimsky-Korsakoff). 3.57: A. Anderson, clarinet, selected. 4.5: Tom Semple, tenor, "My Heart's Desire" (Comingsby-Clarke), "Obstinately" (Pontalies). 4.13: Description of Pony Race, 6 1/2 furlongs, St. Patrick's Day races at Geelong. 4.20: Gertrude Hutton, contralto, "Hold Thou the Morn for Me" (Candell), selected. 4.27: The Station Orchestra, selection, "Lakme" (Delibes), 4.37: Bernard Manning, bass-baritone, request items. 4.41: Description of Novice Handicap, 5 furlongs, St. Patrick's Day races at Geelong. 4.50: The Station Orchestra, "International Suite" (Tschalkowsky), 5.0: "Herald" news session; Stock Exchange information. 5.10: Close down.

3AR

Announcer: John Stuart. 10.0: G.P.O. clock chimes "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. "South-weather forecasts." 11.0: A bravura of beautiful ballads and works of the master musicians. 12.20: British official wireless news. Announcements. 12.30: Close down.

EVENING SESSION.

Announcer: C. J. O'Connor. 6.0: Sweet solace on the Seraphina. 7.0: "Herald" news service. 7.15: S'more solace.

NIGHT SESSION.

Announcer: C. J. O'Connor. Accompanist: Reg Brown. 8.0: H. Webb, manager of the Tasmanian Government Tourist Bureau, will speak on "South-weather forecasts." 8.53: Jack Lumsdaine, the Radio Rascal, "Raymond" (Thomas). 8.38: Bernard Manning, bass, selections from his repertoire. 8.45: The Station Orchestra, selection, "The Cinema Star" (Gilbert). 8.53: Jack Lumsdaine, the whispering baritone, by permission J. C. Williamson, Ltd., request items. 9.0: "One-act play, produced by Winifred Moverley, "The Hypnotist," by Nell Young. 9.15: The Station Orchestra, selected. 9.23: Molly Mackay, soprano, "Moonlight" (Schumann). "Night in May" (Brahms). 10.0: Transmission from the Victory Theatre Orchestra, under the baton of Henri Penn. 10.30: "Age" news service, exclusive to 3AR. Announcements. God Save the King.

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 Mullife. 11.0: Music. 11.5: Social news. 11.15: Talk on "Artistic Uses of Sealing Wax and Crepe Paper," by "Denise." 11.30: Music. 11.35: More social news. 11.45: Music. 12.0 (noon): Close down.

MID-DAY SESSION.

Announcer: B. Wight. 1.0: Market reports and weather information. 1.20: From the G.P.O. and the Postal Institute Orchestra. 2.0: Close down.

AFTERNOON SESSION.

Announcer: H. Humphreys. 3.0: Orchestral music by the Tivoli Operatic Orchestra under the baton of Mr. C. Groves. 3.50: Mail train running times; a programme of electrically reproduced records. 4.0: Orchestral music. 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: Dinner music. 6.55: Commercial announcements. 6.50: Bedtime stories, conducted by "Little Miss Brisbane." 7.0: News in brief. 7.5: Stock Exchange news. 7.6: Metal quotations. 7.7: Market reports. 7.25: 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 Orchestra, fox trots, "When" (Razaf), fox trot, "I'm Playing Hide and Go Seek" (Grossman). 8.10: Winifred Haslam, contralto—"The Splendor of the Morn" (Sanderson), "Lazy River" (Bond). 8.20: Alf Featherstone and his Orchestra—Novelty, "High Hat" (Wendling), 8.30: D. Ritchie, tenor—"When Other Lips" (Baile), "Thora" (Adams). 9.0: Metropolitan weather forecast. 9.1: Movements of lighthouse steamers. 9.5: Alf Featherstone and his Orchestra, jazz waltz, "So Blue" (De Sylva). 9.10: Jean M'Dougall, soprano—"The Waking of Spring" (Del Riego), "O Ship of my Dream" (Phillips). 9.20: Alf Featherstone and his Orchestra—Fox trot, "I'm More than Satisfied" (Waller), fox trot, "While the Others are Dancing" (Pain). 9.30: Brett and Walsh, the popular pair, a quarter of an hour's fun. 9.45: Alf Featherstone and his Orchestra—Fox trot, "Didn't I Tell You?" (Rose), fox trot, "Somebody and Me" (Klages). 10.0: "The Daily Mail" news, "The Courier" news, weather news. 10.15: Alf Featherstone and his Orchestra, three-quarters of an hour's dance music. 11.0: Close down.

5CL

MORNING SESSION.

11.0: G.P.O. chimes. 11.1: Station Orchestra. 11.15: "Economist," kitchen craft and menu talk. 11.30: Station Quartette; Lizette Foglia, violinist; Station Quartette. 12.0: G.P.O. chimes. 12.1: Organ recital by W. R. Knox. 12.15: "Advertiser" general news service. 12.35: British official wireless news. 12.40: Station Orchestra. 12.50: S.A. railway information; S. O. Ward and Co.'s Stock Exchange information; meteorological information. 1.0: G.P.O. chimes. 1.1: Station Orchestra. 1.7: Victoria M. Wilson. 1.14: Organ recital by W. R. Knox. 1.35: Victoria M. Wilson. 1.42: Station Orchestra. 1.57: Meteorological information. 2.0: G.P.O. chimes and close down.

AFTERNOON SESSION.

3.0: G.P.O. chimes. 3.1: Geelong race results. 3.3: Symphonic selections, under the direction of Mr. W. R. Cade. 3.39: Geelong race results. 3.40: Mrs. Keith Stewart, soprano, "Love the Pedlar" (German), "For You Alone" (Geelb). 3.46: Pianoforte recital by Tom King. 3.56: Senia Chostakoff, Russian tenor. 4.1: Geelong race results. 4.2: Station Quartette. 4.14: Mrs. Keith Stewart, soprano. 4.20: Station Quartette. 4.29: Geelong race results. 4.30: Senia Chostakoff, Russian tenor. 4.38: Station Quartette. 4.55: S. C. Ward and Co.'s Stock Exchange information. 4.58: Geelong race results. 5.0: G.P.O. chimes and close down.

EVENING SESSION.

6.0: G.P.O. chimes. 6.1: Birthday greetings, correspondence, anecdotes and stories by "Miss Wireless." 6.30: Interlude of dinner music. 6.55: Geelong racing results and result of Hobart Cup. 7.0: G.P.O. chimes. 7.1: S. C. Ward and Co.'s Stock Exchange information. 7.5: General market reports. 7.10: Rev. E. S. Kiek, M.A., B.D., "Magnificat." 7.20: "Boy Scouts" corner. 7.40: The Bluebird Girls' Club.

NIGHT SESSION.

8.0: G.P.O. chimes. 8.1: Amy Monck, melopiano. 8.5: Victoria M. Wilson, soprano. 8.12: Amy Monck, melopiano. 8.15: From J. C. Williamson's Garden Theatre, a Night of Novelty, by Humphrey Bishop and his famous English Comedy and Operatic Company. 9.30: Jean Finlay, pianist. 9.33: Senia Chostakoff, Russian tenor. 9.40: More novelty by Humphrey Bishop English Comedy and Operatic Co. 10.30: "Advertiser" general news service; racing results; meteorological information. 10.40: Dance numbers by the Radi-o-Aces. 11.0: God Save the King.

6WF

12.30 p.m.: Tune in. 12.35: Markets, news, etc. 1.0: Time signal. 1.1: Weather bulletin supplied by the Meteorological Bureau of West Australia. 1.2: Music—selections from the studio. 1.15: Talk—first-aid talk by Dr. Winifred Holloway, of London. 1.30: Close down. 3.30: Tune in. 3.35: Afternoon tea

music relayed from the Rosebud Cafe; vocal numbers from the studio. 4.30: Close down. 6.45: Tune in. 6.48: Bedtime stories for the kiddies. 7.5: Light music by the Station Trio. 7.30: Commercial and general information. 7.45: Talk by Lieut.-Colonel Le Souef, Director of the Zoological Gardens, South Perth. 8.0: Time signal. 8.1: Weather notes, supplied by the Meteorological Bureau of West Australia. 8.3: Vocal and instrumental duets and solos from the studio. 9.0: Late news items, supplied by courtesy of the "Daily News" Co. ships within range announcement; weather report and forecast; station announcements. 10.30: Close down. 104.5-metre Transmission: Simultaneous broadcast on 104.5 metres of programme given on 1250 metres, commencing 8.45 p.m.

7ZL

MIDDAY SESSION.

2.15 p.m.: Running description of Trial Handicap, 5 furlongs, run at Geelong Racecourse, Geelong, Victoria. 2.20: Close down. 2.45: Running description of Welter Handicap, 6 furlongs, run at Geelong Racecourse, Geelong, Victoria. 2.50: Close down. 1/4

AFTERNOON SESSION.

Announcer: Jack Broadbent. 3.0 p.m.: G.P.O. clock chimes the hour. 3.1: Records. 3.4: Weather information. 3.5: Records. 3.15: Running description of pony race, 4 furlongs, run at Geelong Racecourse, Geelong, Victoria. 3.20: Records. 3.45: Running description of St. Patrick's Day Handicap, 1 mile, run at Geelong Racecourse, Geelong, Victoria. 3.50: Records. 4.15: Running description of Pony Race, 1/2 furlongs, run at Geelong Racecourse, Geelong, Victoria. 4.20: Records. 4.45: Running description of Novice Handicap, 5 furlongs, run at Geelong Racecourse, Geelong, Victoria. 4.50: All sporting results to hand. 5.0: Close down. 1/4

EARLY EVENING SESSION.

Announcer: J. M. Counsel. 6.15 p.m.: Records. 6.30: Bertha Southey Brammall will tell the children a Tasmanian fairy tale—"Eggbert, the Egg Urchin" (Part 1). 6.40: Request numbers. 7.0: Answers to letters and birthday greetings by Bertha Southey Brammall. 7.5: Records. 7.15: News session.

EVENING SESSION.

7.30 p.m.: Geo. Nathan will speak on "Chrysanthemums" 7.45: O. H. Sims will speak on "Business and the Y.M.C.A." 8.0: G.P.O. clock chimes the hour. 8.5: Recital of instrumental and vocal items by leading international artists, specially arranged by Paton's Music Warehouse. 9.45: News session. 10.0: G.P.O. clock chimes the hour. God Save the King. Close down.

7ZL

MIDDAY SESSION.

Announcer: Jack Broadbent. 11.30 a.m. to 1.30 p.m.: Same as Friday. 2.0: Running description of Maiden Plate, 5 furlongs, run at Woodend Racecourse, Woodend, Victoria. 2.5: Close down. 3.0: Running description of Flying Handicap, 5 furlongs, run at Woodend Racecourse, Woodend, Victoria. 2.35: Close down.

AFTERNOON SESSION.

Announcer: Jack Broadbent. 3.0 p.m.: G.P.O. clock chimes the hour. 3.1: Records. 3.4: Weather information. 3.5: Records. 3.10: Running description of Stand Handicap, 1 mile, run at Woodend Racecourse, Woodend, Victoria. 3.15: Records. 3.50: Running description of Novice Handicap, 5 furlongs, run at Woodend Racecourse, Woodend, Victoria. 3.55: Records. 4.20: Running description of Pony Race, 4 furlongs, run at Woodend Racecourse, Woodend, Victoria. 4.25: A representative of the Child Welfare Association will speak on "Baby's Eyes." 4.30: Running description of Highweight Handicap, 8 1/2 furlongs, run at Woodend Racecourse, Woodend, Victoria. 4.55: All sporting results to hand. 5.0: Close down.

EVENING SESSION.

Announcer: Jack Broadbent. 7.30 p.m.: E. Deyer-Gray, M.H.A., will speak, under the auspices of the "Come to Tasmania" Organisation, on "Air Service and Tasmania for Tourists" 7.40: Dr. F. Gaha will speak on "The Health of a City." 7.50: R. L. Mullins will speak on "Water Speed Fiends." 8.0: G.P.O. clock chimes the hour. 8.6: Records. 8.15: 7ZL Old Time Night. 7ZL Alla Polacca Orchestra—"Blue Danube" (Strauss). 7ZL Alla Polacca Orchestra—"Song of the Chimes" (Worrell). 7ZL Alla Polacca Orchestra—Schottische, "Honey Bees" (Richmond). Enrico Caruso, tenor, "Serenade de Don Juan" (Tschalkowsky). 7ZL Alla Polacca Orchestra—Lancers, "Popularity" (Ganz). Elsie Baker, contralto, "Home Sweet Home" (Foster). 7ZL Alla Polacca Orchestra—Waltz, "Old Sweet Story." Robert Radford, baritone, "When I Was a Tiny Boy." 7ZL Alla Polacca Orchestra—Barn Dance, "Rinking" (Poole). Enrico Caruso, tenor, "Serenade de Don Juan," Part 2 (Tschalkowsky). 7ZL Alla Polacca Orchestra—Two-step, "Denhardt" (Conway). Elsie Baker, contralto, "Old Folks at Home" (Bishop). 7ZL Alla Polacca Orchestra—Quadrills, "Happy Darksies" (Kennedy). Robert Radford, baritone, "Four Jolly Sailorsmen" (German). 7ZL Alla Polacca Orchestra—"Thorsviana" Edna Thurston, soprano, "For Every Day" (Russell). 7ZL Alla Polacca Orchestra—Voleta, "Masquerade" (Kessler). John M'Comrack, tenor, "Take Oh, Take Those Lips Away." 7ZL Alla Polacca Orchestra—Folks, "Dixie" (Roife). Duet, Emma Destinnova, soprano, Dinah Gilly, "My Homeland." 7ZL Alla Polacca Orchestra—Polka Mazurka, "Home Flowers" (Boutiv). Gresham Singers, "O, Peaceful Night" (German). 7ZL Alla Polacca Orchestra—Waltz, "Merry Widow" (Lehmann). 10.0: G.P.O. clock chimes the hour. 10.1: News session. 10.12: God Save the King. Close down.



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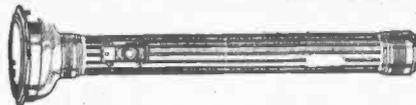
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Local Programme

2FC

EARLY MORNING SESSION.

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

MORNING SESSION.

Announcer: A. S. Cochrane.
10.0: "Big Ben" and announcements. 10.2: Pianoforte reproduction. 10.10: "Sydney Morning Herald" news service. 10.25: Studio music. 10.45: Last-minute sporting information by the 2FC Racing Commissioner. 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. 12.11: Summary of news, "Sydney Morning Herald." 12.15: Rugby wireless news. 12.18: Reading. 12.30: Studio music. 1.0: "Big Ben." Weather intelligence. 1.3: "Evening News" midday news service; Producers' Distributors' Society's report. 1.20: Studio music. 1.25: 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: Selected record recital of world-famous artists. 3.0: "Big Ben." From Christ Church, St. Laurence, organ recital arranged by Christian Hellemann. 3.20: From the studio. Studio music. 3.33: Ann. Luciano (soprano). 3.40: From Christ Church, St. Laurence. Organ recital arranged by Christian Hellemann. 4.0: From the studio. "Big Ben." A reading. 4.15: Ann Luciano (soprano). 4.20: From Christ Church, St. Laurence, organ recital arranged by Christian Hellemann. 4.40: From the studio. Studio music. 4.45: Stock Exchange, third call. 4.47: Popular music. 5.0: Close down.

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) "Contradanse" (Gade). (b) "First Love" (Lehar). (c) "Colombe" (Nicholls). (d) "Love in Aready" (Wood). (e) "In Old Vienna" (Nicholls). (f) "Vie chie Minuette" (Szabati).

EVENING SESSION.

Announcer: Laurence Halbert.
Accompanist: Ewart Chapple.
7.40: Pianoforte reproduction.
7.45: Programme announcements.
7.48: Popular music.
8.0: "Big Ben." From the Capitol Theatre the Capitol Unit Entertainment.
8.23: From the Studio. To-night's competition, conducted in dramatic form by Scott Alexander, another brain teaser, entitled "Who Got the Goat?"
8.30: Minnie Hamblett (pianist)—
(a) "Suite in A Major (Allemande-Courante Gique (Bach).
(b) "Sonata in D Minor" (Hasse).
(c) "Golden Rain" from English suite (Barcroft).
(d) Mazurka Grottesque. "Pair Comin" from Bacchus (Barcroft).
8.51: Clifford Lathlean.
9.1: Minnie Hamblett (pianist).

Thursday, Jan. 31

- (a) "Humoresque" (Juon).
 (b) "Preludio Toccata" (Mangiagalli).
 (c) "Caprice Boheme" (Smetana).
 9.12: Weather report and forecast.
 9.13: Ila Turnbull (soprano).
 (a) "To be Near Thee, My Soul's Beloved" (Rosa).
 (b) "When Love is Kind" (arr. Old Melody).
 9.20: From the Capitol Theatre.
 9.42: From the Studio. Eileen Boyd (contralto)—(a) "Dreams" (Wagner).
 (b) "One More" (Somerset).
 5.49: From the Hotel Australia, Cec. Morrison's Dance Band.
 10.0: "Big Ben." From the Studio. Ila Turnbull (soprano)—
 (a) "On Wings of Song" (Mendelssohn).
 (b) "A Dream" (Grieg).
 10.7: Eileen Boyd (contralto)—
 (a) "Keep Your Toys, Liddle Boy" (Ketelbey).
 (b) "Hayoma" (Elliott).
 10.14: From the Hotel Australia, Cec. Morrison's Dance Band.
 10.30: From the Studio. Late weather report.
 10.32: From the Hotel Australia, Cec. Morrison's Dance Band.
 10.57: From the Studio. To-morrow's programme and announcements.
 10.59: From the Hotel Australia, Cec. Morrison's Dance Band.
 11.30: National Anthem. Close down.

2BL

MORNING SESSION

Announcer: A. C. C. Stevens.

- 8.0: G.P.O. clock and chimes. Metropolitan weather report. 8.1: State weather report. 8.2: Studio music.
 8.15: G.P.O. clock and chimes. 8.25: Studio music. 8.30: G.P.O. clock and chimes. Studio music. 8.35: Information; mails; shipping, arrivals, departures, and sailings. 8.38: News from the "Daily Telegraph Pictorial." 8.45: G.P.O. clock and chimes. Studio music. 9.0: G.P.O. clock and chimes. Studio music. 9.30: Half an hour with silent friends. 10.0: G.P.O. clock and chimes. Close down.

MID-DAY SESSION

Announcer: Basil Kirke.

- 11.0: G.P.O. clock and 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 noon: G.P.O. clock and chimes. Special ocean forecast and weather report. 12.3 p.m.: Pianoforte reproduction. 12.30: Shipping and mails. 12.35: Market reports. 12.48: "Sun" mid-day news service. 1.0: Studio music. 1.30: Talk to children, and special entertainment for children in hospital. 2.0: G.P.O. clock and chimes. Close down.

AFTERNOON SESSION

Announcer: Basil Kirke.

Accompaniste: Kathleen Roe.

- 3.45: G.P.O. chimes and popular music. 4.0: G.P.O. chimes. Listeners this afternoon will be treated to a novel transmission. A vivid description will be given of rock-drilling in Wynyard Square, with all the attendant atmosphere. 4.15: From the studio. Florence Croft, soprano. 4.21: From Romano's, Romano's Dance Orchestra, conducted by Bennie Abrahams. 4.31: From the studio. Captain Fred Aarons will speak on "Curious Facts Concerning Great Documents." 4.45: James Pedal, novelty pianist. 4.52: Florence Croft, soprano. 5.0: Our serial story. 5.10: James Pedal, novelty pianist. 5.17: Pianoforte reproduction. 5.27: Popular music. 5.37: Features of the evening's programme.

EARLY EVENING SESSION

Announcers: Basil Kirke.

J. Knight Barnett.

- 5.40: Children's music and entertainment. 6.0: Children's letters and stories. 6.30: "Sun" news and late sporting. 6.40: 2BL Dinner Quartette. (a) "Le Long des Haies" (Chapins), (b) "La Tosca" (Puccini), (c) "Farewell, My Love" (Lehar), (d) fox-trot, (e) "Rusticarella" (Cortopassi).
 (Continued overleaf.)



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Interstate Programmes, Thursday, January 31

3LO

EARLY MORNING SESSION

7.15 to 8.15: Same as Friday.

MORNING SESSION

11.0: 3LO's different dainties for the daily dinner. To-day's radio recipe, nutties. 11.20: Musical interlude. 11.25: Mastron Moreland will speak on "Mothercraft." 11.40: Musical interlude. 11.45: Mrs. Henrietta C. Walker, "The Art of Being a Settler—Country Town Rest Rooms."

MID-DAY SESSION

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. Report of the cow market and the number of cattle trucks taken for next week's markets, by the Associated Stock and Station Agents, Bourke Street, Melbourne. 12.20: Community singing. Old-time choruses. Transmitted from the Auditorium, Collins Street, Melbourne. Conductor, Frank Hatherley. Jack Lumsdaine, the Radio Rascal, selections from his repertoire. 1.45: Stock Exchange information. Meteorological information. Weather forecast for Victoria, Tasmania, New South Wales, and South Australia. Ocean forecast. River reports. Rainfall. 1.55: Close down.

AFTERNOON SESSION

Announcer: Maurice Dudley. Accompanist: Agnes Fortune.—1.58: Description of Maiden Plate, 5 fur, at Woodend Races, by Eric Welch. 2.5: The Station Orchestra, overture, "Saxifraga" (Rossini). 2.15: Madoline Knight, contralto. 2.22: The Station Orchestra, suite, "The Prayer of the Sword" (Leon). 2.28: Description of the Flying Handicap, 5 fur, Woodend races. 2.35: Bernard Manning, bass-baritone, "The Sailor's Grave" (Sullivan), "Stonecrafter John" (Crosby). 2.42: The Station Orchestra, selection, "Herodiade" (Massenet). 2.52: Molly Mackay, soprano, "Bird Songs at Evidente" (Coates), selected. 2.59: Agnes Fortune, piano, "Lied" (M'Dowell). 3.7: Description of Stead Handicap, one mile, Woodend races. 3.14: Mr. Loftus Lillis, "Topics of the Week." 3.30: Capt. Donald MacLean, "A Page from the Past." 3.48: Description of Novice Handicap, 3 fur, Woodend races. 3.55: Madoline Knight, con-

tralto. 4.2: The Station Orchestra, selection, "Little Boy Blue" (Bereny). 4.11: Bernard Manning, bass-baritone, "Thy Sentinel Am I" (Watson). "I Know of Two Bright Eyes" (Clusam). 4.18: Description of Highweight Handicap, 6 1/4 furlongs, Woodend races. 4.25: Molly Mackay, soprano, selected. 4.32: News session. Stock Exchange information. 4.45: News session, transmitted from St. Paul's Cathedral, Melbourne. 5.30: Result of Highweight Handicap. Wooded notes, from 5.30 p.m. Acceptances and barrier positions for Epsom races on Saturday, February 2. 5.35: Close down.

EVENING SESSION

Announcer: Frank Hatherley.—6.0: Answers to letters and birthday greetings by "Bobby Bluegum." 6.25: Musical interlude. 6.30: "Bobby Bluegum" has some new songs and stories for you.

NIGHT SESSION

Announcer: Frank Hatherley. 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. 8.0: Rod M'Gregor will speak on "Cricket: Our Dance Night. 8.15: The Radi-o-Aces, "Toy Town Artillery" (Carlton), "Chloe" (Moret), "Because My Baby Don't Mean Maybe Now" (Donaldson). 8.24: Molly Mackay, soprano, "Daffodil Gold" (Rodgson). 8.27: The Radi-o-Aces, "Wabaly Walk" (Moret). "The Desert Song" (Romberg), "One Alone" (Romberg). 8.36: Syd. Exton, tenor, "Little Mother" (Pollack). 8.39: The Radi-o-Aces, "Alabama Stamp" (Creamer), "Anything You Like" (Donaldson), "In a Bamboo Garden" (Donaldson). "The Blue Bird" (Carter). "The Seaside Alphabet" (Gecil). 8.51: The Radi-o-Aces, "Get Out and Get Under the Moon" (Tobias), "That's My Weakness Now" (Steph), "Nebraska" (Sisk). 9.0: Jack Lumsdaine, the Radio Rascal, "Whispers from the Past." 9.3: The Radi-o-Aces, "Forever More" (Burnett), "Roses of Yesterday" (Berlin), "It Goes Like This" (Cash). 9.45: Molly Mackay, soprano, "The Ash Grove" (Old Wake). "Constantinople" (Carlton), "Keep Singing a Song" (Bissell). "Minnetonka" (Wallace). "The Dance of the Blue Danube" (Fisher). 9.24: Syd. Exton, tenor, "Audacity" (Evilie). 9.27: The Radi-o-Aces, "In the Woodshed She Said She Would" (Johnson). "Constantinople" (Carlton), "Japanay" (Kleiner). 9.38: Ethel Clarke, contralto, mandoline selections. 9.39: The Radi-o-Aces, "Dream House" (Fox), "My Blackbirds are Bluebirds Now" (Friend). "Constantinople" (Carlton). 9.48: Jack Lumsdaine, the Radio Rascal, "All the Latest." 9.51: The Radi-o-Aces, "I Just Roll Along" (Trent), "Oh, Ya, Ya" (Fritch), "There Ought to be a Law Against That" (Friend). 10.0: "Argus" news service. British official wireless news from Rugby. Meteorological information. Sports and amusements. "Hot Ivories" (Sinastra), "Chiquita" (Wayne), "Just Like a Melody Out of the Sky" (Donaldson). 10.24: Molly Mackay, soprano, "May Morning" (Ash). "Avalon Town" (Brown), "Paradise" (Zamcinek). 10.30: Syd. Exton, tenor, "Far Away Bells" (Gordon). 10.38: The Radi-o-Aces, "Cinnamon Cake" (Bernard), "Beside the Stream" (Steph), "Dusky" (Razaf). 10.48: Arch. Clark, contralto, "I Don't Care" (Fred Holl). 10.51: The Radi-o-Aces, "You're a Real Sweetheart" (Friend), "Under the Burma Moon" (Davis), "Colombo" (Nichols). 11.1: The Radi-o-Aces, "High Up on a Hilltop" (Baer), "Do You" (Nichols), "Way Inspiration Is You" (Nichols), "Dawning" (Silver), "Good-night for the River" (Moret). Slumber music, "Good-night Song." "Good-night Song." 11.30: 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: Lecture, gardening talk by "Tecoma." 11.30: Music. 11.35: More social news. 11.45: Music. 12.0 (noon): Close down.

MID-DAY SESSION

Announcer: R. Wight. 1.0: Market reports and weather information. 1.15: From the Constitutional Club, a lunch-hour address. 2.0: Close down.

AFTERNOON SESSION

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: Some electrically reproduced records. 6.25: Commercial announcements. 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. 7.8: The Radio's stock report. 7.30: Weather information. 7.40: Announcements. 7.43: Standard time signals. 7.45: Lecture, "On the Wallaby, Rural Reminiscences," No. 3, by Mr. J. F. Reid, editor, "Queensland Agricultural Journal."

NIGHT SESSION

(Announcer: H. Humphreys.) A classical programme by the Richmond Party. 8.0: programme arranged by Jack Ellis—Jack Ellis, pianist, "Bourree" (Bach); Mrs. W. F. Hamilton, mezzo-soprano, "O Mio Fernando" (Traviata)—Donaldson; Jack Ellis, pianist, "The Four Quartets"; Max Aronstein, baritone, "Bright is the Ring of Words" (Vaughan-Williams); "Tell Me Not, Sweet" (In the Forest's Highest Branches) (Korby); Mrs. W. F. Hamilton and Hilda Cooper, vocal duet, selected; Jack Ellis, pianist, "Etude de Concert" (Liszt); Hilda Cooper, contralto, "O Promise Me" ("Robin Hood"—de Koven); Mrs. W. F. Hamilton, mezzo-soprano, selected; Max Aronstein, baritone, "Infelice o Tu Credevi" (Ermani)—Verdi); Jack Ellis, pianist, "Cyril Scott" (Cyril Scott); Mrs. W. F. Hamilton and Max Aronstein, vocal duet, selected; Jack Ellis, accompanist, Part II: Anglo Male Quartette. 9.0: Metropolitan weather forecast. 9.2: A programme by the Anglo's stock report. 9.30: Quartette "Piccadilly Lullaby" (Macy); C. R. Kolb, tenor, "Alisa Mine" (Newton); Dick Pike, bass, "Neath the Rolling Tide" (Jude); the Quartette, "Honey, I Want Yer Now" (Coje); A. F. Stoddart, baritone, "Where the Swan" (Cyril Scott) on Parade; "Under the Desert Star" (Remon); R. N. Watts, baritone, selected; the Quartette, "Stars of the Summer Night" (Parks). Part III: Gramophone record. 9.30: From the Studio, "Ash" (Ash). Electrically reproduced records. 10.0: "The Daily Mail" news, "The Courier" news, weather news; close down.

2BL

(Continued from previous page.)

7.10: Australian Mercantile, Land, and Finance Co.'s report. Weather report and forecast, by courtesy of Government Meteorologists. Producers' Distributing Society's fruit and vegetable market report. 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: J. Knight Barnett. Accompanist: G. Vern Barnett. 8.0: G.P.O. clock and chimes. Topical chorus.

8.3: The Music Makers— (a) Suite, "Harvest Time" (Wood). (b) Selection, "Miss Hook of Holland" (Rubens).

8.23: A song recital by Browning Mummery, tenor, one of the principals of the late Gilbert and Sullivan Company, the third of a short series of appearances prior to his departure for America.

8.35: Pianoforte solos by G. Vern Barnett. 8.42: A sketch by Jennifer Wynne. 8.52: Edith Martin (soprano)—

(a) "Thou art Like a Lovely Flower" (Schumann). (b) "Far Greater in His Lowly State" (Gounod).

8.59: Weather report. 9.0: G.P.O. clock and chimes. Dulcic Blair, violiniste.

9.7: Cliff Gane, comedian. 9.14: The Music Makers, selection, "Manon Lescaut" (Puccini).

9.25: Browning Mummery, tenor. 9.40: A sketch by Jennifer Wynne. 9.50: Edith Martin, soprano—

(a) "Do You Know My Garden" (Wood). (b) "Allah Be With Us" (Woodford-Finden).

9.57: Dulcic Blair, violiniste. 10.4: Cliff Gane, comedian. 10.11: The Music Makers—

(a) "Heart Murmurs" (Besse). (b) "The Song of Songs" (Moyar). (c) "Merely Molly" (Finck).

10.25: Late weather report. To-morrow's programme and announcements. 10.30: National Anthem. Close down.

3AR

Announcer: John Stuart. 10.0: G.P.O. clock and chimes. "Ten Years Hence" (Schubert). Age market reports—farm and station produce, fruit, fish, vegetables. 10.25: "Age" shipping reports. Ocean forecast. 10.30: Mail news service. Express train information. 10.35: "Age" news service, exclusive to 3AR. 10.59: Weather forecast. 11.0: A list of the works of the master musicians. 12.20: British official wireless news. Announcements. 12.30: Close down.

EVENING SESSION

6.0: A bravura of beautiful ballads. 7.0: "Herald" news service. 7.5: More beautiful ballads.

NIGHT SESSION

Announcer: C. J. O'Connor. Accompanist: Reg Brown. 8.0: Under the auspices of the Nurserymen and Seedsmen's Association of Victoria, W. R. Nuttall, "Ten Years Hence." 8.30: The Station Orchestra, overture in B flat (Schubert), "Dances Miniatures" (Anzell). 8.45: Victor Baxter, tenor, "For You Alone" (Chele), "At Night" (Rachmaninoff), with violin obligato, by Bertel Jorgensen. 9.0: Gullford Bishop, violin, "Second Romance" (Tours). 9.0: Winifred Moverley, elocutionist, a story, "The Fairies in the Bush" (Henry Lawson). 9.7: The Station Orchestra, "Scenes Pittoresques" (Massenet), "Hungarian Dances" (Brahms). 9.22: Captain Donald Maclean, "For I am the crew of the Nancy Bell, the captain and the mate." 9.37: Reg Brown, pianist, "Rustle of Spring" (Slinding), "March Rongroto" (Kowalek). 9.47: "Dream of a Long Ago" with violin obligato by Gullford Bishop (Caruso), (Caruso), "Parted" (Tost), with violin obligato by Gullford Bishop. 9.54: Station Orchestra, Suite, "Siquard Jovialor" (Grieg). 9.57: Winifred Moverley, elocutionist, two monologues, "Someone Believes in You" (B. G. Smythe), "My Son" (Anon.). 10.11: The Station Orchestra, Selection, "Maytime" (Romberg). News session. 10.21: "Age" news service, exclusive to 3AR. God Save the King.

5CL

MORNING SESSION

11.0: G.P.O. chimes. 11.1: Station quartet. 11.5: "Economist" Kitchen card and menu talk. 11.30: Station quartet. 12.0: G.P.O. chimes. 12.1: Reg Harris, tenor. 12.8: Geoff Goldsworthy, cellist. 12.15: "The Advertiser" general news service; British official wireless news. 12.40: Station quartet. (Longstaff). G. R. Kolb and Dick Pike, vocal duet. C. Ward and Co.'s Stock Exchange information. 12.47: Meteorological information. 1.0: G.P.O. chimes. 1.1: Pianoforte recital by Muriel Prince. 1.15: Reg Harris, tenor. 1.20: Station quartet. 1.25: Harold Tideman, pianist. 1.30: Muriel Prince, pianiste. 1.35: Station Quartette. 1.48: Harold Tideman, baritone. 1.54: Vern Rogers, cornetist. 1.59: Meteorological information. 2.0: G.P.O. chimes and close down.

AFTERNOON SESSION

3.0: G.P.O. chimes. 3.1: Rev. C. E. Nield: A cheer-up talk. 3.5: Station quartette. 4.20: Victoria M. Wilson, soprano. 3.28: Lizzette Foglia, violin. 3.33: Senia Chostakoff, tenor. 3.39: Station quartette. 3.46: Victoria M. Wilson, soprano. 3.52: Tom King, pianist. 3.58: Senia Chostakoff, tenor. 4.4: Symphonic and incidental music, including "The Reaction of Mave W. R. Card." 4.58: Stock Exchange intelligence. 5.0: G.P.O. chimes and close down.

EVENING SESSION

6.0: G.P.O. chimes. 6.1: Children's happy moments. 6.30: An interlude of dinner music. 7.0: G.P.O. chimes. 7.1: S. C. Ward and Co.'s Stock Exchange information. 7.5: General market reports. 7.10: Chas. Bastard: In a talk to young and old. 7.25: Mr. Leo Thielson: Talk on "How to do the Varsity Drag." 7.40: A. M. Whittenbury: Talk on "Poultry."

NIGHT SESSION

6.0: G.P.O. chimes. 8.1: Bertha Jones, violiniste. 8.6: Senia Chostakoff, Russian tenor: Selections from his repertoire. 8.12: Sonora recital. Modern dance music, including anonymous H.M.V. bands. 8.22: Victoria M. Wilson, soprano. 8.28: Bertha Jones, violiniste. 8.34: Senia Chostakoff, Russian tenor. 8.40: Modern dance numbers by H.M.V. celebrity bands. 8.54: Victoria M. Wilson, soprano. 9.0: G.P.O. chimes. 9.1: Meteorological information. 9.2: Overseas grain report. 9.3 to 9.21: See 3LO programme. 9.30: General news service; British official wireless news; meteorological information; announcements; sporting notes by "Silvius." 9.45 to 11.0: See 3LO. Close down.

The WIRELESS WEEKLY

RADIO INFORMATION

Service

Under the direction of

Ray Allsop and

Don B. Knock

(Associate Technical Editors)

Correspondence Answered

only through these

Columns

(See Coupon Below)

A.H. (Melbourne).—I am making a five-valve...

Answer: Many components used in American...

B.W. (W.A.).—Would you please inform me as...

Answer: Use a honeycomb coil of 250 turns...

W.F.P. (Northbridge).—Please inform me if the...

Answer: Under favorable conditions, yes.

(2) "Are the following valves suitable as placed...

Answer: No; use these, in the following order—

A.D. (Maroubra).—There's a lot of talk about...

Answer: We're always ready to oblige. Watch...

J.T.C. (Ryde).—I would be pleased if you could...

Answer: The 1928 Solodyne was published in...

(E.G. Killara).—Have you ever published con...

Answer: Yes, the circuit is O.K. for use with...

S.S. (Mosman).—Will you kindly supply me with...

Answer: Mr. Snooks cannot supply. I will publish...

W.L.B. (Young).—Would it be possible to include...

Answer: We do not ignore suggestions, but rather...

(2) "I have built the Go-Getter and it works...

Answer: Reduce voltage on detector valve.

R.W. (Moree).—Please forward a copy of "W.W."

Answer: You will have received the issue ere you...

(2) "Will you give me details of coils, conden...

Answer: See reply to S.J.H. (Melbourne); also...

G.L. (Crow's Nest).—I have built a Marco Four...

J.M. (Moree).—I have a one-valve set that...

Answer: Yes. Build the interference elimina...

"Aussie" (Randwick).—Would the wave trap...

Answer: The wave trap is used to trap and pass...

(2) "After the hundredth turn, in the constructi...

Answer: No; a dead end.

(3) "Does the aerial pass first through the wave...

Answer: The aerial is connected to terminal A...

(E.G. Killara).—Have you ever published con...

Answer: The 1928 Solodyne was published in...

(E.G. Dubbo).—Having been a constant reader...

Answer: Yes, the circuit is O.K. for use with...

S.S. (Mosman).—Will you kindly supply me with...

Answer: Mr. Snooks cannot supply. I will publish...

W.L.B. (Young).—Would it be possible to include...

Answer: We do not ignore suggestions, but rather...

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Answer: See reply to S.J.H. (Melbourne); also...

G.L. (Crow's Nest).—I have built a Marco Four...

H.L. (Scone).—(1) "What set would be best to...

Answer: Build the Interference Eliminator. It...

J.L. (Newcastle).—Will you oblige me with a good...

Answer: The circuit you require was published in...

A.E.D. (Miller's Point).—In "Wireless Weekly,"...

Answer: Yes. Advise you to read Series 7 "Proving...

(2) "Should the carbon rod be soldered to the...

Answer: No; otherwise the active material will...

(3) "Should the carbon rod touch the bottom of...

Answer: If the cell is of glass or porcelain this...

P.T. (Abbotsford).—I am building a short-wave...

Answer: Remove one variable and one fixed plate...

J.S.G. (Nowra).—My five-valve receiver has been...

Answer: You do not tell me of any symptoms.

Y.E. (Yanco).—I built the crystal circuit given...

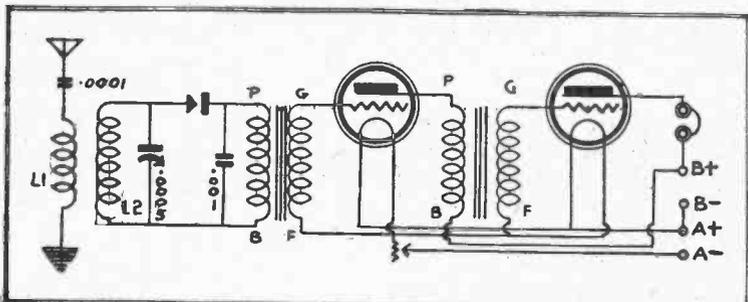
Answer: The insulators may be defective (an im...

G.D. (Gundagai).—I have just built a four-valve...

QUERY COUPON

If you are in difficulties about reception or set-construction, let us know, and we will endeavor to set you right. Make your questions brief to the point, and, where possible, show layout 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. Please answer the accompanying queries in the WIRELESS WEEKLY. Your earliest Service Department, at this coupon in order to indicate that I am a bona-fide reader.



The two-valve amplifier and crystal set requested by J.B.O., of Leichhardt.

at once. I am a novice at radio, so please explain what is wrong in detail."

Answer: A hundred-and-ones things may be causing the trouble. Probably it is due to more error or faults than one. You may have too much wire on the reaction coil; the grid condenser may be "shorted"; the grid-leak may have too high resistance; the "A" battery voltage may be too high; the reaction condenser may have too large capacity; the plate and grid leads may be too close or touching; the plate and earth leads may be running too close to each other; the aerial lead may be too close to the plate circuit wiring; the "B" batteries may be run down; the radio-frequency transformers may be too close; you may be using too much filament voltage; you may be using too high plate voltage on the detector; one of your transformers may be faulty.

T.R.D. (Mangrove).—"My neutrodyne set (built by me) will not operate properly, and howls."

Answer: The receiver is not neutralised. If you do not know how to neutralise your receiver, write again.

F.F. (Granville).—"What is the use of answering my queries through your paper? I don't buy it. Also I enclose stamps for a reply."

Answer: I am very sorry, but the practice of answering queries by post has been discontinued. Plenty of notice has been given, so that all readers could be notified. This is an advice column, so I hope I shall not be moving from my rails by advising you to procure the paper!

J.F.G. (Wallsend).—"What on earth is a cats-whisker? I've seen that word millions of times, and I'm not wised up yet!"

Answer: The cats-whisker is a small wire contact (usually of platinum) which is coiled. This contact wire is made to rest lightly on the crystal.

A.C.T. (Wagga).—"I must write a few words of appreciation for the help you recently gave me through your columns. I took my set to several radio shops, and they could find nothing wrong with it. Your ten words banged the nail right on the head, and now, thanks to you, everything is going O.K. Ever since I've been so careful to get my copy, that I walked all the way home this week, and with my last purchase bought my copy. Even the wife (who fondly calls me the 'Radio Maniac') manages to find something of interest to read in your paper. Long may 'Wireless Weekly' live to serve us."

W. FURNESS,

1st Floor, Furness Chambers, KING'S CROSS, DARLINGHURST.

Shields, Coils, and all Component Parts as used in the tested 1928 Solodyne. Coils are guaranteed to proper specification. Shields assembled if desired. Terms may be arranged.

TRANSFORMERS.

Built up to a specification and wound, lamination in size to any size from stock. Prices and estimates on application.

O'DONNELL, GRIFFIN, CO. Ltd., 53 Druitt Street, Sydney.

Phones: M 2991 (3 lines).

AGENCY FOR RADIO SETS.

Old-established South Australian Wholesale House requires Sole Agency complete line Radio Receivers, both Electric and Battery. Address information, Hale, c/o Hotel Occidental, York Street, January 20th-22nd.

Answer: Thanks very much. We also hope "Wireless Weekly" will live long to serve you.

A.B.Y. (Lakemba).—"Is the enclosed circuit in order?"

Answer: No. Make the following alterations. Reverse the two connections to the first variable condenser so that the rotor plates are connected to the positive filament of the valve. Connect B plus of the first transformer to 30 volts, and the other B plus to 90 volts.

F.B. (Wollongong).—"For several months I have been a constant and interested reader of 'Wireless Weekly.' Previously to this, however, I was not interested, but since learned of an Ultimax three circuit, if possible, would you please advise me of the number of 'Wireless Weekly' in which this circuit appears."

Answer: The Ultimax Three appeared in "Radio," Vol. 2, No. 6, 15th October, 1928.

Y.E. (Yours).—"I have been reading a technical book which I must admit for a start is rather too advanced for me. I do know, however, what an ohm is, but what is a mho?"

Answer: A mho is the opposite to resistance. The ohm is the unit of resistance, and the mho is the unit of conductivity.

(2) "How does one arrive at 'watts'?" Answer: The wattage is the product of volts (pressure) and amperage (current). Thus 6 volts at 3 amps is 12 watts; 150 volts at 1 amp. is 150 watts.

N.W.R. (Wagga).—"I have a four-valve Browning Drake, which has been giving good results; but within the last few days a howl has developed in the audio stages. The first transformer is an S.W.A. Super-audio, 5-1, and the second a Jefferson Star, 3-1, and both test O.K. When the detector valve is turned on the howl changes in pitch. The note also varies when the reaction coil is altered."

Answer: Although the "B" battery may read O.K., the howl is most probably caused by a faulty coil. Test each coil with a 0-5 voltmeter. Each one should show 1 1/2 volts approximately. The trouble may also be caused by one of the audio valves. Try each audio valve in the detector socket.

A.V. (Thirroul).—"I have an R.C.A. Model 17 electric set with a 20-foot outside aerial. Earth wire through floor to water pipe. We get 2BL well, but cannot get 2FC unless take the earth wire off. We cannot get 2UW at all. We are very close to ocean beach. I think we should do better with six valves. Can you tell me what is the trouble?"

Answer: The tuning range is apparently not large enough. Ask the maker's advice.

J.B.C. (Leichhardt).—"Will you please give me a crystal circuit with a two-valve amplifier attached to it? Please give details."

Answer: You will find the circuit printed in these columns. The aerial coil L1 consists of 15 turns of 24 gauge wire (D.C.C.) wound over (in the centre) of L2, which consists of 50 turns of the same wire on a three-inch former. The first transformer has a ratio of 5-1, and the second a ratio of 3 1/2-1. Use 90 volts on the B plus terminal.

J.D.G. (Dungog).—"I would the short-wave adaptor circuit recently published in queries column be suitable for the enclosed circuit—a two-valve Reinartz? Can you give me details of the coils?"

Answer: It does not matter what type of set you have, since only the audio stages are used with a short-wave adaptor. The coils will vary with the wave length you desire to receive. Suggest you use Aircore material, and cut your own coils if you do not desire to go to the expense of a kit. For L1 try 3 turns; L2, 7 turns; and L3, 5 turns. This will give you a start. You will have to experiment to find the best number of turns for certain wave lengths.

(2) "In the enclosed two-valve Reinartz circuit what changes are necessary to make it a little more selective? 3LO comes through with a background of 2BL, and 3AR is jumbled with 2FC."

Answer: Try a .0001 fixed condenser in the aerial lead, and remove the connection from the bottom of the primary to the bottom of the secondary. Take this lead out altogether.

(3) "R2 is a Brachstat to suit valve used. Would a filament control of the same make at R1 work critically enough? I have a rheostat there at present, which has rather ticklish and sensitive control."

Answer: Simply place R1 where you have R2, and place R2 where you have R1. In other words, reverse the order of the filament controls so that the Brachstat is controlling the detector valve. You will notice a vast difference.

M.B. (Auburn).—"I have just built a five-valve Solodyne receiver published in 'Radio,' Vol. 1, No. 6, dated October 15, 1927. On completion of the set I found it howled terrifically, so I decided to lower the detector voltage (45 volts), and on taking out the battery plug I heard station faintly. I then turned this station in, and found I could get all locals full speaker strength without the B plus 45-volt tapping. I read in the article that when this tapping is removed the R.F. stages are cut out. This means that I am at present merely using my set as a straight-

out detector and two audios. As soon as I replace the 45-volt connection the set howls again."

Answer: R.F. is getting into the audio stages. Try placing R.F. choke in the circuit. Place one in the B plus 45-volt lead. Test the R.F. choke in the plate lead of the detector, and see if this is in order. See that plate and grid leads are well separated.

G.V. (Petersham).—"I have most of the parts necessary for building a two-valve receiver. Is the enclosed circuit O.K. and can it be recommended? Would the Improved Reinartz be O.K. with the last stage eliminated? Which do you recommend out of the two circuits mentioned?"

Answer: The circuit is quite in order. It is a two-valve Reinartz, and can be thoroughly recommended. The Improved Reinartz will still give good results with the last stage eliminated. Both circuits mentioned are of the Reinartz type—suggest you build the Improved edition.

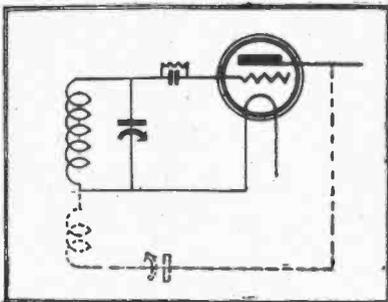
J.T.P. (Neutral Bay).—"I have just built a four-valve Browning Drake, with Ebro-Nu-Kit, and as I live fairly close to 2GB (about two miles) I cannot tune in 2BL or any "B" class station without interference from 2GB. 2FC is received without interference. I have tried a .00025 fixed condenser in the aerial lead, earthed movable plates of secondary variable condenser, and have tried moving aerial coil away from R.F. coil, without results. I notice that by connecting the .00025 condenser across the aerial coil it considerably improves volume on both A and B class stations, but does not eliminate interference. Will you kindly publish in your columns a suitable wavetramp to eliminate interference from 2GB?"

Answer: See queries column in "Wireless Weekly" for January 4, page 46. The circuit will be found there. See also reply to A.P. (Bull) in the same issue.

(2) "As the reaction coil (instead of the rotor type) is fixed, a variable condenser capacity .00025 mfd. is used to control reaction. I connected my coil and condenser up as in circuit, but it proved useless as reaction control, as it did not make any difference to oscillation of volume. Will you kindly tell me through your columns how to connect up the condenser to the coils so that the reaction can be controlled by the condenser?"

Answer: I presume the method used is Reinartz reaction? If so (check up with your circuit diagram) see reply and circuit published for M.P. (Sydney) below.

M.P. (Sydney).—"Will you please give me a circuit showing me how to adapt my receiver for Reinartz reaction?"



Adapting a receiver to Reinartz reaction.

Answer: The circuit appears here. The dotted lines indicate the addition that must be made. The condenser has a capacity of .00025 mfd.

C.H. (Annandale).—"I have built the Marco Four according to the circuit in 'W.W.' but, strange to say, it goes just as well without the earth. No doubt it is earthing somewhere, so can you tell me where to look for it, and whether it is detrimental to the working of the set?"

Answer: This is simply explained. The inductances and wiring in the receiver form a capacity to earth. The coils are picking up R.F. energy.

"INQUIRER" (Waverley).—"I am using direct aerial coil kit on a Marco Four, 24-gauge wire, but I would like to try the induction coil kit, so would be grateful if you would publish in your query columns a correct winding for this kit. I tried wire of 15 and 47 turns on the aerial coil, 25 turns on R.F. coil, 47 on grid, and 20 reaction. It worked all right on three valves, but not too good on four. The reaction seemed to be too strong."

Answer: The Marco Four coils should be wound as follows: For L1, 47 turns of 24 D.C.C. is necessary. Use 3 1/2-in. diameter formers. L3, the grid coil, has 45 turns of wire, and L4, the reaction, has 20 turns of the same gauge wire. These two latter coils are wound on the one former, the distance between L3 and L4 being a quarter of an inch. The R.F. plate coil should consist of 25 turns WOUND ON 1 1/2-INCH tubing. The reason why you get oscillation is because you wound the R.F. coil on too large a former.

U.F.G. (Sydney).—"I was pleased to see the circuit of the Marco Four published in Query columns last week. Can you tell me how to make the coils, please?"

Answer: See reply to "Inquirer" (Waverley), above.

C.B. (Penhurst).—"Could you supply me with a blue print, or give particulars where I can get one, to make a three-valve set? I have already got the accumulator, transformers, and the part that switches the valves on, and that is all. I only became interested in wireless lately, and cannot say I am an old reader."

Answer: Build the Pentavox receiver, published in "Wireless Weekly," December 7th, 1928. Colville Moore, Rowe Street, Sydney, can supply blue prints. Welcome to a good hobby. You have started 1929 well!

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