Special Attractions at the Radio Exhibition

Mrs. Smeebolger Visits the Melbourne Radio Festival

How to Make Your Own Coils

Large Radio Information Service

at STAND by

1929

1929

24

by PHILIPS
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IMPERIA-3

ALL ELECTRIC

or

Battery Operated

This entirely new Receiver has met with such success that production facilities had to be considerably augmented to supply the demand.

There are two beautiful models—the Console, illustrated above, a full length cabinet finished in two-tone effect; and the Table Model (below), encased in a gold-finished metal cabinet.

We have prepared a handsome illustrated price list of the Imperia 3. MAIL THE COUPON NOW FOR YOUR COPY.

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- World-famous GILFILLAN Genune Neutrodyne Radio Sets.
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Harringtons Ltd.

386 George Street, Sydney

Branches: All States and New Zealand.
PRIVATE HISTORIES OF ANZAC

In connection with the Anzac Day Celebrations, 2BL, in conjunction with "Wireless Weekly," solicited stories from witnesses of the landing in an endeavor to record, before it finally becomes glorious legend, private histories of the landing. Hundreds of accounts were received. The three best, which were read from 2BL by Mr. Scott Alexander on Anzac night, are published below.

First Prize

ANZAC, 1915

On April 18th, 1915, we embarked at Alexandria, leaving behind us all the grous and curses at Gyposos, sandstorms, and endless marches over the desert. We reached Lemnos a few days later—everyone (Turks, too, I suppose, now), knowing our destination; a couple of days followed at practising disembarking from the troopship into the boats and landing knee-deep on the island and galloping up over the ploughed fields.

We were paid 23 in sovereigns, but the canteen was empty, so good old Captain MacKenzie went aboard and bought all that was obtainable—foul cigars and some dreadful sweet, like candied honey. The boys sporadically bought him out and pitched most of it overboard.

Then, on April 24th, General Birdwood's signal was given. Dawn was now breaking into the air. There was only one casualty in our boatload, and we jumped out into the water and rushed for the friendly shelter of the ridges. "All packs off!" yelled our captain, and we shed our packs, containing blankets and food, and charged up the hill to the crakle of rifles and the whine and splutter of Turkish shrapnel. We did not fire a shot at the retreating Turks, but kept going up the rough steep ridge. Our warships were going at a terrific rate, pouring shells in all directions at the enemy. We reached the top and dropped into a Turkish trench, vacated by them a few minutes before. It was only 20 yards long, and very narrow, and with the parapet on the wrong side for us, we suffered heavily throughout the day.

Several attacks were beaten off, and when nightfall came we were pretty tired, thirsty, and hungry. Throughout the night we worked like fury, connecting up with the rest of our mates on the ridge, and beating back enemy assaults. Towards midnight, our training would down the hill, fired its first salvo, to our joy—a joy that was soon to be turned to curse, when we found that it drew the concentrated and inaccurate fire of the Turkish guns to our discomfort in the tiny trench.

In one corner was a muddy pool which an irascible sergeant declared was poisoned—but our thirst was so great that all except the sergeant risked it, and enjoyed a drink that no nectar could excel.

In the morning, we found that only 20 feet remained to link up with the boys on the left. By this time, the "Good Samaritans" of the Navy had landed water in kerosene tins, and these were passed along the line. We took it in turns to pass a tin over the end of the trench, jump out, fling it into the next trench, and scramble back to the accompaniment of shots from snipers. Several tins were "por- holed," and three casualties occurred, but by midday we had linked up on each side of us.

Three days later, to our joy, we were relieved; went down to the ravine, pasting our Chaplain—Captain Mac, singing happily in a loud, flat voice, "We'll have eggs for our breakfast in the morning.

Four hours later we were rushed back to the line to defend a Turkish attack. And so it went on!—740" (1st Brigade).

Second Prize

THE LANDING.

IT would be hard, or rather, impossible, to forget that awful day, April 25. Being care-free and happy after such a sea voyage, with good wholesome food and the training in Egypt, we were, I suppose, considered to be real specimens of fitness, and I think we were. If there had been any signs of weakness, the hard training would have found it out, and so debarked us from participating in what afterwards proved to be the opening chapter of Australian war history.

To give my narrative of the landing, it would be necessary to commence on April 24. On that date we were on board the Derwent, a German prize ship, rolling over the beautiful waters of that wonderful island-dotted Aegean Sea, all unaware of what the morrow was going to be.

None of us had any idea where we were...
Ladies and Gentlemen and Listeners.

The conductor of community singing broadcast by AR from Geelong recently, in his opening speech said: "Ladies and Gentlemen and Listeners-in. We are wondering if this is the commencement of a new class distinction.

Mass Production

The National Broadcasting Company of America finds that out of 510 broadcasts from New York during January there were 212 lectures, twenty-eight plays and sketches, and ninety-three news announcements. Now, that is what we are, possibly our American friends, call ballading. And then again, our American friends may have found other modes of description.

Capital Error

A LETTER to 2FC was addressed "To Whom It May Concern". Although Miss Gibson disclaims all right to such worshipful attention.

Australin's Call-sign

A LETTER from San Francisco admits that Mr. W. W. Leeson, of that little old burg, has received 2BL. But Mr. W. W. Leeson wants to know what "Coo-ee" means. Mr. Chas. Youngson thinks it is a corruption of the term "oscillation"; and, indeed, the simile is very well drawn; but we believe the term was in existence long before radio. No. We have it on expert authority that "Coo-ee" is the tribal call of the Australian Sphinx, a species of feline peculiar to north, south, east, and west of the Australian hinterland. The Australian Sphinx (Sphinx Australiannus) is prevalent during the summer months, and is noted for its coloring, which is indescribable, and for the extreme beauty of its face, which none one has yet seen. The tribal call of the Sphinx has been imitated with some success by Australian tourists, who find it beautiful in the winter "beauty spot" of this fair land of ours, in dispelling the histrionous silence of the Australian bush, and it has gradually come to be recognised as the Australian national call. Hence it has been used by some extend by radio announcers when they have felt the necessity for speaking on behalf of Australia, our own beautiful mortgaged country; and many people have said that, although this is a good excuse for the use of the term "Coo-ee" in radio, it is the only one.

No Aberdonians in Heaven

From 3L0 this Sammy Shield's story was heard. An Aberdonian went to Heaven and was asked at the pearly gates where he came from. "Aberdeen," exclaimed the newcomer proudly. "Veryerry," said St. Peter, "but we cannot take you in. You see, it would be too much trouble to make porter for one.

The Universal Tongue

An Englishman gave a lecture on "Loudspeakers and their development." Moving curtain lecture to moving coil?

Those Well-selected Numbers

The B.B.C., it is reported, has refused to allow titles of dance items to be broadcast. Some conductors have been receiving up to £100 a week from parties interested in boosting new numbers. We are interested to hear that there are people in England who can distinguish one dance number from another. Still, no one in his senses would believe that a jazz band plays for the fun of the thing.

Songs of the Sea

Mr. W. E. Lewis, with Mr. Charles Lawrence, Mr. John Warren, Mr. Richard Parry, and retired sea-captain Tyer, Gale, Palmer, Livingstone, Rex, and Carter, was responsible for an exceptionally fine hour. The evening was quite informal, and intervals between items were enlivened with strange exhortations to "Relax" and "Shet the main hawser." Although we don't think we have the latter expression quite accurately. Also Mr. Charles Lawrence butted in with comments, as is his habit. Drawn towards the singing, one of the captains told us how several of the songs used to be sung, before a lot of landlubbers monkeyed with the words. We wish you could have heard him.

Public Notice

We wish to contradict the rumor that 2FC's broadcast of "The Desert Song" will lead to an agitation against a superfluity of diaper music in the programmes.

More Progress

There are springing up already, says an American composer, newspapers of music dedicated exclusively to radio purposes, and an entirely new technique can be, and is, being evolved. And, in fact, we have noticed this coming change, even in the works of the Great Masters themselves, as we have sat in our armchairs and listened to the evening programmes.

WIRELESS WEEKLY

Friday, 3rd May, 1921

Between You

and the

Microphone

Luck Indeed

Melbourne's station, 3LO, is giving every indication that a lucky happening to everyone in a shilling to the Tasmanian Relief Fund. A young student accountant was one of the first to procure a lucky ha'penny, and send it to the Studio k. A young student accountant was one of the first to procure a lucky ha'penny, and send it to the Studio k.

A Foolish Paragraph

A FEW Saturdays ago, the rains were plentiful because it was raining; so 2FC on a solid musical programme during afternoons. Whereupon one of the severest critics, who hates racing, sports, and brass bands, disparaged the following: "What a wonderful weekend of afternoon music we have had! No racing on Saturday, and no Manly Band on Sunday. Hall, glorious rain! May we have twenty-six wet week-ends.

"Wonders in "Tattsmania."

A Yankee Retort

During a rebroadcast by 2AR it was heard from the announcer: "Hello, Australia, how are you doing under? You have heard of the American blizzard, of course. Well, I hear that a "blizzard" means nothing more than a "snow"; you country is something that you wash your face with.

We are wondering if this was meant a slur on the Australian accent.

The Early Bird

A quarter to eight o'clock on the Wednesday night of Milk Week, Dr. one appeared at his studio. It had been arranged, he said, that he should talk, or a lecture, on something at six that time. Mr. Keat was able to be in, and the talk was needed and came to a close. It was until about the o'clock that the rain came through, and the doctor's talk was to have been given from 2FC on the following Thursday night.
SPECIAL ATTRACTIONS
at the Radio Exhibition

Radio enthusiasts will be most attracted at the Radio and Electrical Exhibition, which will be open from May 1 to 11, by the special lines exhibited which have not hitherto been available to the public. Many firms have withheld their 1929 apparatus in order to make a good showing at the Exhibition. Below we list the special attractions in the new developments in receivers and components.

WHILE an extraordinarily comprehensive display of general radio apparatus will be shown at the Radio Exhibition, the most noteworthy attractions will be the new model receivers and the range of new apparatus which has not hitherto been available, and which are entirely new developments.

SETS
Among the new type receivers are the following:

**Astor**
- New baby three all-electric of this popular range of models will be on view. This set is made in Australia, and represents the very latest designs for both the "A" and "B" batteries.

**Colvocel**
- "COLVILLE-MOORE" will come forward with some modern 1929 receivers, incorporating the "all-electric" principle, and the screen grid. Worthy of mention are the A.C. Three, the A.C. Six, and the screen-grid All-wave Four.

**Udisc**
- "UNITED DISTRIBUTORS" have concentrated for some time on the development of an all-electric set, which will be on view at the Exhibition. A notable feature is the built-in speaker unit. On each set there also is a permanent gramophone attachment and pick-up. The range of models is exceedingly large, but perhaps the favorite will be the Udisc All-electric Four. This set has satisfactorily withstood all its trials, giving excellent volume with all desirable clarity. The set is also very selective, an important feature in these days of modern radio.

**Harrington**
- "HARRINGTON" will exhibit new "All-electric" designs in the Imperia models. Good use is made of the Pilot A.C. power pack to obtain A.C. supply.

**Noyes Bros.**
- New company will bring before public notice the "Noyes" seven-valve Neutrodyne, the ideal country receiver, and the "Noyes" seven-valve Neutrodyne, made in Australia.

**Mick Simmons, Ltd.**
- "MICK SIMMONS" will exhibit a nine-valve receiver incorporating all the latest improvements in component and receiver design. In addition, dynamic speakers (Mavox) of the latest type, including Beverley Junior, Beverley Junior, the Belvedere (made up as a fire screen), the Aristocrat, and the Cordova, will be shown at Stand 44.

**Coscor**
- "COSCOR" will show a wholly enclosed metal shielded three-valve receiver, termed "Melody Model," which has a screen grid valve, and which can be made up by anybody in 96 minutes from simple charts supplied. Of this, more in a later issue. The new Coscor valves, with Kaleden filament, including several new types, as, for instance, the two-volt screen grid valve, will also be on view.

**Components**
- A large number of new component parts will be on view. These will include:

**Manufacturers Products**
- THIS firm has brought out a line of M.P. Stirling dynamic speakers, manufactured by the Stirling Instrument Co., of U.S.A., and made under the Magnavox patents. These units handle reproduction perfectly, effectively bringing out the rich, deep notes. A feature of the M.P.80 Stirling Dynamic, which connects directly with the power point, with the ammeter to indicate the correct voltage, is the agitating hum always prevalent in A.C. current when being rectified. The M.P.80 Stirling Dynamic unit is used for direct connection with any six-volt A battery, and gives wonderful results. These units will be displayed separately or in very attractive cabinets. The console model, finished in walnut, and the table model should appeal to anyone requiring a really good speaker, and in addition to these there is a shield, or standing, model, which is creating a great deal of attention. This not only acts as an ornamental shield, but also has a very effective baffle board.

Another new feature of the Manufacturers Products Pty., Ltd., is the Baldwin Pick-up, which can be easily adapted to any gramophone. An exclusive feature of this pick-up is the tone arm, which is equipped with a special tension spring, and makes it susceptible to any irregularity, thus prolonging the life of the records, as it is balanced over the record and not on it. A volume control enables adjustments to be made to suit individual requirements, and the reproduced tone is marked with unusual clarity. It is finished in either old gold or polished nickel, with black trimmings, and equipped with a cord ready to plug in.

As exclusive factory representatives for Emmons they display many new lines, including A.C. equipment complete, from separate transformer, chokes, condenser packs, etc., to complete power pack, adapted for all the different voltages and type of tubes. A new type of hitherto unknown make, which will not burn out, should prove of great interest to the technical men. The Mello metal vernier dial, similar to a well-known American make, is very attractive, and will undoubtedly be used on many new sets this season. There are but a few of the twenty-six new lines which Emmons is bringing out for the 1929 radio season.

**British General Electric Co.**
- *Note* figures have offered excellent proof that some hundreds of excitable radio enthusiasts are eagerly awaiting the advent of the photo-electric cell on the market. The first
WIRELESS WEEKLY

The Philips Permagaphic Speaker.

The other night Mr. G. Vern Barnett came up from an afternoon's playing at the new teachers' conference at the Conservatorium to play in JRL's chorus. He was very beautiful to behold. His boots were perfect; his striped trousers most becoming; his morning coat was superb; and that word is, reviving. His son Andrew accompanied him, and was seen very much in awe of his father's still ier al. When the chorus had come to its usual disgusting conclusions, Mr. Barnett introduced his son to Captain Stevens, who asked him, in the manner reserved by indulgent uncles for their special favorites, whether he could play. Forti- 

Captain Stevens of times when he used to sing on concert platforms and at select gatherings in the Barnett accommodation. "Vern," he said, "could you play an accomplishment?" "Tell me, then, from the air?" said Mr. Barnett. "Would you?" "Yes, if you don't mind," said the Captain; "I don't often get the chance of an accompaniment nowadays." So Mr. Barnett dispatched young Andrew at the piano stool, and Captain Stevens sent forth his soul in song. It was a very good song to send forth one's soul on; and the Captain sang it very well. We felt, although we did not make the ex- 

THER principal new exhibit in the component part field will be a new speaker driven by the high current system. **

Airzone

Airzone will show a very compact all-metal "B" eliminator, which can be fitted into the Airzone Portable. It is made up in a very attractive all-metal case, blue crystal-

THE UNBROADCAST CONCERT

Australian Mode

Three announcements were made this week, showing that in the manufacture of wireless apparatus Australia can hold its own with the rest of the world.

The New Zealand Government has accepted the tender of Amalgamated Wireless for two new radio transmitters to be used for Empire broadcasting. This contract was placed in face of competition from the whole of the world. It is reported also that the wireless equipment for the Adelaide Company's new ship Manunda, which is now being built at Clyde, has been made by Australian Wireless, and is now on the way to South Australia to be fitted.

This seems almost like up-coals to Newcastle, but the Adelaide Company has had experience of Australian equipment, and the Australian Company gained the contract in the face of overseas competition. The Mansfield equipment will be the most modern on the Australian coast. It includes directional-finding apparatus, band repeater equipment, which makes it possible to hear in every part of the area served by the Burrinjuck hydroelectric scheme. It is announced also that the Public Works Department of New South Wales has decided to extend the wireless telegraphy scheme which is in use for communication in the area served by the Grafton Inland wireless station.

THE NEW PHILIPS PICKUP

Philips lamps, LTD., will exhibit a compact gramophone amplifying unit, with switch and single control, employing the A415 and B443 (the latter a Pentode valve). The "Peter Pan," a new speaker with an extra large baffle and full floating cone, will be in great demand as soon as all A.C. receivers take a hold. In addition to this, it is hoped to exhibit Wing-Commander Wackett's original transmitter, which he used during the long search.

A novel innovation, which will be practical proof of the extraordinary strength of the new Osram Tantaloid Filament will be shown. A valve inside its partition will be rolled about inside a box (the interior of which can be seen). A battery will be connected to the filament, and so arranged that as soon as the filament breaks a bright pilot lamp will be extinguished. As long as the pilot light glows the filament of the valve is proved to be intact.

No is this all. Our description commenced with something of interest for the television fan, but there is yet some more good news for him. Mr. Allsop, Associate Technical Editor of this paper, and Chief Engineer of EBL found the greatest difficulty in finding a t.h.p. motor (three phase) the character-
ELECTRIFYING the
RADIO DEALER

Mrs. Smeebolger, well known to most of your readers as author of the Bargain Sale Five, visits the Melbourne Radio Festival, accompanied by Mrs. Mahood. Our contributor, who is often heard from in talks on interior decoration, takes the woman's point of view with excellent humor.

By MARGUERITE MAHOOD

I'n't quite useless saying that women don't take an interest in wireless these days. They always did. Wireless in the home would have never gone beyond the crude experimental stage but for the gentle voice of womanly encouragement, urging:-

"For heaven's sake, Henry, are you going to leave that mess on the dining-room table? Can't you put ANYTHING away? And look what you've done to the carpet! You're absolutely DESTROYING the furniture. Upon my word, if I'd known what a menace you were going to make of yourself with this wireless, I'd never have allowed you to start it! Yes, women have always taken a keen interest in Wireless in the Home--so much so that it was often forced to migrate to the woodshed.

The radio dealers were quick to realize this, so now, as demonstrated at the recent Melbourne Radio Festival, they make their sets all nice and tidy in dainty little boxes with instructions that they are not to be meddled with. They have transformed the loud-speaker--that aggressive horn. It was too big for the occasional table, it wasn't at home on the piano, on the floor it was apt to be mistaken for a cuspidor, it refused to blend with any scheme of decoration--in fact, to be mistaken for a wireless, it refused to be made up to the carpet. You're absolutely DESTROYING the furniture. Upon my word, if I'd known what a menace you were going to make of yourself with this wireless, I'd never have allowed you to start it! Yes, women have always taken a keen interest in Wireless in the Home--so much so that it was often forced to migrate to the woodshed.

But, of course, the greatest achievement of modern wireless is in making the set and speaker look like something else. One can explain that the glittering metal tape which decorates the gasolier is part of last Christmas decorations which has been overlook, or the electron wire festooned under the cornice is merely to break the fall of the flies when they tumble off the ceiling. You mustn't expose the shortcomings of our set when visitors brightly remark:-

"I see you've got the wireless." by mumbling apologetically. "Yes, and it was lovely last week, but Henry thinks the worms must have got into the earth connection, or something: it's not working just now."

And who is a better representative of feminine opinion than my friend, Mrs. Smeebolger? In the world of radio she has swag in where man has feared to tread. With the assistance of other members of the Poolscroft Ladies' Aid Society (myself among them) she made a five-valve set THAT WORKED from parts gathered from junk counters, and costing all only £1/10/11. Who among my male readers, has done that? Certainly Mr. Smeebolger had to call in a radio expert to put in a few extra odds and ends before it did work, but, as Mrs. S. says, "Who asked him to call an expert in?" And it didn't cost Mrs. S. a penny more than the sum mentioned. So that settles that. I do not think anyone will question our claim to be competent critics of the radio display at the Melbourne Exhibition.

The first thing that is impressed upon one in entering the exhibition is the fact that it is the day of the Electrified Radio set. This means that you don't have to use batteries in the set at all; there is just a string to which is attached a thing with two prongs on it, which you stick into a power point, and the set works. This is so much simpler, that it seems a pity it wasn't thought of before. As Mrs. Smeebolger says, it would take a man all that time to think of a simple, labor-saving device like that. If they had only used it in the early days of wireless, it would have saved a great many of the people who invent it. Wireless, she says, is inclined to be selfish. The people who invent it.

As Mrs. S. says, "Who asked him to call an expert in?"

Those sets like a linen cupboard with the explanations, "is one of those Camisole sets."

"Co-er--er!" stammered the youth in a puzzled manner. "I mean," explained Mrs. Smeebolger, with remarkable patience, "one of those sets--like a linen cupboard with the..."
spies, after the man who discovered America, her shopping list, and sailed on to the next earache—and she made a note of them in the wireless set. We may as well get some—

he has sucked all the Juice out of them with "what nice pickle-Jars they would make when collection of Holdem Batteries, in glass boxes, not he imposed S. has a way with these salesmen; she

out of the stand, leaving the demonstrator or should have, at any rate. May claim to have had more acquaintance with the article in question than you have— or should have, at any rate. But I will not bandy words.” and haughtily she swept out of the stand, leaving the demonstrator slowly opening and closing his mouth and blinking his eyes in a dazed manner. Mrs. S. has a way with these salesmen: she will not be imposed upon.

The battery exhibit did not interest us to any great extent until we came upon a collection of Holset Batteries, in glass boxes, which took Mrs. Smeelobger's fancy. "I shall insist on Mr. S. using these," she exclaimed; "what nice pickle-Jars they would make when the; article in question than you have —

me, young man," she said sternly, "I thine I

He caught Mrs. S.'s eye, and stopped. looking relieved.

"You mean a console—" he asked. "Oh," said the young man, looking relieved. "You mean a console—"

The salesman stood, quite at a loss for a answer to Mrs. Smeebolver's pertinent qures, a picture, it seemed to me, of overheated guilt. He did not dare to interfere with her flow of justifiable indignation until an ill-bred person in the crowd interrupted with some trivial question, when the hurried demonstrator seized him by the arm and led with great velocity into the demoniacal cave at the back of his stand. We waited for him some time, but he did not appear, though we thought we saw him several times peeping through the shadow of his cave. So, like a likeness disapproving Mrs. Smeelobger gave up her vigil and went on.

We came upon an exhibit of valves that the exhibitor was displaying a panel which was mounted a valve in various rows of growth; but his fine flow of speech was suddenly stemmed by Mrs. Smeelobger's resal on as to whether the vacuum was put to the valve or pumped out; and if's not definitely put in, how did they know it was there. He just started at us in reply. "Tell me cause an simple question," said to S, as she turned away impatiently. "Now, women were running this show, they would never be at a loss for an answer; right a wrong.

The rest of the show was not particularly interesting, consisting mainly, as it had before, of radio sets, more or less again a shape, with valves in them. On the males. It was merely another exhibition of musical inefficiency. As Mrs. Smeelobger said, "too small. When women makes up her mind to give a display, then you'll see something the really is worth seeing."

Dorothy Stephens

DOROTHY STEPHENS, a dainty and charming entertainer, who will soon become very popular at 3AR, is well known to ho ney, especially with regard to concern for the young folk, and is always a welcome visitor to the Children's Hospital. Miss Stephens popularity with the little folks is readily explained when it is known that she has a great deal of childhood in her heart—a hold遗留 her prisoner for some time. During this time they visited the house and, after they had taken their drums and the drum casket out of the cellar, which Miss De perty has never breg ost was a sum a dicaion of that she really enjoyed, and, since she has becom ed into an internment on her own account, this is what she has sought to give. Though she has studied music seriously, Miss Ste phanes is at her best in novelty numbers and will sing a crop of these numbers that have been written for her by ее musical composer, Mr. Lomasthine, who will play the accompaniments to her own melodies.

Page Eight

WHAT GREAT VELOCITY.
Onward Up Shrapnel Gully

WIRELESS WEEKLY

(Stories of Anzac, continued from Page 3)

BRA MAY, 1901.

Third Prize

ANZAC STORY

We were a small bombing party of six of the D.C.M. on this job. Horse, in a sap connecting our front line and the Turks’ front line.

The sap was about 20 feet long and six feet deep, with a shallow midway of two widths of galvanised iron, overlaid with sandbags; at the other end was a hairpin curve, and the sap being blocked up with a sandbag wall with a small aperture for the aperture was cut into this vital curve, and one of our men was continuously and day by day, on guard with his rifle through the aperture, watching for Turks who might show up on the other side of the sandbag wall; this man, likewise, had his position fired on by the Turks, and lost iron overlaid with sandbags.

The sap did not go straight forward from our front line, but ran parallel with it at a distance of a few feet only, but our front line was well covered, and we had a wall of earth behind us about 10 feet high. Before us, and also roughly parallel, was the trench occupied by the Turks, at a distance up to about 15 feet.

These were the days of jam-tin bombs, and some of our party were killers and others life-savers.

Curran was our chief bomb-thrower, and now elated when it was a Turk’s groans signalled that he had caused a casualty! He went the first ANZAC, the sun rising, and all moans of some poor fellow who had been hit, and was impossible to move made the night the worst nightmare I ever experienced. The day was bad, but the night was infinitely worse, and yet, that a man can get used to it is shown by the fact that a good number of us went through to the end of the war, and saw many a night after a battle, but the landing at Gallipoli stands out alone in my memory of the Great War.

W. D. HOUGHTON.

Page 3.

Late 748, 4th Batt.

Friday, 3rd May, 1929.

EX-CORPORAL, 460, 7TH A.L. HORSE REG.

Ex-Coronal, 460, 7th A.L. Horse Reg.
Mr. Albert Cazabon

Mr. Albert Cazabon began as a child, like so many of us, in London. His father gave him early lessons in violin playing; and afterwards he studied under Johannes Wolff, Senior Arbois, Dr. Hamilton Robinson, and Harry Healy. We said yes; we’ve heard of that man somewhere? “I should think so,” said Mr. Cazabon amusedly surprised. “I regard him as one of the greatest composers in the world.” Which shows that a little knowledge in interviewers is a discomfiting thing.

When he was nine years old he gave his first concert at the Queen’s Hall. Since then he has given many others, which is dry humor. He has published many pieces for the violin and orchestral works, and has written music to productions from Shakespeare to light opera, which, of course, is a very long range, indeed; and he has conducted the London Symphony Orchestra. We mean to say.

Eventually he took up film music, composing and conducting in London; but, in spite of his various attainments, he sticks with the stickiness of a mid-Victorian husband to his early love, the violin.

Mr. Cazabon always wanted to come out to Australia, as his wife is an Australian, and had often thought of coming out here as solo violinist; but until E. J. Carroll saw him two years ago he was unable to finalise any arrangements. When he arrived Australia exerted her well-known charm on climate, people, and unique atmosphere in case you have forgotten), and he is quite content to remain here for many a long day to come. Certainly one would miss the dapper little figure, conducting to front of the motting curtain of the Prince Edward.

He believes in picture theatre music. This and radio, he says, will in future share the responsibility for the musical taste of the masses. The greatest factors in modern musical development are the cinema and broadcasting. After two years’ experience of Australian conditions I have no fears for the future—Australian music is potentially as good as any in the world. To give it full expression and to develop it still further the public must be kept interested in the best music and this responsibility must be shaldered by radio broadcasting. In England the British Wireless Symphony Orchestra (which he conducted through several of his own compositions) has a permanent staff of from 30 to 40 musicians. It plays every night. The orchestra is frequently increased to about 200 performers, and gives concerts in the Albert Hall, which seats about 9000 people. As these performances are subsidised by the B.B.C. the 9000 people can get seats from one shilling to five shillings. Thus, broadcasting guarantees good music at a low price to people on the spot, and the best performances obtainable to listeners—in. Without broadcasting these things would be financially impossible. I hope Australia may approach towards such conditions.

Mr. Cazabon will be heard often from 2FC in the future. He recalls that his first performance in Australia was from that station on the occasion of the great Empire broadcast, remarking, with some show of pleasure, the coincidence that his first recital should be a greeting to Home.

He tells the story of a Canadian, who complimented him on his virtuosity with the violin. “Tell say, guy,” said the flatterer, “that fiddle of yours is as good as a saxophone.”

Miss Dagmar Roberts

WHAT is the Emperor Concerto? The Emperor Concerto is what Miss Dagmar Roberts played with both hands, by ear, at the age of three. Thus does great music at last find recognition. But the conversation would turn on Miss Dagmar Roberts; so we have begun badly. Another paragraph is clearly indicated. It follows.

When she was five, Miss Roberts was reading music properly. Her first lessons were from Mr. J. W. E. Pople, of the Redfern Conservatorium of Music, and continued until she went to the Sydney Conservatorium of Music, where she studied under Mr. Leonard Godfrey Smith. But we must not lose that Mr. Cote taught her the violin ten years when she was nine years old, although the violin was dropped in favor of the piano which better suits Miss Roberts’ attainments.

Twenty medals and a couple of scholarships are hers, and the first time the Brisbane Symphony Orchestra gave a 50/- prize it gave it to Miss Roberts. Also, Miss Roberts may, when she wins the letters A.M.E.V. (Con.) she is name. She holds Performance and Travel Diplomas, and has played at hundreds of concerts, won in the Radio Eisteddfod music section, and Ignace Friedman once played the Chromatic Fantasy, and was statically in German with Mr. Smith. Last year Miss Roberts gave her first recital at the Conservatorium, and since then in the Girls’ Week concert at the Town Hall. When you consider that she is not yet ten years old, you may understand why some expect her to hear a good deal more about her. At present she is studying with Mr. Allan Everingray.

Miss Roberts wishes to go to Leipzig, or thence to Vienna, and thence to the concert halls of Berlin, and there may be an American tour next year. Her very extra favorite composer is Brahms, whose Sonata (Op. 3) she has with great success at one of her concerts. And she is very fond of Schumann as Chopin.

But music is only one thing. Miss Roberts’ hobbies include swimming, surfing, yachting, and she is rather keen on dancing, although many invitations must be there regretted under the concert platform. To her mother, Mrs. J. Waller Roberts, piano plays for the Roseville Amateur Dramatic Society, and Miss Roberts enjoys song, though she prefers humorous character songs in straight drama to musical comedy.

Finally, Miss Roberts reads tremendous Jules Verne, Rath, Victor Hugo, or someone who wrote “Tyrphale,” and her interests, are, occasionally, to write. As follows—

PADEREWSKI

(By Miss Dagmar Roberts.)

Great surging waves of overbearing vast Impassioned waves that kindle the soul.

The stormy mood of windswept earth

And the stormy mood of windswept earth

Then melodies of such sweet sojourn

That in those slumber legends—there are

Lie all the sorrows of this world of ours

And all the dreams.

Soft lilting tunes that quicken men’s

Recollections of childhood’s laughter-lighted years;

Or falling tears.

Or falling tears.
High Quality Amplification

If overworked, it will be the power stage. A very satisfactory substitute for the earlier stages of a power amplifier is a simple resistance-capacity coupling, consisting of a small iron core and a capacitor in the plate circuit. The reactance of the coupling capacitance must be high compared with the valve resistance at high frequencies, or the amplifier must handle a considerable capacity load, otherwise distortion may result. When several valves are connected in multiple, the capacity reactance of the grid must be high compared with both the internal and external plate resistance of the previous valve, otherwise distortion may result, either because of reduced amplification of the high frequencies, or because the actual dynamic characteristic is steeper than estimated (lower impedance load), with resulting curvature.

With a common source of plate voltage for all of the tubes of a multi-stage amplifier, back coupling with consequent oscillations may occur through the plate supply line, if there is enough resistance in the supply so that a back-coupling occurs, the cure may be to secure a lower resistance supply or to reduce the variations in the voltage fed to the earlier valves, particularly the second valve preceding the power valves, by filters or potentiometer connections. The filters, if of series resistance and shunt capacity, must be effective at as low a frequency as the lowest at which appreciable amplification takes place. Therefore, the filtering is simplified by designing the amplifier not to pass any frequencies lower than really required.

To obtain a given voltage swing on the grid of the power valve may be easier with resistance connection than with an inter-stage transformer, in spite of the step-up ratio of the transformer. This is because even the best designed transformers drop to an impedance comparable with the valve resistance at high frequency owing to capacity on the secondary side, and at low frequency owing to magnetising current. This low impedance load on the valve may greatly reduce the plate voltage swing obtainable without distortion.

1. The reactance of the coupling system at the lowest frequency to be passed must be less than the grid leak resistance.

2. No grid should swing positive with respect to the negative end of the filament, or, in other words, the grid bias must be greater than the extreme grid swing required.

3. If the expected swing in plate potential of any valve is more than 20 per cent. of the average voltage on the plate, or if the plate current is very small, the dynamic characteristic should be worked out to make sure of constant proportionality between plate and grid voltage swings. The leak resistance is that of the plate-grid resistance and the grid leak of the next tube in multiple.

4. If a battery of power tubes in multiple is employed, so that the grids constitute a considerable capacity load, or if any of the earlier valves have very high internal resistance, or are fed through very high plate resistances, calculation should be made of the magnitude of the capacity load at the highest frequency which the amplifier must handle. Owing to the simultaneous swinging of the plate potential, the effective capacity of a valve-grid may be several times the grid capacity as measured with plate and filament grounded.

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Dismal Desmond.

“Dizzy” Back Again

Dismal Desmond, better known to his friends as “Dizzy” and to his acquaintances as O. W. Desmond, originally came to Australia with the famous Sydney “Brother’s.” For many years he toured with his own company, but for some time now he has been working in vaudeville. “Dizzy” is a much travelled man, and the fund of funny stories he has picked up in his wanderings make a laughable listening for wireless enthusiasts. His first trip was to South Africa in 1906, and his last, starting from Perth (W.A.), took four years to complete. He visited Java, Straits Settlements, Federated Malay States, Borneo, Sumatra, Burma, Siam, India, Ceylon, Portuguese East Africa, Rhodesia, British East Africa, and the Belgian Congo. He eventually returned to London, and toured for Jack Walser, who was here a few years ago, and is now one of the leading theatrical managers in England. But the call of the sunshine was too strong for our genial friend, and he is now back in Sydney—his favorite city “next to London,” as he expresses it—and he has already renewed old acquaintances with 2FC listeners. The opinion of one radio fan from Thirroul, “We all think of you as A.1.,” is a fair estimate of the general regard in which he is held. * * *

Ernest M’Kinlay

ERNST M’KINLAY, the well-known tenor, is back in Sydney again, after adding considerably to his reputation abroad. Elliot Terry it was who advised him to go to the Continent to study, but first of all he went to France for a summer, where he gave for four years with the New Zealand Division. After the battle of the Somme, he had time to combine art and soldiering, and joined up with the N.Z. “Kiwis,” a show which many thousands of “Aussies” came to see. We did our best work in Niepe in 1917,” said Mr. M’Kinlay, “and later at Diegembeke, near Ypres, where we produced the pantomime, ‘Arti Bach and the Forty Thieves.’ We went to Paris twice, and with this pantomime made £400 in one after- noon at the Alhambra Theatre. Another success was the revue, “Y Go Crook,” produced at Staples in 1918, which we also repeated in Paris.”

Mr. M’Kinlay has several years’ tuition with Plunkett Greene, in London. After his return to New Zealand in 1919 he spent a year in hospital, and his first serious work was “Hiawatha,” with the Auckland Choral Society, in 1921. Since then he has excelled in oratorio, and last year toured most successfully with the Westminster Glee Singers, with whom he did 177 concerts. Fortunately for us, the rigors of the Canadian winter forced him back to Australian sunshine, “which is the real thing,” Mr. M’Kinlay enthusiastically acknowledges. 2FC have arranged a number of appearances, and he is singing on the evening of May 16.

George’s River Bridge

THE OPENING of the George’s River Bridge is to be undertaken by 2BL service on the afternoon of May 11. The ceremony will commence at 3 o’clock.

Kurri Kurri Eisteddfod

THE FINAL CONCERT of the Kurri Kurri Eisteddfod will be broadcast by 2FC on the evening of May 11. The work of the competitors is of a high standard, and the evening’s entertainment should prove very acceptable to listeners. On Sunday night a concert from the King’s Theatre, Kurri Kurri, will be broadcast through 2BL.

“Peter Pan”

BARRIE’S WHIMSICAL PLAY, “Peter Pan,” is to be produced by Gertrude Boswell at 2FC studios on Monday night, May 13. One of the few works of its kind which never loses its freshness, there will be many listeners who will eagerly anticipate the performance.

O. Henry

C. N. BAYERTZ is giving a very interesting series of talks through 2BL service. On Monday night, May 13, his subject, under the heading, “Great Writers I Have Met,” is O. Henry. It is no exaggeration to say a greater writer of short stories never lived, and Mr. Bayertz’s personal knowledge of O. Henry, of whom the man in the street knows comparatively nothing, should make a wide appeal to his admirers.

Novelty

WILL AND BARBARA JAMES, novelty instrumentalists, are in Sydney for a short season, and will delight 2BL listeners with the many innovations they have introduced into their programme for Monday night, May 13. They will appear on Wednesday, Thursday, and Saturday of that week.

Classic Hour

THE CONSERVATORIUM STRING QUARTET have arranged a classic hour for 2BL listeners on Tuesday night, May 14, and with them will be associated Vivienne and Nino Marotta, of the late Williamson-Melba Grand Opera Company.

Travelogue

THE SYDNEY MADRIGAL SOCIETY’S CONCERT, to be held at the Conservatorium on the evening of Wednesday, May 15, will be broadcast through 2FC service. The work of this body is always welcome. Good choral music provides a pleasing interlude in the usual broadcasting programme, and the concert on Wednesday will prove no exception to their usual high standard. During the interval, Mr. C. Price Congrave will give an Australian travelogue from the studio.

Light Comedy Music

A N ATTRACTIVE PROGRAMME of light music will be given from 3AR on May 15 by the station orchestra, under the direction of Frederick Hall. Overtures of some of the most popular visitors to the broadcasting studio, and will be on the air from 3AR on May 15. Some of the latest songs just to hand has made him a great favorite with listeners, will be heard from 3AR on May 15. A talk on Gallipoli

A TALK will be given from 3AR on May 15 by Mr. H. H. Harmon, the manager of the Welfare Travel Department of the Prince of Wales, who will speak on “Gallipoli.” A picture has travelled extensively through the territory about which he will speak, and in graphic word picture of the district will commend the attention of listeners, really at the present time, when “Anzac’s the uppermost thought in the minds of our thousands.

Sydney Calland

SYDNEY CALLAND is back in Sydney; another successful tour with Frederick Hall, Ltd. He is singing at 2BL on Wednesday night, May 15.

Thelma Ready

THELMA READY and her banjo are among the most popular visitors to the broadcasting studio, and with her band she is a feature of the music and entertainment world of Melbourne.
PRESENTS


Boat Race
THOUSANDS of rowing enthusiasts will welcome the news that arrangements have now been completed by 3LO to broadcast descriptions of the Victorian Public Schools' boat race on May 10 and 11.

New Zealand Singer
JULIA RUSSELL, the favorite New Zealander, and soprano, is always a welcome visitor to 3LO, and will be broadcasting on May 6. She is a past graduate of the Conservatorium, and is well known in the New Zealand concert world, and, since coming to Australia, has become most popular in musical circles.

Russell Callow
AFTER a considerable absence from the broadcasting world, Russell Callow, the erstwhile voice of 3AR, will return to the air on May 11. His services are to be used for various musical programmes, and he will also appear with his Radio Revellers, also Hugh Huxham, in "Grandfather Ray." The Vagabond King.

The Sighing Serenader
JACK HOCKING the popular pianist and entertainer, is making a welcome return visit to 3LO on May 7, when he will be heard in a budget of new songs and old favorites. Billed as "The Sighing Serenader," Mr. Hocking has successfully sung his way through West Australia and Tasmania, broadcasting en route, and so popular was he in the apple isle that on one occasion his nightly post bag reached 150 letters, one coming from far-away Broome saying that every word had come through as clear as a bell. Mr. Hocking is a pianist of more than usual ability, has a pleasing baritone voice, excellent pronunciation, and a saving sense of humor that enables him to handle a comedy number in just the right spirit.

Citrus Preserves
HOUSEWIVES who are turning their attention towards the replenishing of their store cupboards, should not forget to tune in to the talk to be given on May 10 by Miss Knight, the fruit preserving expert to the Department of Agriculture, who will give a talk on citrus preserves.

Grading and Packing Tobacco
UNDER the auspices of the Department of Agriculture, Mr. T. A. J. Smith, tobacco expert, will give a talk from 3LO on May 8 on "Grading and Packing Tobacco."

Community Singing
UNDER the auspices of the Collingwood Free Kindergarten Association, a fine community singing programme has been arranged, and will be held in the Collingwood Town Hall. Em Hall, with his Radio Revellers, also Hugh Huxham, will entertain, while individual artists include the popular baritone, J. Alexander Browne. The cause is one to be highly commended, a "full house" is expected, and listeners may anticipate a thoroughly enjoyable time.

Bird Talks
"Out-back" talks given by Dr. Leach from 3LO are of intense interest to naturalists of all ages, and appreciative letters often come to hand from the most unexpected sources. For his talk on May 11 Dr. Leach will take the field wren and field lark—two familiar little fellows with fascinating habits.

In "Out-back" Programme
A NOVEL and musical dramatic programme will be given from 3LO on May 10 which should greatly appeal to country listeners. The scene is laid in a shearing shed, but the time is in the evening, and the place is the "back of beyond." The central figure is the popular raconteur, Captain Donald McLean, and several well-known artists will take part in the singing of time-honored songs and choruses. The true shearing shed atmosphere will be maintained, some crotched organ solos will be contributed, and the studio kookaburra, parrot, and dog, are active rehearsals, so that they will be quite ready to perform their part when called upon.

Gems From Schubert and Elgar
MADAME ELLA KINGSTON, whose vocal recitals are always enjoyed by musical listeners, will be broadcasting from 3LO on May 8, in some gems from Schubert and Elgar. Madame Kingston is a gifted artist, and, when her musical education was being dissolved, it was undecided whether the piano or voice should be considered. However, on the advice of several critics who heard her sing at the Norwich Festival, she commenced her vocal training, and, as an oratorio soloist, has sung at all the important musical festivals in England. She is well known to Australian audiences, and never fails to please.

The History of Familiar Hymns
A MOST interesting talk will be given from 3AR on May 5 by Mr. J. Howlett Ross, who will give the history of some of the old familiar hymns, among which will be included "The Ninety and Nine" and "Onward, Christian Soldiers." All the favorite hymns that have stood the test of time, and are sung wherever the English language is spoken have a significant history connected with their composition, and a knowledge of the circumstances enhances the beauty of the words and the joy of singing. The talk will be illustrated by the Smith Girls, who will sing the various hymns included in the talk.

Grandfather Roy
THERE is an interesting sequel attached to the talk on "John Ray, F.R.S., a Nature Student of the 17th Century," given by Mr. F. Chapman on April 6. Mr. Chapman received a letter from a descendant of this gifted naturalist, who is now living in Melbourne, and who said that much of the information broadcast was quite familiar to members of the family, but there were a number of facts that were quite new. The letter concluded by saying: "Two, at least of the present generation, have a very decided love of bogany, which is always attributed to the far-off influence of "Grandfather Roy."

The Vagabond King
ON May 11 the first act of the romantic musical play, "The Vagabond King" will be transmitted by 3LO, followed by the second act from 3AR.
The Psychology of Broadcasting

From the pinnacle of popularity of wireless broadcasting in Victoria one can look back in wonder upon its remarkable development since its inception in Australia about five years ago. Best in the beginning with the problem of supplying programmes to an audience which was then a doubtful potentiality, SLO realized that in order to entice people to listen it was necessary to provide something worth listening to. As a result of serious broadcasting in Victoria grand opera, with Dame Nellie Melba in the role of Mimi in "La Bohème," was selected. Radio dealers will recollect the satisfactory results in trade of the announcement to this effect. Listening, in springing immediately into popular favor, and the issue of licenses has increased rapidly and consistently ever since, until now SLO is the most listened to station in the world in proportion to population. This is not surprising, but is based upon the fact that according to official statistics the quota of licenses per one hundred of population in Victoria is by far the highest in the world. There are nearly as many licenses in Victoria alone as in all the other States of the Commonwealth together.

For this extraordinary position of wireless in Victoria there must be a reason. The success of any form of entertainment depends upon definite psychological principles, and it does not, no matter how perfect technically a programme may be, if it is not to the liking of the public, then assuredly it will be a failure from the point of view of popularity. There are two extreme classes of listeners—the so-called "highbrow" and the "lowbrow." The one is deadly anathema to the other. There are two extreme classes of listeners—who have not the faintest idea of use it. They hear criticism, of course, and there has been much written about programmes by press and the public, but no one who has not the best idea of the requirements and the difficulties, but in spite of all this big army of satisfied listeners from whom we seldom hear continues to grow. Victoria continues month by month to lead Australia about five years ago.

In preparing their programmes three weeks ahead the directors of SLO have studied closely and with great success the passing of listening in, and they have learned that the hard school of experience which has pleased the big majority of listeners—because it pleases the big majority of listeners—has been observed a decided tendency to sets of post-war barbaric influences which had not a revolutionary effect upon dance music throughout the world. The Psychology of Broadcasting

Selling the Old Set

I have advertised a "Radio for Sale—Now Will It Get Labour and Trade and in it cheap for fifty pounds? won't pay much more?"

Mr. Bruce, whose position in the event of no tenders having been received within this time will be a difficult, if typical, one.

A less serious side of the tender requirements is the clause, "stipulating that the successful tenderer shall endeavor to cultivate a public desire for the transmission of educational items, musical items of merit, and generally for all items and subjects which tend to elevate the mind"—a clause providing against "monotony and the tedious repetition of items, and the prolonged use of an artist in a particular State," and the constitution of the Postmaster-General as a kind of censor, dispenser of motherly advice, and dictator of what shall be broadcast, at the tendering company's own expense.

Boiled down—what does such clause mean? Any reader could have made such stipulations in an absent-minded fit after reading our Safety Valve column. The implication of "highbrow" requirements will probably alarm many. But the real question is—Will we see fidelity in broadcast programme arrangements, will we see it soon, and will such a last be better than its first?
Country Dance Programmes

Dear Sir,—The point I wish to emphasise is—why not more relays? The question of relays is a very important one. No doubt, many listeners have from time to time heard through the medium of the local stations, 2FL and 3SW. These two stations provide excellent programmes on their short wave-lengths, and only those people of an experimental turn of mind, with a receiver specially built for the purpose, are able to receive them. The other morning I heard from 2FL a portion of the previous evening’s programme from 2LC, London; needless to say, it was very good, indeed.

Indeed, I am a low-wave fan myself, and I have heard programmes from London and America which were more than fit to relay. The best American received here, at this time of the year, is KGO, California, and the programmes are certainly worth while, besides not as prevalent as it was a few months ago. England, 3SW, is putting over the “goodies” on 26 metres, and is absolutely free on most mornings.

There are at least two stations to which we could switch from 2FL during its early morning sessions, and I feel sure that listeners would be more than pleased with their programmes. Write in and give your opinions.—Yours, etc., Alexandria.

M. C. WATT.

Country Dance Programmes

Dear Sir,—I wish to make a suggestion regarding broadcasting programmes, and trust that you will associate with me.

Country listeners would, I think, be more pleased if one of the “A” stations put over the ad dance music from 8 p.m. to 10.30 p.m., say, once a fortnight during the winter months. If listeners knew for certain that dance music would be played on certain dates, they could make their arrangements beforehand.

I have here an 8-valve Udisco, and it would give pleasure to many if dances could be arranged in the local hall. 2FC and 4QG are the stations which come in best on my set, using a loop aeral.—Yours, etc.,

Nambucca Heads.

K. O. M. B.

New Sessions

Dear Sir,—The best station in this locality for daylight reception is 2BL. The daily sessions most appreciated by me—and I feel the likes of other country listeners as well—are the news sessions, but these, to a great extent, are marred by (apart from the obvious, viz., Waste of time by mixing personal explanations with news.

I am sure that many country listeners only, as their sets during the day for news, and possibly you can imagine how disappointing it is to rush in from work, switch on the wireless at the published time, and get something else, not knowing whether it is just over, or coming in one minute or ten. Anything you can’t wait, so you give up in disgust. Imagine this during the last fortnight, when the fleet of the Southern Cross was unknown.

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 correspondence do not represent our editorial policies or beliefs. Anonymous letters are not considered.

I am sure that thousands were often disappointed.

With all humility to the management of 2BL, I would say, please:

1. commence the news sessions punctually at the time published.
2. Give news direct from paper without any personal explanations which often waste time.
3. If 1 and 2 are impracticable, give us a news session at night—say, 9 o’clock or 10 o’clock.
4. Return to 8.15 for morning news, if possible.—Yours, etc.

R. B.

Orchestra Incomplete Without Banjo

Dear Sir,—Reading in “Safety Valve” Lewis Hasell’s somewhat vapid criticism of J. J. Vincent’s dash of the banjo, I would like to say something to Mr. Hasell.

In his letter he never stated his preference as to musical instruments, but if his love of music is as highly-developed as his criticising abilities, I should think his favorite instrument is a 1/2 mouth organ.

Of course, there is a time and place for musical instruments, as well as everything else. I think that no orchestra is complete without a banjo, and as an accompanist for a snappy song nothing could be better. On the other hand, one could hardly imagine it accompanying anything classical. As regards his apparent indifference for descriptions of horse races, I suggest that, whilst these are being given, he induce his mouth organ and some real music (?), and not interfere with the enjoyment of thousands of lovers of a good horse race—the Sport of the Kings. I am surprised at Mr. Vincent thinking that Mr. Hasell was an old man; I thought, before reading half his letter, that one of Uncle Sam’s letters had sneaked into “Safety Valve” by mistake.—Yours, etc.,

Dubbo.

L. E. B.

Bridges Ahead

Dear Sir,—When you have a grouch against any public service or institution write to the press; when satisfied you do not take up the space usually occupied by grumblers. That, to me, appears to be the attitude of most of those who get into the Safety Valve.

But I, for one, have no grudge against this particular public service, i.e., broadcasting. Quite the reverse, and I am a real back-block, although 600 miles approximately is the limit to the six “A” class stations. Of course, there are at times items in the programmes which do not appeal to one, but I do not overlook my neighbour next door (40 miles away). His tastes probably differ to mine.

Now this is the point. The man nearest to all the pleasures, or most of them, appears to be the grumbler, and the least tolerant. This man’s outlook is usually a great deal less than the country’s, when it comes to installing a receiving set. I think that managers generally are to be complimented upon their programmes.

2FC carries out a splendid idea over important events of which later news is to be given. They state the time when the next message or announcement is to be made. 3SW has good evening news items. If 3LO gave a little more news at night it would be appreciated.

The daylight reception, frequently not good out back, hence the suggestion.

One is frequently told that licenses in the metropolitan areas in proportion outnumber the country licences. Perhaps the man who plays its part, but in my opinion radio in the country is a permanent thing—a necessity, in fact; whilst in the city it is made less a novelty. I know folks who only use their sets on their neighbors when there is nothing else to do, or place to go. Therefore, I contend that managers and the directors of the companies should at all time be mindful of the countryman’s requirements.

I understand that there is still a chance of the Government taking over the “A” class stations. Well, that is something to think over for anyone who contemplates buying an expensive receiver. If the Government enterprise in the past is any criterion of its enterprise in the future, well, this one voter opines that broadcasting will go to the pack.

I imagine the Nationalists in power. Guess most of the time would be taken up describing the movements of the Prime Minister or his Treasurer; on the other hand, Labor in power, not only would its leader get his share of publicity, but there would be all those Trades Hall officials, etc. etc. etc. etc. etc.

U.S.A. finds its present arrangement O.K. Evidently Britain ditto. Why does Australia wish to experiment? Of course, 4AC is Government controlled, but then it has to keep up to the mark by working on the lines of its contemporaries. Well, don’t cross your bridges before you come to them! It is a good idea, so I intend to continue enjoying the excellent programmes provided by both “A” and “B” stations when I can. —Yours, etc.,

Parina, Qld. "QUAKOO."
The last programmes will be good programmes. That is the definite division of the N.S.W. Broadcasting Co., now drawing towards the expiration of their broadcasting license. That the programme standard of the past will not drop in the last few months is shown by the formidably long list of new features below.

**CLASSICAL PROGRAMMES**

The two Sydney "A" class stations have, since January, been carrying out their somewhat daring scheme of presenting regular weekly classical programmes. No other stations have embarked on such an arduous scheme, but through careful co-ordination it has been made perfectly clear to listeners that when one station is devoting the whole evening to a highbrow programme the other station is sending forth items of a more popular nature, acceptable to the majority of listeners. It is common knowledge in broadcast circles that lovers of classical music are very slow in acknowledging the pleasure that these programmes give to them. Transmuted steel guitar solo, and a hundred appreciate letters rush in; put over a humorous sketch, and from all corners come congratulatory letters; but give up serious thought to rehearsals and pay high fees to our leading producers of music to present the best they have to offer, and a broadcasting station feels rewarded if two or three comments in appreciation are received. From now to the end of June every Wednesday night 2FC will continue with classical programmes, and on Tuesday night 2BL will present their classical programmes, alternating popular programmes from the other station. In addition to these classical programmes, love of good music will welcome the orchestral concert to be given in Sydney on the evening of May 5, when the Polish Association—to commemorate the independence anniversary—will present a very fine concert. The Rose Bay Music Club promises special features of importance on the evening of May 21, and the Welsh Choral Society on June 8, from the Conservatorium, will broadcast, for the first time, "The Banner of St. George."

**STUDIO PRODUCTIONS.**

Arrangements have been completed for productions for the first time on the air scenes from "Oliver," Barry's "Peter Pan," and Mahrteinick's "Bluebird." Miss Ena Dettie has been entrusted with the presentation of "Otello," and she will also be seen excerpts on Sunday night from Shakespeare. Miss Gertrude Boswell, recently returned from America, where she has been pure with Gay Bates Post, will be given the part of "Emily" in "Peter Pan" and the "villainess"

**APPRECIATION OF GOOD MUSIC.**

A listener from Quirindi writes as follows to the manager of the New South Wales Broadcasting Company:

"I wish to congratulate you on your enterprise and foresight in enlisting such a staff of able producers to interpret superior music with intelligence and artistry. It is a boon, especially to country folk, to be able to listen to good music as we have so often only a song and a gong. We are so happy when we do get something. I hope in the future you will be able to arrange more programmes, such as these excellent music has given us lately."

**SESSIONAL NEWS.**

Miss Gwen Varley's Session

From six hundred to seven hundred boys accompanied Mr. Norman on his Garden Island trip, which lasted from 9.30 to 11.45 on Saturday week. The authoritarians provided a guide, and the company inspected the island—the tomb, moulding, blacksmiths, boiler-makers, electrical, and torpedo shops, the semaphore mast (the semaphore went mad for half an hour), and the transmitting station; and saw all the island's curiosities and antiquities. Mr. Norman was exceptionally pleased with the behaviour of his charges, whose interest was keen. It has been arranged that a party shall visit Leyland's motor works on May 11. Many among Mr. Norman's listeners have shown anxiety to see motor-cars in the course of assembly. The meeting-place is the park in Sydney Street, Campbelltown, opposite Leyland's motor works, at 9.30. Essays will be invited from the visitors, and prizes given.

Arrangements are complete for a weekly Boy Scout Session from 2BL. The Governor will open this session, and the Hon. Chief Commissioner, Mr. Trenchard Millier, will talk to his Legions. A troop of Boy Scouts will be at the studio to give a war cry, which has never yet been broadcast. The session should prove one of the most useful and interesting in the history of Australian broadcasting. It will enable the association to keep in constant touch with its members. Talks will be given from time to time by the Deputy-Camp Chief, Mr. Hartley MacAulay, who will entail coming events.

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THROUGHOUT long days—marooned far from human ken, one comfort yet remained to the crew of the "Southern Cross." Radio brought them news of the outside world and kept them informed of measures taken for their relief.

The vital life current for the filaments of the radio receiving valves was supplied by CLYDE BATTERIES, which were selected for their long life and high capacity.

Ruggedly they stood up to the strain of the extreme test, maintaining their steady power and demonstrating again the sturdy dependability characteristic of Clyde-built Batteries.

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'Phone, New. 1622.

PARRAMATTA
Corner Church and Macquarie Streets.
'Phone, UW 9601.

ORANGE
120A Summer Street.
'Phone, Orange 735.
Coils and Coils

By DON B. KNOCK, Associate Technical Editor

Although home-made coils are not always as efficient or as cheap to make as the manufactured product, there are many hundreds of radio fans who wish to make their own coils. This article is for those readers.

Remember that a flour duster makes an ideal metal screen for your home-made coils. Coils enclosed by these screens should have an external diameter not exceeding 2 inches. The photograph shows how the screw cap is used as the base mounting, with the metal can screwed into it in an inverted position.

FLOUR DUSTER SCREEN

L3  70 TURNS OF 26 D.S.C
L4 30 TURNS OF 30 D.S.C

"THE PENTAVOX"

can be spared. It is really important to show a sketch of a coil when explaining in detail its construction, otherwise there are many readers who are not able to grasp the verbal explanation, who would be sure to make mistakes in windings or tappings.

When a receiver of a fairly complicated nature is described, and manufactured coils are used as specified, details of the coils are not usually given with the article, for the reason that the reasonable price of the commercial product makes home-made replicas not worth the time and trouble taken, and we can always be certain that the manufacturer will not give trouble. Those who have made such coils as used in the 1928 Solodyne, or coils for short-wave work where a screen-grid R.F. valve is coupled through an air-spaced primary to an air-spaced secondary will no doubt bear me out in this, as such coils are not by any means easy to make.

But every new enthusiast likes making his own coils. I was a new one myself once, and I cherish memories of the first coils I made in the days when broadcast telephony was unknown. Some were about 2ft. in diameter, or even larger, wound on a ladies' circular cardboard hat box, and one at least was wound on a rolling-pin! Then there were the massive drain pipe loading inductances to increase the aerial tuning high enough to get up to the old Clifden station in Ireland on his 3000 metre spark wave. If only we had known of even the old honeycomb coil in those days we should have been saved a lot of time and trouble, but most of the fascination was in the making of those coils.

At the same time, do not get the idea that the honeycomb coil is entirely defunct because I refer to it as old. As a two-pin mounting arrangement with swinging reaction, its place is gone, but do you realise how easy it is to make up a good little Reinartz receiver by taking the coils off their original mountings and connecting two of them in series, with the mid connection as the planet return? They will give as good a performance as any other Reinartz coil, and, if anything, are sharper in tuning! Condenser control of the reaction is, of course, used instead of the former movable reaction coil.

In fact, for a Reinartz receiver, a coil may be hurriedly scramble wound in a few minutes, and it will work quite well, but it does not look nice, nor is it likely to keep its turns indefinitely in the same position, with the result that sooner or later the calibration will be upset. In these days it is important to make all coils of a permanent nature so that they will be moisture proof and immune from sea air action, and it is no more difficult to make coils like that than to just throw them together.

Thoroughness should be one's motto in life, and in no instance is this more necessary than in wireless work. As I have said before, the economy is doubtful in making your own coils for just one or two receivers when there are accurate commercial products to be had, but where the home constructor wishes to do his own designing or try out
ATTENTION MUST BE PAID TO SPACING OF WINDINGS

**L1 - R.F. COIL**

- Tickler cemented inside grid coil at filament end
- Use No. 26 or 28 D.C. wire ends of tickler coil
- Coils are 2" in diameter and use No. 16 enameled wire; turns spaced.

**L2 - DETECTOR COIL**

- Tickler cemented inside grid coil at filament end
- Use No. 26 or 28 D.C. wire ends of tickler coil
- Coils are 2" in diameter and use No. 16 enameled wire; turns spaced.

### ANTENNA COILS

<table>
<thead>
<tr>
<th>COIL A: 16-32 METERS</th>
<th>4 TURNS</th>
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</thead>
<tbody>
<tr>
<td>COIL B: 26-48 METERS</td>
<td>5 TURNS</td>
</tr>
<tr>
<td>COIL C: 46-90 METERS</td>
<td>9 TURNS</td>
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</tbody>
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### CORRESPONDING DETECTOR COILS

<table>
<thead>
<tr>
<th>COIL A: GRID, 3 1/4 TURNS</th>
<th>TICKLER, 3 TURNS</th>
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</thead>
<tbody>
<tr>
<td>COIL B: GRID, 7 1/4 TURNS</td>
<td>TICKLER, 3 TURNS</td>
</tr>
<tr>
<td>COIL C: GRID, 18 1/2 TURNS</td>
<td>TICKLER, 4 TURNS</td>
</tr>
</tbody>
</table>

**NOTES:**

- Mounting strips for coils 'A' and 'B': 2 1/2" long; coils 'C': 3" long.

In any circuits of his own, or adapt existing circuits to new types of valves, it is important that he should know how to make his own coils properly.

It is natural that the easiest kind of coil to make is the single layer solenoid, and at the same time is a coil which is considered to possess the highest all-round efficiency. You will notice on examining many commercial products that the turns on these coils are space wound. This spacing is generally about the thickness of the wire itself, and is only usually applied for the secondary circuits. The spacing provided by the insulation of cotton or silk itself is quite sufficient, and for a coil to tune over the broadcast band of wavelengths with a diameter of two to two and a half inches, the secondaries may

invariably be wound with No. 26 D.S.C. copper wire close wound.

It sounds easy enough to say, "Put a single layer coil with so many turns, etc., but it is surprising how little differences will make big chances in the value of inductance. When you see specifications for home-made coils, those specifications mean that the coil must have a definite diameter, with the stated number of turns, and what is not generally recognised, or is overlooked, is the actual number of turns of the wire to the inch. The constructor may start to make a coil to correspond with instructions, and, although he may finish with the right diameter and the right number of turns, the total winding may be spread out over a far greater length than intended.

As a guide, one may take it that No. 26 D.S.C. copper wire will wind 42 turns to the inch, but if the winding is done loosely, with the result that there are probably only 36 turns to the inch, the coil with its specified tuning capacity will fail to tune up to the higher range of wavelengths for which it was intended.

This effect may be more readily illustrated in a short-wave receiver. Make yourself a temporary coil to fit the existing grid and reaction mounting, leaving the wire wound on the coil former, but with the turns fairly loose. Tune in a known station, then remove the coil, and with the figure pull the turns apart so that, although the coil has the same number of turns, they are now spaced. You will have to go a long
durability increased by cementing or ducoring coils

way up the dial to find that station again, and in all probability it is right off the range.

What has happened is that the spacing of the turns has considerably reduced the inductance value, thus raising the frequency a great deal. Although this is so much more noticeable with short-wave reception, even on the normal 300 to 500 metre broadcast range, it may become very annoying if the coils are of the slipshod kind, with loose turns slipping about.

If you are starting to wind a solenoid coil it is often found troublesome to get each turn close together, especially if the wire runs unevenly off its reel. A simple expedient is to wind the wire on fairly closely but not too tightly, and then work it round with the fingers following the spiral of the winding. When this is done the coil may be made secure at the required number of turns. At this point most constructors will consider that the job is done and the coil complete. But in order that the coil may be made durable, and that the windings may be held permanently in position without danger of slipping, it is necessary to use a good harmless cement.

One of the best for this purpose is Duco. If you are starting to wind a solenoid coil it is often found troublesome to get each turn close together, especially if the wire runs unevenly off its reel. A simple expedient is to wind the wire on fairly closely but not too tightly, and then work it round with the fingers following the spiral of the winding. When this is done the coil may be made secure at the required number of turns. At this point most constructors will consider that the job is done and the coil complete. But in order that the coil may be made durable, and that the windings may be held permanently in position without danger of slipping, it is necessary to use a good harmless cement.

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The disadvantage of coils of this kind is that they are usually difficult to mount, and as a result, it is not easy to prove that the presence of a bakelite or hard rubber former does not lower the efficiency of the coil enough to be any detriment. In radio work, the self-supporting coil is to-day not worth the trouble.

"The CAPTAIN" to HIS "COMRADIOS"

Coming Events
FRIDAY and Saturday, May 10 and 11: O.P.S. of Victoria Head of the River, heats and final.
Saturday, June 1: Australian University Champion Yachts vs Yarra Yachts.
Tuesdays, 18th June—School Clubs, Ltd., dance, at the Ambassadors.
Wednesday, June 30: Boats' College O.B.D. annual dance, at the Ambassadors.
Wednesday, June 26: Old Sydneyans Dinner, at Ushers, 7 p.m.
Wednesday, 7th August—Old Sydneyans Union Dance, at the Ambassadors.
Dates should be sent to "The Captain" at least a month ahead.

Is the Race Too Far?
I STILL think it is. Many of my correspondents agree with me and a few agree to differ. I leave the discussion with the evidence of this year's races for the Head of the River, still fresh in everybody's mind. And it seems to me that my point is carried. I have the utmost regard for those who have urged that past good seasons over the mile and a half have apparently done no harm. There is the current in the burn—"apparently." Is there real evidence on the point? Are there no cases of boys who have had to give up rowing, and even other games which call for strenuous effort, because of their great endeavors in the school boat? Surely, if even one such case can be given, it calls for care and prevention of over-strain in the future.

Safety First
No sport should be allowed to have any effect except one of physical benefit. Always must we remember that no sport makes such a call on bodily endurance as does rowing. In other games a boy may halt when exhaustion makes itself felt. As a member of the crew, we can keep on or the boat stops and turns over. So often he keeps on just with his heart and lungs have been strained to the utmost. That is just where the sport of rowing may become a tragedy. The boy begins to strain, and he is, indeed, fortunate if his health is not seriously affected for the remainder of his life.

"To the Wounded"
There is nothing better or safer in a. bruiise or cut, caused in the rush of game, than a few gentle doses of iodine. One a week solution of iodine made up by a chemist for the purpose. It is not safe to use it too strongly, as so many people are un-tidly. C.W. (Longeville) asks about it. To scratch, cut, or bruise should be gently washed clean in warm water, and then dried after applying the iodine. The grip from the first contact of the iodine will be slight. and quickly passes away.

The Captain's Book List
These following Australian books have "The Captain's" special recommendation:
"Dogrose" (J. H. Abbott, 3/6). For school yarn, received last week.
"Miss Billy" (Constance Mackenzie), 1/6.
I am not sure what this is. Miss Billy (a young girl) is a book that comes from the young school.. T. M. P. (Coogee) sends it to me.

Sports Correspondence

Greeting
I have been delayed in sending this week's wireless weekly. Cheerio!

To the Wounded
There is nothing better or safer in a bruiise or cut, caused in the rush of game, than a few gentle doses of iodine. One a week solution of iodine made up by a chemist for the purpose. It is not safe to use it too strongly, as so many people are un-tidly. C.W. (Longeville) asks about it. To scratch, cut, or bruise should be gently washed clean in warm water, and then dried after applying the iodine. The grip from the first contact of the iodine will be slight. and quickly passes away.

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I am not sure what this is. Miss Billy (a young girl) is a book that comes from the young school.. T. M. P. (Coogee) sends it to me.
You'll get a red hot thrill as you listen to the Wireless tell the story, how the race is being run, how the fighter fights his fight, and how the wrestlers strain and strive for mastery 'midst the yells of delight from the ringside, and then you know immediately "Who's Won!" Our Plug-in Wireless will give you a new zest in life. (No Batteries.)

The Salonola
All Electric Wireless eliminates batteries, and you simply "Just Plug-in" to a wall plug or lamp socket. You can have these sets now as our terms are made to suit every purse.

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Please post me full particulars of your All Electric Radio Sets.

NAME
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This week we shall learn a little about some of the measuring instruments used in radio and electricity.

Every technical term used here has been explained in a previous article. If any reader is doubtful on any subject treated in "Proving Radio" he should write in at once.

METERS—In order to check up on dry cell "B" batteries only a cheap, pocket-type voltmeter with a range from 0 to 50 volts is needed. But many of us now use eliminators or electrically operated sets. And others among us are not satisfied with merely testing "B" batteries but want to know how much filament and plate current each valve uses. What the whole set draws, at what rate the charger recharges the "A" battery, etc. This requires meters of different types, and one meter and about an hour’s work, adding various resistances to adapt it to other uses.

MILLIAMMETERS—A milliammeter is a device for measuring small currents and is calibrated in one-thousandths of an ampere. It consists, basically, of a coil of fine wire suspended, free to rotate through about 110 degrees, between the poles of a magnet (Fig. 1). To the coil is attached a pointer, which moves over the marked scale. A spring tends to hold the pointer at 0. Care must be taken, when using a milliammeter, that too great a current shall not pass through it, as it would be immediately destroyed. NEVER, never, never use a milliammeter as a voltmeter, when using a milliammeter, that tends to hold the pointer at 0.

Making an All-Purpose Meter.—It is not particularly difficult to make a meter that will be extremely accurate and will have as many scales as you desire. The cost is low, and the entire job can easily be done inside of an hour. The only materials you will require are:

One milliammeter (0-1-ampere scale).
Box for mounting (a cigar box will do).
Piece of Bakelite or hard rubber panel to fit box.
Switch arm.
Six switch points.
Two switch stops.

First mount the meter and terminals as shown in Fig. 6. Then take the switch arm and see that it turns freely and can be mounted on the same knob. Then mount the arm and the switch points and stops, as shown in Fig. 8. (See also Fig. 7.) Turn the panel over, so that the terminal lugs, screws, etc. are at the uppermost. Then take the switch arm and mount the two switch montagings as indicated (Fig. 7). Then mount the arm and the switch points and stops, as shown in Fig. 8. Make the switch stops so that when the long arm bears upon the two inner points, and the short arm bears upon the two outer points, the long arm is making contact with the two outer points at the right.

Wire (insulated) for connection, screws, lugs, etc.

You are now ready to calibrate the meter.

To do this, first remove the glass front from the face, which you will find is calibrated in tenths of a milliamperes. Then set the switch arm on the point to which the 500,000 ohm resistance is connected. Take a reading of the meter and connect it to the inner binding post of the circuit, and wrap the other end of it around the twisted resistance wire, near the free end. Do the same with the other binding post, but this time, instead of folding back the wire, make a coil of it, winding a single strand around a lead pencil.

Disconnect these batteries from the meter, and take a reading across the two 45-volt B batteries, and one 45-volt C battery (as new) and connect them in series. Take a reading across the batteries, connecting the binding post to the positive terminal of the series and the minus binding post to the negative terminal of the series. You should, if the resistor is accurate, get a reading equivalent to 0.2 milliampere, half-way between the two binding post.

If you do not get the results, run the point 100 (volts) and mark that off other 100-volt step proportionately.

Connect these batteries from the meter, and take a reading across the two 45-volt C batteries, connected in series, with the switch arm on the point to which the 500,000 ohm resistor is connected. If all is well, the needle will point to 0.6, which you now read means 0 volt. Disconnect these batteries and examine the switch, making sure short part of the arm makes good contact with the inner switch point, and see that the resistance wire is connected tightly. Then, leaving only the four 100-A valves in the 500,000-ohm metallic resistor (R1) mounting.

Two terminals.
50,000-ohm metallic resistor (R2) mounting.
10,000-ohm metallic resistor (R3) mounting.
One old rheostat (for R3 and R4).
Wire (insulated) for connection, screws, lugs, etc.

First mount the terminal and arm as shown in Fig. 6. Then take the switch arm and see that it turns freely and can be mounted on the same knob. Then mount the arm and the switch points and stops, as shown in Fig. 8. Make the switch stops so that when the long arm bears upon the two inner points, and the short arm bears upon the two outer points, the long arm is making contact with the two outer points at the right.

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Wire (insulated) for connection, screws, lugs, etc.
battery operated radio set, connect the meter in series with the A battery, the negative binding post to the minus terminal of the battery. Connect the positive binding post to the negative terminal of a borrowed 9-10 ampere ammeter and connect the positive terminal of the borrowed battery to the A battery lead, completing the circuit (Fig. 8). Turn the set on and adjust the rheostat until the borrowed meter reads 1 ampere. Then slide the connecting wire that is wrapped around the twisted resistance wire backward and forward, always be certain it continues to make good contact, until the meter that you are calibrating reads 0.1, which you indicate by 1 ampere.

Taking the same precautions, and using a borrowed 9-40 milliammeter, you proceed to calibrate the remaining scale in the same manner, 0.5 indicating 25 milliamps (thousandths of an ampere), but instead of connecting the meters in the filament circuit, connect them in the negative B lead (see Fig. 9). For this scale, the switch arm will be on the remaining points. When the meter has been calibrated for this scale, mark the face as shown in Fig. 6, replace the glass and mount the panel in its box. When the meter is not in use, always keep the switch arm on the 500 volt point, so that there will be less danger of burning it out through carelessness.

Proving Radio Club News

Executive Report.—"We have received an inquiry from the Boys Scout Movement in reference to joining up with the club. It comes primarily from the Croydon Group. Two ex-officers have been appointed to interview the troop and place the objects of the club before them. This, we anticipate, will be the beginning of a big movement in the direction of educating our citizens in the science of radio. The badge of the club was decided upon by a sub-committee elected by the executive, comprising Messrs. Barker, O'Day, Beeby, and Simmonds. The badge will be available to club members at an early date, and the winner of the competitive design will receive his badge in due course."

Concord West Group.—"Our experiments on Thursday, April 14, consisted of three dealing with magnetism and electromagnetism. These were entirely successful. We then passed on to induction. The experiment with the two coils and galvanometer would not work. (Note.—Have you tested galvanometer with a bar magnet? Did you reverse the coil? "We cannot understand how it is that A.C. can be stopped either up or down, while it is not so with D.C." (NOTE.—This is easily explained. We demonstrated its proof lies in the galvanometer coil test. When you depress a key in one circuit, causing the current to flow round the coil, magnetic lines of force are induced, and these set up a current in the coil containing the galvanometer. You will find that when the key is depressed—if the experiment is properly carried out—the galvanometer will jerk away from its original place, but return almost immediately, and will remain just where the current is passing through the coil, because after the key is closed the magnetic lines of force sink back again to the conductor; whereas when the circuit was made the magnetic lines of force spread over a great area. Now, if the pressure is removed from the key the galvanometer will again jerk away, then jerk back again, proving that the magnetic lines of force were once more strung, and at this time, as the current was cut off, the lines of force were cut right out, and did not remain around the windings. This proved then that a rapidly alternating current will cause the galvanometer to deflect rapidly. In other words, the coil containing the galvanometer—which, being the coil which picks up the energy may be treated as the secondary of the transformer—will pick up the energy from the primary—that containing the input. If you were to rapidly make and break a D.C. primary circuit you would find that, although the current was semi-continuous, there would be a tendency for a step up transformer to amplify it, because the magnetic lines of force. You further ask: 'Why are iron cores incorporated in audio transformers and air cores in R.F. transformers? We would like a further explanation of this.' The answer is that in the first place I have not yet reached the point where these components—radio frequency transformers—are to be discussed. The greatest error you can make is to bother your head with components of which you understand practically nothing. It would be practically impossible to treat R.F. transformers here. Remember, there are others studying the course, too, and an article on R.F. transformers—components of which probably many have not even heard—would be very confusing. On the other hand, audio transformers have been briefly treated, and if you had carefully studied all that was said you would know that iron is probably the best substance we have for a temporary magnet. When it is placed inside a coil it assists the magnetic lines of force, because the iron itself becomes a magnet. "As we had completed our experiments and discussion, we closed down early in the evening, viz., 2230, as one member had a long way to go."

Eastern Suburbs Group.—"We conducted experiments in magnetism. The lines of force were plainly seen in iron filings on the glass. The theory of magnetism was also explained."

Dulwich Hill Group.—"We spent the night in constructing a Wimbhurst static machine, which will provide static electricity under practically any conditions. Each group will eventually have this machine for demonstration."

A.W.I. dealers at the recent conference of that firm.
SENSEATIONAL REDUCTION!

Big Savings to be made by those who act quickly. The famous "Balkite" Charger and "Balkite" "P" Eliminator. Note the big reductions.

BALKITE TRICKLE CHARGER

Now £2/17/6

Trickle Charging began with "BALKITE" and "BALKITE" still leads in Popularity, Service, and number in use.

DIRECT FROM THE LIGHT SOCKET — SIMPLY PLUG IN

TRICKLE CHARGING — Now the most convenient and most popular of all means of charging your radio "A" battery, was not possible until the development of the Balkite Trickle Charger. For Balkite was the first charger that could be connected permanently to your "A" battery and the light socket. It was the first charger that kept the battery always fully charged. And Balkite was the first charger that converted your battery into a complete power unit, supplying "A" current from the light socket.

To-day there are over 750,000 Balkite Trickle Chargers in use. Just as it was first in making trickle charging possible, Balkite has always been first in popularity and number in use. Balkite is the standard trickle charger, tried and proved by use in the hands of its thousands of owners.

OBTAINABLE FROM ALL DEALERS AT SENSATIONAL REDUCTIONS.

Wholesale only: O. H. O'BRIEN (Sydney)
37-39 Pitt Street, Sydney; 654-664 Bourke Street, Melbourne; W. E. Peterman, 160 Edward Street, Brisbane.

Like all Balkite Radio Power Units, this charger is a permanent piece of equipment. It has no tubes and nothing to replace or renew. It is noiseless in operation and can usually be used during reception. It is very compact and small, and its current consumption is very low.

The Balkite Trickle Charger can be used as a trickle charger with any 6-volt radio "A" battery. Thus used it keeps your battery always at full power, and in effect, converts it into a light socket "A" power supply. With 4-volt batteries it can be used as an intermittent charger of the usual type; or as a trickle charger if a resistance is added. Charging rate is approximately 1/2 ampere.

Add a Balkite Trickle Charger to your "A" battery. Know the convenience of permanent silent "A" power from the light socket always.
ATHOUGH, when we first appeared under the title of this page, we took steps immediately to inform our public that the pugnacious gentleman the artist had drawn in the corner did not, and was not intended to resemble the author of the notes. We still find a lingering doubt in the minds of certain sceptical observers. In order to dispel the idea, once and for all, we instructed the offending artist to supply a second design. But, alas, the artist, seized with a perfectly feverish state, made matters worse. This time he depicted a second pugnacious gentleman, having a pugnacious conversation; the offending mule a swipe which certainly looked like a foil. We insist not only do our closest friends see a certain resemblance, but we are further assured of unfair play in the realm of radio art on all artists.

But, having been so branded, we find it difficult to live down. There is no good reason for the above rubric. But what shall we call it? "What are the short-wave saying?" "Sitting on the short-waves' tail!" "Around the world where there is no broadcasting; for this there is no good reason."

A plague on all artists. 

Well, we chase the matter into the enemy's camp. If you can think of a better one we offer you a .0014 Jackson condenser if accepted. That's fair enough.

Some little time ago Australia's most enthusiastic short wave, BCL, Mr. Russell Crane, wrote to the British Broadcasting Commission giving his views on the SSW service. The letter from the B.B.C., in reply, is very interesting, and is by the courtesy of Mr. Russell Crane published here—

Dear Sir,—We have no knowledge with many thanks your most interesting letter of January 22, in which you express your views on long distance short wave transmission, with particular reference to SSW. In the main we agree with all that you have to say.

Since their inception the transmissions of SSW have been, and are, purely experimental, and we make no pretensions that the station is giving a service; for this there are several reasons.

1. Owing to the difference in longitude between the various parts of the British Empire a service would have to be on a 24-hour basis.
2. It is well known to any competent wireless engineer that a short wave transmission of sufficient power can be received at a given time and under favourable conditions almost anywhere in the world; but there is a vast difference between mere audibility and a service which is free from difficulty and of regularity and reliability of reception.
3. Given a "service" there still remains the difficult and involved question of payment for maintenance of the transmitter, programmes, and copyright of all applications.

It seems unfair to us that the licensed listener in the British Isles, from whom the B.B.C. derives the major portion of its revenue, should bear the whole cost of a short wave station on a service basis, seeing that such a station is practically useless to listeners in the British Isles.

There are three main categories in which we can place those who are interested in a short wave Empire broadcasting service:—

(a) The "amateur" wireless engineer and experimenter. This class need not be considered seriously, as it is relatively small.

(b) Those who live in isolated parts of the world where there is no broadcasting service, such as military and civil administrators, planters, and so on. Judging by correspondences and conversations with individuals of this class, broadcasting in any form would be a godsend, and the persons concerned are not, and would not be, particularly critical as regards the quality or the regularity of their reception. Some, no doubt, come under Class "A," but these are in the minority, the majority have no technical knowledge, and look upon their receiver as a means of entertainment and not as a scientific instrument.

(c) Those, like yourself, who live in the greater Dominions within the range of an existing broadcasting service, but who would wish to hear some items of special interest, such as mentioned in the postscript of your letter.

The problem of Empire broadcasting is intimately bound up with that of short wave reception, and the purpose of our present experiments, which you know are being carried out with 2XAD, is to ascertain how short wave reception can be stabilised and improved by the utilisation of spaced transmitters, and to determine that the chief obstacle, fading, may be overcome.

The idea at which we aim is that a short wave transmission may be so well received as to be "re-broadcastable" throughout the local system in a manner that would not compare unfavorably with the normal output. It is probable that we are very far from attaining this ideal; but the results we have had to date are not altogether discouraging. For instance, we re-broadcast quite successfully from 2XAD the description of the landing of the Graf Zeppelin in October last, and the National Broadcasting Corporation of the United States of America received the London programme, received via Chelmsford, through a chain of 30 stations on February 5. You will see, therefore, that our experiments tend towards providing a service that will be of interest to the listener in Class "A." Class "B" has, however, our very sympathetic consideration.

We have set forth the position at some length, and trust that the explanation is clear.

We would once more express our thanks to you for your letter of January 22, and previous correspondences.

BRITISH BROADCASTING CORPORATION.
T. C. H. SHAW, Chief Engineer.

This letter puts the matter in a nutshell, and there is no doubt but that the B.B.C. is working hard to overcome the many technical problems involved.

On the evening of Friday, April 19 last, the General Electric Company of America put on an excellent programme through WSWX for the benefit of the National Radio Exhibition. Using the Air King receiver at VK2NO, every word and item of the programme was heard in excellent speaker volume. KGO, through W2XN, may be heard very strongly on 23.35 metres every Wednesday afternoon from 3 to 5.30 p.m. Sydney time. There is almost no fading with this transmission, and results indicate that it should be fairly constant the whole year round. SSW is still very strong in the early morning from 3.30 a.m. to 7.30 a.m. Sydney time; but has been suffering a little from quick surging or high speed fading.

Among the hams things are well on the move, and the Melbourne gang report that 10 metres has come to life again, many contacts with New Zealand and a few with America being secured. A Japanese amateur reports reception in Tokio of quite an imposing list of stations.

VK2BSA has returned to the fold on the 42 metre band, and is well into his stride with a 1292 self-rectified transmitter on UXZ10. The note is quite pretty to listen to, and a report I have is that VK2BSA might like to reply: "O.K. O.M., then its gudhy slop jar." In using a back-to-back transmitter like this, one must be very careful. For instance, two oscillators are running even a little bit out of phase, quite a lot of territory will be taken up in our limited channels. The QST idea of Ross Bull shows how to check up on this, and so intriguingly does it seem that one is in the course of construction for the writer's
IT IS NOT THE FILAMENT BUT THE COATING ON THE FILAMENT THAT GIVES YOU RESULTS.

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How to Service Radio Sets

The first of a series of articles on radio servicing, by an expert of many years experience.

These articles should not only be of considerable interest to those who wish to attain professional standing, but are also of value to the listener wishing to service his own set.

As a nuisance, not taking the above rate consideration, you create an adversary of no mean power.

Be bold upon your weaknesses until it becomes an obsession with him, and the harm done you can also be measured in money. So be very careful.

There are thousands of radio sets in use-day embodying the four principal circuits: Regeneration; tuned radio frequency, both self-balanced and neutralized; super-heterodyne; and reflex, with the myriad tricks attached to them.

Remember the service man in fact the sets need good service men.

These are the kind. They build upon you', weaknesses unto the point where you are about to sell something. But be extremely careful, and here is advice that means something.

Of the two kinds of customers, the "complain" and the "merely satisfied", in built up a service business, I prefer the "complain".

Sounds ambiguous, but is sound fact.

The "merely satisfied" customers call for the same as he would order a sixpenny piece of ice. He pays for it and comes back for it.

But the customer who is dissatisfied may cause you an extra trip, but, if your work is good, that customer takes it upon himself to tell the world that you are a "first-class" man, and, in that way.

He talks about you as though you were a personal possession, and the advertising you service can be measured in pounds, shillings, and pence.

On the other hand, if you disregard this complainer as a nuisance, not taking the above rate consideration, you create an adversary of no mean power.

Be bold upon your weaknesses until it becomes an obsession with him, and the harm done you can also be measured in money. So be very careful.

If you have thought of his radio, nor yours.

You never may cause you a problem necessary by his test kit.

Unless you intend for the customer to visit your premises, and, after making a price for re-wiring, it is easy mathematics to show him the small difference in price for a new one. He may not be interested in a new set at all before you mention the cost of firing up his old one.

I always charge a minimum of £1/1/ for a professional visit, generally lasting one hour, and have known to do so the same or longer period, according to the type set, the customer, and the technique required. I have always been approximately recommended.

If I have given the same work for ½ or ⅔ of the amount charged, or, in other words, been to the customer's house.

They, after making a price for the repair, may cause you to have his test kit, and you may cause him to have his test kit.

Most of the time the service work on a radio is merely service work on the owner.

Part of those who have wanted a price of a radio, and, after making a price for the repair, may cause you to have his test kit.

This service has seven radio sets all over the world, and it has been a nuisance for three years three have gone by, and I have not yet been able to QSO an old friend in Capetown - a ham friend of early DX days in GB. Will anyone hearing South African AXX probably know a new call kindly notify VDX.

Short-wave BCL's will be interested in the following note from Mr. E. A. Moore, of St. Peters, Sydney. He says: "In a conversation between S5W, England, and W2XO, America, the latter said that a regular schedule would come into operation at the conclusion of the Congress, so listeners are advised to watch the daily papers for the conclusion, and the following morning, at 0200 to 0300 will find the station starting. The waves used by W2XO are 25 and 39.6 metres, and S5W, 25 and 28.5 metres. W2XO is now the call of the popular American station. W2XAD, this latter call not now being used.
**Something New**

DON'T—MISS—IT!

**IGRANIC L.F. TRANSFORMER**
**TYPE “J”**

The Igranic L.F. Transformer Type “J” has been developed to meet the demand for a Low Frequency Transformer which, while being of small dimensions, comparatively light in weight, and reasonably priced, is thoroughly efficient in performance, and which will give amplification of a standard comparing favourably with heavier and more expensive types of instruments at present on the market.

The Igranic L.F. Transformer Type “J” meets all these requirements admirably. It is a remarkably efficient instrument, measuring only 3½in. long by 2½in. wide, by 2½in. high, and weighing approximately 10 ounces. Its light weight and small dimensions constitute features which render the instrument particularly suitable for incorporation in portable receivers.

The D.C. resistance of the primary winding is of a very low value, so that there is no appreciable voltage drop in the anode circuit of the valve, and the full available H.T. voltage is, therefore, applied to the anode of the valve.

As a result of the particular design which has been adopted, it has been found possible to dispense with the usual metal case without fear of interaction. The terminals are clearly marked for connections and a soldering tag is provided for earthing the core of the transformer.

**Price, 27/6**

--

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H.T. Accumulator
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H.T. CHARGER

it is made in 2 models for A.C. & D.C. Mains
A.C. TYPE
D.C. TYPE
£5.5.0
£4.0.0

Nothing to wear out or go wrong
for any make of
H.T. Accumulator

Every owner of an H.T. Accumulator needs this Oldham H.T. Charger. It costs only 10s. for the A.C. model (D.C. model 8s.), yet it does all that a charger should do. Used occasionally overnight it will keep your H.T. Accumulator fully charged at an almost negligible cost. To use it is simplicity itself. Merely disconnect your H.T. Accumulator from your Receiving Set, connect up to the two leads from the Oldham Charger and insert the plug into the nearest electric light socket. No worry — no trouble — no inconvenience — your H.T. Accumulator is always in perfect condition. This means that your Receiver will bring in more stations — better sound — greater volume. And it means, too, that your H.T. Accumulator will last longer. An Oldham H.T. Accumulator is fitted with plates made under the famous Oldham Special Activation Process. Give your Set the chance to bring you real music from your Oldham H.T. Accumulator and Charger.

Oldham

Here’s the solution to your accumulator-charging problems — the wonderful new Oldham Auto-Power Unit. Plug into any light socket (A.C. makes only 20s./volt), connect the two flexible leads to the low tension terminals on your receiver, and switch on. That’s all there is to do. And when the programme is ended switch off. What could be simpler? No wires to disconnect from your set — nothing to get out of order or to go wrong.

At last trouble-free radio is brought within the reach of everyone. No matter which type of Set you are using (whether one valve or two), you need this Oldham Auto-Power Unit to ensure the greatest amount of enjoyment from Radio.

WHAT IT DOES

Inside this handsome metal case is a 4 Volt Rectifier and an Oldham G.T.R. Accumulator. When the Auto-Power Unit is switched on, the rectifier set is automatically connected to the accumulator, and disconnected from the mains. When the programme is ended, the set of switching off automatically disconnects the receiver and connects the Oldham Accumulator to the electric light supply for a certain period, according to the length of the programme broadcast. Thus, for the time the receiver is off, the accumulator is replenished with current from the electric light mains. Should the accumulator, however, not require recharging, the Auto-Power Unit can be switched off at the mains or disconnected at the light socket. Thus, with an Oldham Auto-Power Unit you get all the advantages of modern valve sets without their high cost. You need, never be without your Wireless Set owing to an exhausted accumulator.

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Emanating from the minds of the world's greatest and in the Philips laboratories, these new Philips products, evolved from their final gruelling tests—precision-built units, win made the radio world by their ingenuity and sterling efficiency.

You Have Not Seen the Exhibition If You Have Not Visited Stand 24

PHILIPS

AT THE RADIO AND ELECTRICAL EXHIBITION HALL, SYDNEY
WHY YOU SHOULD VISIT

RADIOKES

BOOTH 27

(Great Hall)

Same location as last year

AT RADIO SHOW TOWN HALL SYDNEY

Because Radiokes has long been recognised as the leading line of fine coil kits and R.F. equipment, therefore there will be to view the latest and best the art has to offer.

Because thousands of fans who visited our stand at last Exhibition were pleased and enlightened with the information they received concerning their own particular Radio troubles.

Because the New Season's Construction Sets will be shown there, and explained by Radiokes Demonstrators.

Because last, but by no means least, the New Radiokes Four Valve All Electric Receiver will be shown for the first time, you owe it to yourself to see this wonderful receiver, which bids fair to be the most popular factory-built set for the forthcoming season.

THIS SEASON'S MOST POPULAR CONSTRUCTION SET, THE 1929 ULTRA NEUTRODYNE, will be on show, and we advise you to build same.

Coil Kit and other Radiokes Components are specified for this season's most popular Broadcast Receiver.

Once again Radiokes products are the choice of the Technical Editor, and he knows how to appreciate quality and efficiency.

On right is illustrated the Radiokes Collapsible Aluminium shielding box. These boxes are designed and manufactured to obviate the necessity of every home constructor becoming a sheet metal worker.

These boxes are carefully designed and accurately manufactured, and after your wiring is completed, they are assembled in your set with ease, speed, and precision, making the perfect shielding desired. Standard boxes, $1.50 each. Price, 10/- each.

At left is illustrated the most modern and efficient little Neutraliser yet produced. This Genuine Neutraliser is fully shielded, and is very small in size, although a giant in performance. Adjustment is simply and accurately achieved by means of the micrometer screw, and, once found, is permanently locked by means of the special locking nut provided. PRICE, each, 4/6.

This Genuine Hazeltine Neutrodyne Collar Kit by Radiokes represents the latest development in the famous Neutrodyne system of R.F. amplification. Next year, "will sure take some beating", and this new small coil kit will tend to make this famous circuit still more popular. Complete with Atmospheric Radiophone construction. Price per kit, 27/-.

Radiokes Radio Frequency Chokes are too well known to require any description here. They are a necessity in practically every modern receiver.

An "Ordinary" Choke can replace Radiomes, for this choke is super sensitive, simple, rugged, easily mounted, and wired in set, and moderately priced at 5/- each.

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Local Programmes, Friday, May 3

**2FC**

**EVE.aaRLY MORNING SESSION.**
Announcer: A. S. Cochrane.
1.0: "Big Ben" and announcements.
2.15: Official weather forecast at rainfall; river reports; temperature; astronomical memorials.
3.0: "Sydney Morning Herald" summary.
7.12: Sydney News summaries.
7.15: Studio music. 7.25: Investment market; mining share prices; metal quotations; wool sales; bread prices; мяк蜃血; State markets; produce markets. 7.45: Studio music. 8.0: "Big Ben".

**MORNING SESSION.**
Announcer: A. S. Cochrane.
10.0: "Big Ben" and announcements.

**AFTERNOON SESSION.**
Announcer: A. S. Cochrane.
15.0: Programme announcements. 15.1: "The Chocolate Soldier" (Strauss). 15.15: "The Last Rose of Summer" (Barnby). 15.30: National Anthem. Close.

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**2BL**

**MORNING SESSION.**
Announcer: A. C. C. Stevens.

**MIDDAY SESSION.**
Announcer: A. C. C. Stevens.

**AFTERNOON SESSION.**
Announcer: A. C. C. Stevens.

**2UW**

**EVENING SESSION.**
Announcer: Uncle Jack.
**3LO**

**EARLY MORNING SESSION**

11.0: Morning music. 11.30: News service. 12.0: Radio advertising. 12.30: More news. 1.0: Morning advertising. 1.30: More news. 2.0: Morning advertising. 2.30: More news. 3.0: Morning advertising. 3.30: More news. 4.0: Morning advertising. 4.30: More news.

**MORNING SESSION**

11.0: News from Rugby. 11.17: Chimes. 11.20: Lending music. 11.30: More news. 12.0: Entertainment. 12.30: More news. 1.0: More news. 1.30: More news. 2.0: More news. 2.30: More news. 3.0: More news. 3.30: More news. 4.0: More news. 4.30: More news.

**AFTERNOON SESSION**


**EVENING SESSION**


**NIGHT SESSION**

22.0: More news. 22.30: More news. 23.0: More news. 23.30: More news.

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To Interstate Programmes

**FRIDAY, MAY 3**

11.0: Music. 11.15: News. 11.30: More news. 12.0: More news. 12.30: More news. 1.0: More news. 1.30: More news. 2.0: More news. 2.30: More news. 3.0: More news. 3.30: More news. 4.0: More news. 4.30: More news.

**SATURDAY, MAY 4**

11.0: Music. 11.15: News. 11.30: More news. 12.0: More news. 12.30: More news. 1.0: More news. 1.30: More news. 2.0: More news. 2.30: More news. 3.0: More news. 3.30: More news. 4.0: More news. 4.30: More news.

**SUNDAY, MAY 5**

11.0: Music. 11.15: News. 11.30: More news. 12.0: More news. 12.30: More news. 1.0: More news. 1.30: More news. 2.0: More news. 2.30: More news. 3.0: More news. 3.30: More news. 4.0: More news. 4.30: More news.

**MONDAY, MAY 6**

11.0: Music. 11.15: News. 11.30: More news. 12.0: More news. 12.30: More news. 1.0: More news. 1.30: More news. 2.0: More news. 2.30: More news. 3.0: More news. 3.30: More news. 4.0: More news. 4.30: More news.

**TUESDAY, MAY 7**

11.0: Music. 11.15: News. 11.30: More news. 12.0: More news. 12.30: More news. 1.0: More news. 1.30: More news. 2.0: More news. 2.30: More news. 3.0: More news. 3.30: More news. 4.0: More news. 4.30: More news.

**WEDNESDAY, MAY 8**

11.0: Music. 11.15: News. 11.30: More news. 12.0: More news. 12.30: More news. 1.0: More news. 1.30: More news. 2.0: More news. 2.30: More news. 3.0: More news. 3.30: More news. 4.0: More news. 4.30: More news.

**THURSDAY, MAY 9**

11.0: Music. 11.15: News. 11.30: More news. 12.0: More news. 12.30: More news. 1.0: More news. 1.30: More news. 2.0: More news. 2.30: More news. 3.0: More news. 3.30: More news. 4.0: More news. 4.30: More news.
MODERN Radio Equipment

The latest and best types at Farmer’s

When every note of music is what the distant artist wants you to hear—that’s beauty. When you select your stations at will by touching One Dial—that’s economy.

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1/8 Per Yard.

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WIRELESS WEEKLY
Page Thirty-Seven
Local Programmes, Saturday, May 4

2FC

EARLY MORNING SESSION.
Announcer: A. B. Cochran.
7.0: "Big Ben" and announcements. 12.2: Official weather forecast rainfall, river reports; temperatures; astronomical memoranda. 7.7: "Sydney Morning Herald" summary. 7.12: Shipping intelligence; mail services. 7.13: Studio music. 7.20: Investment market; mining shares markets; metal quotations; wool sales; broadcast markets; interstate markets; produce markets. 7.40: Studio music. 8.0: "Big Ben"; close.

MORNNING SESSION.
Announcer: Eric Bessemer.
10.0: "Big Ben" and announcements. 10.21: Pianoforte reproduction. 10.10: "Sydney Morning Herald" news service. 12.20: Studio music. 10.30: Last minute spotting information by the 2PC Racing Commissioner. 10.49: Studio music. 10.46: A talk on "Gardening" by J. H. Lockett ("Redgum"). 11.0: "Big Ben"; A.P.A. and Reuter's cable services. 11.50: Stock Exchange information. 11.5: Close down.

MIDDAY AND AFTERNOON SESSIONS.
Announcers: Ewart Chapple, Laurence Halbert.

EVENING SESSION.
Announcers: Ewart Chapple, Laurence Halbert.
5.40: The chimes of 2FC. 5.45: The Children's Session, conducted by the "Hello boys and girls" popular vocalist and story-teller. 6.30: Dalgety's market reports (wool, wheat, and stock); fruit and vegetables. 6.43: Stock Exchange information. 6.45: Weather and shipping news. 6.48: Rugby Wireless news. 6.50: Late sports news. 7.10: The 2FC Dinner Quartet, conducted by Horace Keats—(a) "The Voice of Spring" (Braun); (b) "Prelude in G Minor" (Hasenmuller); (c) "Symphony in C" (Kreisler); (d) "Primrose" (Gershwin); (e) "Serenade Lyrique" (Elgar).

EVENING SESSION.
Announcer: Ewart Chapple (Studio).
Announcer: Laurence Halbert (Town Hall).
Announcer: Horace Reas.
7.40: Popular music. 7.45: Programme announcements. 7.48: Studio items.
8.0: "The Chime of the Stray" from the Sydney Town Hall. 8.10: Radio and Electrical Exhibition, 1929. New South Wales Broadcasting Company's Dance Band, conducted by Cec Morrison.
8.12: Radio Male Quartet, winners in the recent Radio Eisteddfod—(a) "The Song of the Jolly Roger." (b) "On the Sea" (Buckle).
8.20: "Big Ben." Close.

CARLTON FAY, an old favorite with listeners, who will be heard in to-night's programme from 2FO. He will play some of his best arrangements by Chopin.

8.29: Warwice McKenzie, violinist.—(a) "Comin' Through the Rye" (Braille). (b) "Home Little Maori, Home" (Hill). 8.31: Dorothy Dewar, popular vocalist.—(a) "There is Rain" (Keyes). (b) "Just Give the South Land to Me" (Siemens). 8.33: Carlton Fay, one of Sydney's leading pianists.—(a) "Nocturne F Sharp" (Chopin). (b) "Impromptu F Sharp" (Chopin).
8.42: Phil Mountain, in comedy numbers.—(a) "The More we are Apart Sweetheart" (Booth). (b) "What are you Going to Do about Sally?" (Chapple and M'Grew).
8.56: The New South Wales Broadcasting Company's Dance Band, conducted by Cec Morrison.
9.0: From the Studio—"Big Ben"; weather report.
9.1: Radio Male Quartet, winners in the recent Radio Eisteddfod.—(a) "The Song of the Jolly Roger." (b) "On the Sea" (Buckle).
9.11: Warwice McKenzie, violinist.—(a) "Absent" (Metsil). (b) "Toy Soldier" (March). 9.18: Dorothy Dewar, popular vocalist.—(a) "Mamby Make up Your Mind" (Hollywood). (b) "Westward Bound" (Siemens). 9.27: Carlton Fay, pianist.—(a) "Carnival Time" (Lemmon). (b) "On the Levee" (Lemmon). 9.27: Studio Dance Band, conducted by Cec Morrison.
9.57: Phil Mountain, comedian.—(a) "If You Could Only Find a Little Corner" (Long Scott). (b) "Beautifully Lyric" (Lyon). 9.56: Studio Dance Band, conducted by Cec Morrison.
10.0: "Big Ben"; from the Town Hall. 10.10: Studio music. 10.20: Children's Hour. conducted by Jack. 6.30: Close down.

MIDDAY SESSION.
Announcer: A. B. Cochran.
11.0: G.P.O. chimes. 11.15: Advertising talks, handy hints, and nonsense items.—(a) "Here in the Quiet Hills" (Carron), (b) "Life, Laugh, and Love" (Klein).
11.20: "Big Ben"; close.

EVENING SESSION.
Announcer: Basil Kirby.
Announcer: A. C. C. Stevens.
8.0: G.P.O. chimes. Topical Chorus. Mailman Trio, instrumentalists.—(a) "Klima Wawas" (Tissimack). (b) "Klima Wawas" (Tissimack). 8.10: Children's Hour. 8.20: "Live, Laugh, and Love" (Klein). 8.20: "Beautiful Dixieland." 8.20: "The More we are Apart Sweetheart" (Booth). (b) "Beautiful Dixieland." 8.20: "What are you Going to Do about Sally?" (Chapple and M'Grew). 8.20: "If We Found a Quiet Corner' (Carne), (b) "Live, Laugh, and Love" (Klein).
8.30: "Big Ben." Close.

2BL

MORNING SESSION.
Announcer: A. C. C. Stevens.

MIDDAY SESSION.
Announcer: A. C. C. Stevens.

2GB

MORNING SESSION.
Announcer: A. C. C. Stevens.
3.0: Musical session. 3.10: Children's session, conducted by Uncle George. 3.30: Request songs (popular) and dance music. 3.40: Close down.

2UW

CHILDREN'S HOUR. 5.30: Children's Hour, conducted by Mrs. Jack. 6.30: Close down. 7.0: Request songs. 10.30: Close down. 
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**WIRELESS WEEKLY**

**Statewide Programmes, Saturday, May 4**

**3LO**

**EARLY MORNING SESSION**

10.00: The Radio Revellers. 10.05: Joseph Holm (tenor) and Bill Scenic (baritone) with Joe Wilson (piano) will speak on today's races at Mentone. 11.30: Tom Manning (announcer). 12.15: The Radio Revellers.

**MIDDAY SESSION**


**AFTERNOON SESSION**


**EARLY EVENING SESSION**


**NIGHT SESSION**

15.00: All news session. 15.05: Announcements. 15.10: The Radio Revellers. 15.15: The Radio Revellers.

**3AR**

**MORNING NEWS SESSION**

Announcer: Maurice Dudley. 10.00 to 10.05: The Radio Revellers. 10.10 to 10.15: Maurice Dudley. 10.20 to 10.25: Maurice Dudley.

**MORNING MUSICAL SESSION**

10.10: The Radio Revellers. 10.15: Maurice Dudley. 10.20: Maurice Dudley. 10.25: Maurice Dudley.

**AFTERNOON SESSION**


**EVENING SESSION**

15.10: Maurice Dudley. 15.15: Maurice Dudley. 15.20: Maurice Dudley. 15.25: Maurice Dudley.

**4QG**

**MORNING SESSION**

4.30 to 4.35: Maurice Dudley. 4.40 to 4.45: Maurice Dudley. 4.50 to 4.55: Maurice Dudley.

**EARLY EVENING SESSION**

5.10 to 5.15: Maurice Dudley. 5.20 to 5.25: Maurice Dudley.

**AFTERNOON SESSION**

5.30 to 5.35: Maurice Dudley. 5.40 to 5.45: Maurice Dudley. 5.50 to 5.55: Maurice Dudley.

**EVENING SESSION**

6.10 to 6.15: Maurice Dudley. 6.20 to 6.25: Maurice Dudley. 6.30 to 6.35: Maurice Dudley.

**4AR**

**MORNING NEWS SESSION**

Announcer: Maurice Dudley. 10.00 to 10.05: Maurice Dudley. 10.10 to 10.15: Maurice Dudley. 10.20 to 10.25: Maurice Dudley. 10.30 to 10.35: Maurice Dudley.

**MORNING MUSICAL SESSION**

10.00 to 10.05: Maurice Dudley. 10.10 to 10.15: Maurice Dudley. 10.20 to 10.25: Maurice Dudley. 10.30 to 10.35: Maurice Dudley.

**AFTERNOON SESSION**


**EVENING SESSION**

4.10 to 4.15: Maurice Dudley. 4.20 to 4.25: Maurice Dudley. 4.30 to 4.35: Maurice Dudley.

**EARN ALL YOU CAN**

Save all you can--give all you can

Such was the good advice of John Wesley. You are, of course, entitled to earn all you can, and no doubt are bending every energy in that direction.

Nevertheless, what you save will is the long run, probably count for more than what you earn.

Use the easy saving plan. Open a Commonwealth Savings Account, and be faithful to it, for the sake of your future needs, and that you may be able to give when it is your duty to give.

Commonwealth Savings Bank of Australasia

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**Cabinet Type $4.4/-**
**Pedestal Type $2.5/-**

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That is the combination of the clear-cut notes of the Horn type of Speaker with the mellow richness of the cone. Until Six-Thirty experts tackled the job this had been reckoned an utter impossibility.

Go to your nearest dealer and ask for a demonstration. You will be amazed! Your own Speaker, when compared with Six-Thirty, will prove but a shadow of what a Speaker should be.

This scope of Loud Speakers can be obtained at a very reasonable figure. The Pedestal type, of unusual and outstanding beauty, costs only $2.5/-.

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MESSRS. AHIEL SIMEON, LTD., Customs St., East, Auckland.
2FC

MORNING SESSION
Announcer: A. S. Cochrane.
10.0: "Big Ben" and announcements. 10.2: Studio music. 10.26: The Captain and his comrades. 10.35: The Comrades bookshelf.
12.15: Approx. Close.

AFTERNOON SESSION
Announcer: C. R. Hall.
1.30: Programme announcements. 1.32: Cheek-a-doodle, conducted by Uncle Frank.
1.36: "Big Ben." Popular music.
1.40: "Big Ben." Yarwood will speak on "A. J. Pateyson."
3.30: From the Manly Band Rotunda, Manly Beach, the Manly Municipal Band, conducted by James Poelung. 3.6: "Big Ben." Close.

EVENING SESSION
Announcer: Laurence Halbert.
6.0: "Big Ben." Programme announcement.
6.2: A talk by C. R. Hall.
6.25: Kathieen Roe, pianist.
6.36: Ursula Pimlott, soprano.
6.43: Kathieen Roe, pianist.
6.50: From St. Stephen's Presbyterian Church. Phillip Street, Minister, Rev. Hugh Paton. Organist, Mr. Harry Chander. M.A.
Organ prelude.
1.0: Litany.
1.15: Hymn 161.
1.22: Lesson.
1.29: Prayer.
1.36: Psalm 40.
1.43: Lesson.
1.50: Anthem.
1.56: Prayer.
2.00: "Big Ben." Hymn 159.
2.07: Sermon, "How Death Came in and Went Out!" (Text: Mark 5:41.)
2.14: Close.
2.21: Hymn 155.
2.28: Benediction.
2.35: Verger.
8.30: From the studio, weather report.
8.43: From the studio, weather report.
8.50: Doxology.
8.57: "Big Ben.

2BL

MORNING SESSION
Announcer: A. C. C. Stevens.
11.0: G.P.O. chimes.
12.00: Call to Worship.
12.05: Doxology.
12.12: Prayer of Invocation.
12.15: Close down.

WIRELESS WEEKLY

LOCAL PROGRAMMES, SUNDAY, MAY 5

2FC

MORNING SESSION
Announcer: A. S. Cochrane.
10.0: "Big Ben" and announcements. 10.2: Studio music. 10.26: The Captain and his comrades. 10.35: The Comrades bookshelf.
12.15: Approx. Close.

AFTERNOON SESSION
Announcer: C. R. Hall.
1.30: Programme announcements. 1.32: Cheek-a-doodle, conducted by Uncle Frank.
1.36: "Big Ben." Popular music.
1.40: "Big Ben." Yarwood will speak on "A. J. Pateyson."
3.30: From the Manly Band Rotunda, Manly Beach, the Manly Municipal Band, conducted by James Poelung. 3.6: "Big Ben." Close.

EVENING SESSION
Announcer: Laurence Halbert.
6.0: "Big Ben." Programme announcement.
6.2: A talk by C. R. Hall.
6.25: Kathieen Roe, pianist.
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Organ prelude.
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1.36: Psalm 40.
1.43: Lesson.
1.50: Anthem.
1.56: Prayer.
2.00: "Big Ben." Hymn 159.
2.07: Sermon, "How Death Came in and Went Out!" (Text: Mark 5:41.)
2.14: Close.
2.21: Hymn 155.
2.28: Benediction.
2.35: Verger.
8.30: From the studio, weather report.
8.43: From the studio, weather report.
8.50: Doxology.
8.57: "Big Ben.

2BL

MORNING SESSION
Announcer: A. C. C. Stevens.
11.0: G.P.O. chimes.
12.00: Call to Worship.
12.05: Doxology.
12.12: Prayer of Invocation.
12.15: Close down.

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Interstate Programmes, Sun., May 5

3LO MORNING SESSION. 10.15: Balla from Sth. Polo Cathedral. 10.45: Express train information; British official wireless news from Rugby; news from yesterday's papers. 11.0: Morning service from Collins Street Baptist Church. Service closes at 12 noon, owing to subsequent Commonwealth service. 12.0: Close down.

AFTERNOON SESSION. 2.0: Sonora recital of the world's most famous records. 3.0: Pleasant Sunday afternoon service, transmitted from Wesley Church, Lansdale Street, Melbourne. Chairman: Rev. J. J. Cali, Address, Rev. H. O. Hester. M.L.C. National Anthem. Hymns; orchestra. 4.30: Close down.


EVENING SESSION. 7.0: Evenings. 7.0: CHICHESTER.

NIGHT SESSION. 7.35: Malverns Tramways Band—"Overture: "Foot and Freedom" (Hagen); March, "Remembrance Day March" (Canning). 8.0: Russell Colley, tenor. 8.30: Interlude. 9.0: Evening service. 9.30: "The Bird Lady." 10.45: Close down.

AUSTRALIAN CONCERNED SPEAKERS.

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WIRELESS WEEKLY

Local Programmes, Monday, May 6

2FC

EARLY MORNING SESSION.
Announcer: A. S. Cochrane.
7.00: "Big Ben" and announcements.
7.10: "Sydney Morning Herald" news service.
7.30: The 2FC Racing Commission late sporting news.
7.40: Studio music.
8.00: "Big Ben." Close.
MORNING SESSION.
Announcer: A. S. Cochrane.
10.00: "Big Ben" and announcements.
10.30: Popular music.
MIDDAY SESSION.
Announcer: A. S. Cochrane.
12.00: "Big Ben" and announcements.
12.10: Stock Exchange market reports (wood, wheat, and stock).
12.45: Studio music.
1.00: "Big Ben." Close.
AFTERNOON SESSION.
Announcer: Studio, Ewart Chapelle.
1.30: "Big Ben."
EARLY EVENING SESSION.
Announcer: A. S. Cochrane.
6.45: Fruit and vegetable market report.
6.50: Weather and shipping news.
7.00: "Big Ben." Late news service.
7.10: Take it from "The 2FC Dinner Quartet." Conducted by Horace Keats. (a) "Apple Blossoms" (Sleigh). (b) "Minnesticka" (Larsen). (c) "Three Light Pieces." (Hetherington). (d) "Me and the Man in the Moon." (Schirmer). (e) "Little Lady of the Moon." (Costello). (f) "Choo Choo." (Hetherington).
EVENING SESSION.
Announcer: Laurence Albert.
7.45: "Big Ben."
7.45: Popular music.
7.45: Home appliance announcements.
7.45: Studio items.
8.00: "Big Ben."
8.12: Iris de Cairos Rego, pianist.
8.45: Studio items.
9.00: "Big Ben."
9.20: Studio music.
9.30: "Big Ben."

2BL

EARLY MORNING SESSION.
Announcer: A. C. C. Stevens.
8.00: "Big Ben." Close.
8.15: Studio music.
8.30: "Big Ben." Close.
MORNING SESSION.
Announcer: A. C. C. Stevens.
10.00: "Big Ben." Close.
10.15: Studio music.
10.30: "Big Ben." Close.
AFTERNOON SESSION.
Announcer: A. C. C. Stevens.
12.00: "Big Ben." Close.
12.15: Studio music.
12.30: "Big Ben." Close.
EARLY EVENING SESSION.
Announcer: Basil Kirie.
6.00: 2BL Dinner Quartet. (a) "Cheero" (Fonck). (b) "The Sun's Blush." (Gillert). (c) "Praise." (Wood). (d) "Three Dance." (Grenn). (e) "The Curtain Falls." (Herschel). (f) "Baby of My Dreams." (Kerrin). (g) "Full Moon." (Wood). (h) "Rhubarb." (Inman). (i) "Dance." (Steele). (j) "Merry." (Inman). (k) Studio items. (l) "Sun." Close.
EVENING SESSION.
Announcer: A. C. C. Stevens.
8.00: "Big Ben." 8.15: "Woolly Coat." 8.30: "Big Ben." Close.
9.00: "Big Ben." Close.
10.00: "Big Ben." Close.

2GB

MIDDAY SESSION.
Announcer: A. C. C. Stevens.
12.00: "Big Ben." Close.
12.15: Studio music.
12.30: "Big Ben." Close.
MORNING SESSION.
Announcer: A. C. C. Stevens.
10.00: "Big Ben." Close.
10.15: Studio music.
10.30: "Big Ben." Close.
AFTERNOON SESSION.
Announcer: A. C. C. Stevens.
12.00: "Big Ben." Close.
12.15: Studio music.
12.30: "Big Ben." Close.
EARLY EVENING SESSION.
Announcer: A. C. C. Stevens.
5.40: Studio items.
6.00: 2GB Dance Band.
6.45: "Woolly Coat." 7.00: "Big Ben." Close.
7.15: Studio music.
7.30: "Big Ben." Close.
7.45: "Woolly Coat." 8.00: "Big Ben." Close.
7.45: "Woolly Coat." 8.00: "Big Ben." Close.
8.45: "Woolly Coat." 9.00: "Big Ben." Close.

2UV

MIDNIGHT SESSION.
Announcer: A. C. C. Stevens.
12.00: "Big Ben." Close.
12.15: Studio music.
12.30: "Big Ben." Close.
MIDNIGHT SESSION.
Announcer: A. C. C. Stevens.
12.00: "Big Ben." Close.
12.15: Studio music.
12.30: "Big Ben." Close.
MIDNIGHT SESSION.
Announcer: A. C. C. Stevens.
12.00: "Big Ben." Close.
12.15: Studio music.
12.30: "Big Ben." Close.
MIDNIGHT SESSION.
Announcer: A. C. C. Stevens.
12.00: "Big Ben." Close.
12.15: Studio music.
12.30: "Big Ben." Close.
MIDNIGHT SESSION.
Announcer: A. C. C. Stevens.
12.00: "Big Ben." Close.
12.15: Studio music.
12.30: "Big Ben." Close.

METAL CABINETS

Finished in Attractive Design.
Made By
HARRY CRABB, LTD.,
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"Phone: FL. 1887."
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Mullard's Greatest
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is here!

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37/6

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THE MASTER VALVE

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3LO

EARLY MORNING SESSION
11.45 to 11.50

MORNING SESSION
11.45"Today's radio recipes"—The ABC
11.50-12.00 Miss Olga Parker will speak on "Stories to Tell the Children." 11.20. Under the auspices of the St. John Ambulance Association. Miss Edith Wells will speak on "Home Nursing." 11.40. Under the auspices of the National Safety Council of Victoria. Miss Betty Will speak on "Some Aspects of Safety."

MIDDAY SESSION

AFTERNOON SESSION

CHILDREN'S HOUR
4.45. "Why Did the Chicken Cross the Road?"—Doreen Keeler. 5.15. The Station Orchestra. 5.45. "Why Did the Chicken Cross the Road?"—Doreen Keeler.

NIGHT SESSION
8.00-10.00 News service. 8.30. "Selection of selected electrical regulations heard.

9GQ

EARLY MORNING SESSION
7.30 to 7.45

MORNING SESSION
7.45, 8.00, 8.15. Music. 8.15. "Selection of selected electrical regulations heard."

MIDDAY SESSION
12.00. Lunch-hour music.

EVENING SESSION
8.45. "Selection of selected electrical regulations heard.

3AR

MORNING SESSION
10 to 10.30: See Friday.

MORNING MUSIC SESSION

MIDDAY SESSION

AFTERNOON SESSION

EVENING SESSION

NIGHT SESSION

4AM

MORNING SESSION

3EZ

MORNING SESSION

5CL

MORNING SESSION
11.00. Chimes. 11.15. "Selection of selected electrical regulations heard.

INTERSTATE PROGRAMMES, Monday, May 6


1.00. Under the auspices of the Australian Agricultural Department, in Ottawa. 1.00. Chimes. 1.15. "Selection of selected electrical regulations heard."

4QG: "Selection of selected electrical regulations heard."

9GQ: "Selection of selected electrical regulations heard."

3EZ: "Selection of selected electrical regulations heard."

4AM: "Selection of selected electrical regulations heard."

3EZ: "Selection of selected electrical regulations heard."

4GQ: "Selection of selected electrical regulations heard."

5CL: "Selection of selected electrical regulations heard."

8WF: "Selection of selected electrical regulations heard."

8WF: "Selection of selected electrical regulations heard."
Distance?
Comfortable Loudspeaker volume even when you—

You know the convenience and undimming volume of all-electric radio. Maybe you know the sensitivity and selectivity of the superheterodyne circuit. Judge the result when both these features are combined in the one receiver.

Power! You have it in reserve. All the power of eight glowing valves working direct from the electric light supply. Turn the volume up and up. You can’t distort it. Cut out all interference sharply even though you live in the shadow of a broadcasting station. Move the single dial a fraction of an inch and jump from one station to another.

R.C.A. MODEL 60
ALL ELECTRIC 8 VALVE SUPER-HETERODYNE
AUSTRALIAN

You can bring in all Australian and New Zealand Stations (except 6WF) “A revelation” says the “Listener-In” . . . “On some of the interstate stations it was necessary to turn DOWN the volume.”

Never before has any one receiver combined all the advantages you will discover in this R.C.A. Model 60. Never before has such selectivity been achieved without the slightest loss of musical qualities. Yet it costs no more to operate than an ordinary living room electric light.

Come and hear the Model 60 immediately. Tune it in yourself. Admire its exquisitely proportioned walnut cabinet with its richly designed metal escutcheons. Standard equipment with this new receiver is the new R.C.A. Loudspeaker Model 103 with its distinguished hand-carved and tapestry model lion effect. Price of Receiver complete with Loudspeaker is £5. Easy terms can be arranged.

R.C.A. MODEL 60
ALL ELECTRIC 8 VALVE SUPER-HETERODYNE
AUSTRALIAN

General Electric Company, Ltd
93-95 CLARENCE STREET, SYDNEY.
Civic Centre, Canberra; 53 King St., Newcastle;
621 Dean St., Albury.
2FC

EARLY MORNING SESSION.
Announcer: A. S. Cochrane.
9.0: "Big Ben" and announcements. 10.2: Pianoforte reproduction. 10.10: Studio music. 10.20: Last minute sporting information. 10.40: Studio music. 10.50: Pianoforte reproduction. 11.0: "Big Ben", close down.

MORNING SESSION.
Announcer: A. S. Cochrane.
10.0: "Big Ben" and announcements. 10.2: Pianoforte reproduction. 10.10: Studio music. 10.20: Last minute sporting information. 10.40: Studio music. 10.50: Pianoforte reproduction. 11.0: "Big Ben", close down.

MID-MORNING SESSION.
Announcer: A. S. Cochrane.

AFTERNOON SESSION.
Announcer: Eleanor Davis; Ewart Chappie.
2.30: Program announcements. 2.32: The Book Lover's Cremaulact. "A Visit to the Basilica of St. Mark's," Venice. 3.3: "Big Ben", from the Sydney Town Hall. Radio and Electrical Exhibition. 3.35: The Popular Trio, instrumentalists.
4.0: A. S. Cochrane. 4.3: Frederick Scott Fox, baritone. 4.4: "The Wind." 4.5: G. Vern Barnett. 5.0: "Big Ben", close down.

2BL

MORNING SESSION.
Announcer: A. C. C. Stevens.

MID-MORNING SESSION.
Announcer: A. C. C. Stevens.
11.0: G.P.O. chimes. 11.30: National Anthem; close.

AFTERNOON SESSION.
Announcer: A. C. C. Stevens.
11.30: National Anthem; close.

2GB

EARLY EVENING SESSION.
Announcer: A. C. C. Stevens.
5.40: Children's session, conducted by Uncle Basil. Music and entertainment. Letters and stories. 6.0: Mr. Norman speaks to the "Big Boys." 6.45: "Sun" news. 6.55: G.P.O. chimes. 7.00: "Big Ben" and announcements. 7.05: "Big Ben", close down.

EARLY EVENING SESSION.
Announcer: Laurence Halbert.
5.40: Children's session, conducted by Uncle Basil. Music and entertainment. Letters and stories. 6.0: Mr. Norman speaks to the "Big Boys." 6.45: "Sun" news. 6.55: G.P.O. chimes. 7.00: "Big Ben" and announcements. 7.05: "Big Ben", close down.

EVENING SESSION.
Announcer: A. C. C. Stevens.
8 Weeks Fresher

The Seamless Cell

A Battery for every purpose, over 40 different types to choose from. Upright or Flat.

Distributors:
- Bloch & Gerber Ltd.
- Hislop Lloyd Ltd.
- Lawrance & Hanson Ltd.
- Fox & McGillycuddy Ltd.
- Stromberg-Carlon Ltd.
- Stewart, T. F. & Co.
- Grimley Ltd.
- Lawrence & Hanson Ltd.
- Fox & McGillycuddy Ltd.
- Stromberg-Carlson Ltd.
- Stewart, T. F. & Co.
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Factory Representatives:
- Contractors to C'wealth and State Govt's.
- Reg. Rose & Co.

KEMBLA BLDG., MARGARET STREET, SYDNEY B 3872.

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Every Formo NON-MECHANICAL UNIT (Choke, L.F. Transformer, Combination Unit) is GUARANTEED 12 MONTHS. Each box contains its guarantee ticket—see that your dealer completes it at time of purchase. A small charge of 1/6 is made to cover cost of handling on each replacement. Please include this amount when claiming.

The Famous "1928" Log Model

**Combination L.F. Units**
- **"True Scale"** (Dual Impedance) 45p
- **"Two Stage"** (Resistance-Transformer) 52/6
- **"Transformer" Output Filter Choke** 65p

**Twin** Priced and Sold £1 7/6 Without Dial. TRIPLE £2

**1928** Log Condenser

**Shrouded L.F. Transformer**

The First Completely Shrouded Transformer on the English Market.

**Formo-Densor** (Variable-Fixed Condenser)

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**"The Duke" Model**

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<td>.00025, 8/6</td>
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CATALOGUE—ASK YOUR DEALER—CATALOGUE

Factory Representatives: WHITELAW & WOOD PTY. LTD.
CATHCART HOUSE, 11C CASTLEREAH ST., SYDNEY.
312 FLINDERS ST., MELBOURNE.
WIRELESS WEEKLY
Friday, 3rd May, 1936

INTERSTATE PROGRAMMES, TUESDAY, MAY 7

3LO

7.15 to 8.15. See Friday.

MORNING SESSION


MID-DAY SESSION


AFTERNOON SESSION

1.00: "The Australian Country Hour." 2.00: "The Australian Country Hour." 3.00: "The Australian Country Hour.

CHILDREN'S HOUR


MORNING SESSION


EVENING SESSION


4QG

5.45 to 6.30. See Friday.

MID-DAY SESSION

1.00: "The Australian Country Hour." 1.15: "The Australian Country Hour.

AFTERNOON SESSION

3.00: "The Australian Country Hour." 4.00: "The Australian Country Hour.

AFTERNOON SESSION

1.00: "The Australian Country Hour.

5CL

5.00 to 6.30. See Friday.

NIGHT SESSION

Announcer: J. R. Norris. 1.00: "The Australian Country Hour.

4QG

7.15 to 8.15. See Friday.

MORNING SESSION


EVENING SESSION


4QG

7.15 to 8.15. See Friday.

MORNING SESSION


EVENING SESSION


5CL

5.00 to 6.30. See Friday.

NIGHT SESSION

Announcer: J. R. Norris. 1.00: "The Australian Country Hour.

4QG

7.15 to 8.15. See Friday.

MORNING SESSION


EVENING SESSION


5CL

5.00 to 6.30. See Friday.

NIGHT SESSION

Announcer: J. R. Norris. 1.00: "The Australian Country Hour.
EVER-READY
H.T. SUPER SERVICE "B" BATTERIES

- LAST LONGER
- MORE RELIABLE
- HAVE 25% GREATER OUTPUT THAN OTHER BATTERIES SELLING AT A HIGHER PRICE

This Trademark is your guarantee of genuine "Ever-Ready" satisfaction and value. Look for it on each Battery.

"Ever-Ready" Radio Batteries are made in Australia from the finest Australian and British materials, and come to you FRESH FROM THE FACTORY. Warranted to give service UNEXCELLED by any other make of battery of equal size and capacity. Wire them in now for better reception. Obtainable from all good Radio Dealers. Interesting free booklet on application to:

WHOLESALE DISTRIBUTORS
THE EVER-READY CO. (Gt. BRITAIN) LTD.,
163 Pitt Street, SYDNEY.

12.30: Tune in. 12.55: Markets, news, etc. 1.0: The signal. 1.11: Weather bulletin, supplied by the Meteorological Bureau of West Australia. 1.1: Musical programme, relayed from the Primrose Cafe or later, vocal items from the studio. 2.0: Close down. 3.30: Tune in. 3.45: Musical programme from the studio, including pianoforte solos by Miss Audrey Dean; violin solos by Mr. Frank Romane. 5.0: Close down. 6.45: Tune in. 6.46: Bedtime story by Uncle Duffy. 7.3: Light music by the visiting String Trio. 7.30: Commercial and general information. 7.45: Talk by Dr. J. S. Bailly, R.A. 8.2: 8.0: Time Signal. 8.1: First Weather bulletin. 8.2: Concert by the Coolgardle Light Opera Company, relayed from the Perth Town Hall. 8.56: News items, by courtesy of "The Daily News." 10.0: Chimes. 10.1: Close down.

104.5 -METRE TRANSMISSION
Simultaneous broadcast on 104.5 metres of programme given on 1550 metres, commencing at 4.45 P.M.

7ZL
MIDNIGHT SESSION
11.10 to 1.30: See Friday.

AFTERNOON SESSION
1.15: Chimes. 2.1: Selections. 3.4: Weather. 3.4: Selections. 4.15: An educational talk on "Tea in the Trade." 4.30: Close down.

EARLY EVENING SESSION
5.15: Selections. 6.30: Basil Spruille, will play the piano for the little ones—"Old Pal," "Valise." 7.0: Answers to letters and birthday greetings by Uncle David and The Storey Lady. 7.30: The Storey Lady will tell a story to the wee folk. 7.15: News session.

EVENING SESSION

EVERY MONDAY
11.10 to 1.30: See Friday.

AFTERNOON SESSION
1.15: Chimes. 2.1: Selections. 3.4: Weather. 3.4: Selections. 4.15: An educational talk on "Tea in the Trade." 4.30: Close down.

EVENING SESSION

EVERY TUESDAY
11.10 to 1.30: See Friday.

AFTERNOON SESSION
1.15: Chimes. 2.1: Selections. 3.4: Weather. 3.4: Selections. 4.15: An educational talk on "Tea in the Trade." 4.30: Close down.

EVENING SESSION

EVERY WEDNESDAY
11.10 to 1.30: See Friday.

AFTERNOON SESSION
1.15: Chimes. 2.1: Selections. 3.4: Weather. 3.4: Selections. 4.15: An educational talk on "Tea in the Trade." 4.30: Close down.

EVENING SESSION

EVERY THURSDAY
11.10 to 1.30: See Friday.

AFTERNOON SESSION
1.15: Chimes. 2.1: Selections. 3.4: Weather. 3.4: Selections. 4.15: An educational talk on "Tea in the Trade." 4.30: Close down.

EVENING SESSION

EVERY FRIDAY
11.10 to 1.30: See Friday.

AFTERNOON SESSION
1.15: Chimes. 2.1: Selections. 3.4: Weather. 3.4: Selections. 4.15: An educational talk on "Tea in the Trade." 4.30: Close down.

EVENING SESSION

EVERY SATURDAY
11.10 to 1.30: See Friday.

AFTERNOON SESSION
1.15: Chimes. 2.1: Selections. 3.4: Weather. 3.4: Selections. 4.15: An educational talk on "Tea in the Trade." 4.30: Close down.

EVENING SESSION

EVERY SUNDAY
11.10 to 1.30: See Friday.

AFTERNOON SESSION
1.15: Chimes. 2.1: Selections. 3.4: Weather. 3.4: Selections. 4.15: An educational talk on "Tea in the Trade." 4.30: Close down.

EVENING SESSION
Local Programmes, Wednesday, May 8

WIRELESS WEEKLY

2FC

EARLY MORNING SESSION
Announcer: A. S. Cochrane.

7.0: "Big Ben" and announcements. 7.2: Official weather forecast; rain; river report; temperatures; astronomical phenomena. 7.7: "Sydney Morning Herald" summary. 7.15: Shipping intelligence; mail services. 7.15: Studio music. 7.25: Investment market; mining shares market; metal quotations; wool sales; dress sales; steel prices; State and metropolitan commodities. 7.45: Studio music. 8.0: "Big Ben"; close down.

MORNING SESSION
Announcer: A. S. Cochrane.

10.0: "Big Ben" and announcements. 10.2: Platinum reproduction. 10.10: Sydney Morning Herald" news service. 10.25: Studio music. 10.45: A talk on "Home Cooking and Recipes." 11.0: "Big Ben". 11.15: Close down.

MIDDAY SESSION
Announcer: A. S. Cochrane.

Note—Race results from Victoria Park.


AFTERNOON SESSION
Announcer: Laurence Halbert.

Accompanist: Erwart Chapple.

Note—Between 3 and 4 a relay from KGO world service.

1.30: Programme announcements. 1.32: Radio news. 1.33: Official weather forecast; rain; river report; temperatures; astronomical phenomena. 1.38: Studio music. 1.40: Popular music.

EARLY EVENING SESSION
Announcer: A. S. Cochrane.

5.40: The chimes of 2BL. 5.45: Children's Session, conducted by the "Hello Mau" society. 5.50: The children's Session, conducted by the "Hello Mau" society. 6.00: Popular music. 6.30: Romano's Cafe Dance Orchestra, conducted by Bennie Abrahams. 6.40: From the Studio, Natalie Beresford, soprano. 6.45: Popular music. 7.00: "Big Ben." 7.05: Popular music.

MIDDAY SESSION
Announcer: A. C. C. Stevens.

11.0: "Big Ben". 11.15: Radio news. 11.20: "Big Ben"; close down.

MIDDAY SESSION
Announcer: A. C. C. Stevens.

11.0: "Big Ben". 11.05: "Big Ben"; close down.

AFTERNOON SESSION
Announcer: Basil Kirke.

11.0: Popular music. 11.10: Popular music.

EARLY EVENING SESSION
Announcer: Basil Kirke.

11.0: "Big Ben". 11.05: "Big Ben"; close down.

Locally produced, Sydney, Australia.
**Wallace Wave Trap**
Eliminates Interference.
Ready-made, 17/6.
Home Assembly Kit, 14/6.
Write for Free Instructions.

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**CHEAPNESS — SERVICE —**

**"The Wireless Shop"**

**YOU CAN PROVE IT**

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<th>For Your Eliminator</th>
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<td>Philips Valves.</td>
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<td>Standard Bases.</td>
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<td>Use them as Spares for your Set. 1/6.</td>
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<td>With Notes, Simple Plans, and All Details.</td>
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<td>Reprints Two Booklets.</td>
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<td>Reprints Single Valve Book. 6d Each.</td>
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<td>in &quot;The Community Three.&quot;</td>
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<td>A Home-bred 1/6. with No Soldering.</td>
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<td>No Condensers.</td>
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<td>No Trouble, and Full-size Diagrams.</td>
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<td>Pertex Sodium Type. 45-volt.</td>
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<td>Worth Pounds in Convenience. 1/9.</td>
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<td>Cost of 3 dry cells: you can buy an Accumulator that will last for years.</td>
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<td>Exide 4-Volt 20-amp.</td>
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<td>Accumulators, 15/6.</td>
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<td>Three Valve Receiver.</td>
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<td>Built at Home in 90 Minutes.</td>
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<th>Eliminator Condensers</th>
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<td>4 mfd. 1000 volt tested. 9/-</td>
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<tr>
<td>4 mfd. 750 volt tested. 8/-</td>
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<th>Don't Fill Your Panel</th>
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<td>With Unnecessary Controls.</td>
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<tr>
<td>Use &quot;Preset&quot; Baseboard mounting Rheostats. 6 ohm, 30 ohm, 2/6.</td>
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<th>The Compact Condenser</th>
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<td>Formo Single-hole Mounting.</td>
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**"The Wireless Shop"**

Miss F. V. Wallace

6 Royal Arcade, Sydney

THE OLDEST RADIO FIRM IN TOWN

Established 8 Years.

"Phone, MA 5543 Two doors from George Street, opp. Q.V. Markets.

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**THOUSANDS OF PEOPLE HAVE FOUND THAT THEY GET BETTER RESULTS THAN WITH OTHER PLAQUE COSTING AS MUCH OR THREE TIMES AS MUCH.**

Its amazing value and tone have astounded the critics and public alike. Substantially built, in either dark mahogany or oak, its success is due to patents exclusive to M.P.A.

To hear it is to buy.

DISTRIBUTORS—MANUFACTURERS PRODUCTS, PTY., SYDNEY AND MELBOURNE. FOX & MACGILLICUDDY, SYDNEY.

SOLE AUSTRALIAN CONCESSIONNAIRE:

CHARLES D. MACLURCAN

PRATTEN BUILDING, 26 JAMIESON STREET, SYDNEY
WIRELESS WEEKLY
Friday, 3rd May, 1928

INTERSTATE PROGRAMMES, WEDNESDAY, MAY 8

3LO

EARLY MORNING SESSION
10.15 to 10.30: See Friday.

MORNING SESSION
11.0: Today's radio record - Marmalade pudding. 11.05: News from the Capital. 11.10: Story of the Great War. 11.15: The Station Orchestra.

BROADCAST FROM THE Hobart Racecourse, 2.45. Mary Hotham, mezzo-soprano; Otto Wolf, tenor; Charles Fruen, baritone. Station Orchestra.

AFTERNOON SESSION
3.15: Description of Warrick Hurdle Race, 2.45. Market reports. 3.50: News from the Capital.

4.15: The Station Orchestra.

5.0: Afternoon break.

6.0: Answers to letters and birthday greetings by Tommy Pinch, who plays "Dances.

For Better Reception
You need—

**LEWCOS**

RADIO PRODUCTS

The efficiency of "Lewcos" Radio products is due to scientific design, and to the thorough methods used in the process of manufacture. The rugged strength of "Lewcos" products enables them to be handled without fear of damage, while their precision ensures maximum results in any circuit in which they are employed.

"LEWCOS" RADIO PRODUCTS ARE OBTAINABLE AT ALL GOOD RADIO DEALERS.

"LEWCOS" HIGH FREQUENCY CHoke.
Price 12/6

"LEWCOS" WINDING WIRES.
All gauges.
Double Cotton.
Double Silk.
Enamelled.

"LEWCOS" 1927 SOLODYNE KIT.
Price, complete 6s

"LEWCOS" WAVE TRAP.
Price 25

"LEWCOS" SHORT WAVE KIT.
Price 15/-
Base 3/6 extra

The Liverpool Electric Cable Co., Ltd.

In Conjunction with their Associated Company

**LONDON ELECTRIC WIRE CO. & SMITHS LTD**
LEWCOS HOUSE, 233 CLARENCE ST., SYDNEY

Telephones (N 332)
Local Programmes, Thursday, May 9

2FC

EARLY MORNING SESSION
Announcer: A. S. Cochrane.
6.40: Fruit and vegetable markets. 6.43: "Golden Moth" "Marche Militaire" "Quartette." conducted by Horace Keats. (a) "The Pioneers" (Goderidge-Taylor). (b) "Copak" (Mousogorsky). (c) "Hungarian Air" (Traditional). (d) "Polichinele" (Rachmaninoff).
1.5: Gwen Sherwood, in a sketch.
2.30: "Big Ben". Late news service. 2.36: "The Crescendo" Vocal Trio and the Prince of Battles.
3.23: "So Long" "Ladies Who Lunch" "Everywhere?" (Wallace). (a) "Mother Loves Me" (Stanley and Seym.
4.16: "The Crescendo" Vocal Trio. 4.30: "The Metropolitan Band, conducted by John Palmer.
7.15: Studio music.
7.28: "Sydney Morning Herald" news service.
7.35: Radio and Electrical Exhibition. 7.40: "The Metropolitan Band, conducted by John Palmer.
8.0: "The Crescendo" Vocal Trio. From the Hotel Australia: Cec Morrison's Dance Band.
8.09: "The Crescendo" Vocal Trio. From the Hotel Australia: Cec Morrison's Dance Band.
8.19: "Big Ben". Late news service. 8.26: "The Crescendo" Vocal Trio. From the Hotel Australia: Cec Morrison's Dance Band.
8.39: Gwen Sherwood, in a sketch.
9.0: "The Metropolitan Band, conducted by John Palmer.
9.27: "The Crescendo" Vocal Trio. From the Hotel Australia: Cec Morrison's Dance Band.
9.39: Gwen Sherwood, in a sketch.
10.0: "The Metropolitan Band, conducted by John Palmer.
10.10: "The Metropolitan Band, conducted by John Palmer.
10.16: "The Crescendo" Vocal Trio. From the Hotel Australia: Cec Morrison's Dance Band.
10.26: "The Metropolitan Band, conducted by John Palmer.
10.36: "The Metropolitan Band, conducted by John Palmer.
11.0: "The Metropolitan Band, conducted by John Palmer.
11.30: "The Metropolitan Band, conducted by John Palmer.
12.30: "The Crescendo" Vocal Trio. From the Hotel Australia: Cec Morrison's Dance Band.
12.40: "The Crescendo" Vocal Trio. From the Hotel Australia: Cec Morrison's Dance Band.
12.50: "The Metropolitan Band, conducted by John Palmer.
1.0: "The Crescendo" Vocal Trio. From the Hotel Australia: Cec Morrison's Dance Band.
1.10: "The Metropolitan Band, conducted by John Palmer.
1.16: "The Metropolitan Band, conducted by John Palmer.
1.26: "The Metropolitan Band, conducted by John Palmer.
1.36: "The Metropolitan Band, conducted by John Palmer.
2.0: "The Metropolitan Band, conducted by John Palmer.
2.10: "The Metropolitan Band, conducted by John Palmer.
2.20: "The Metropolitan Band, conducted by John Palmer.
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11.20: "The Metropolitan Band, conducted by John Palmer.
11.30: "The Metropolitan Band, conducted by John Palmer.
12.00: "The Metropolitan Band, conducted by John Palmer.
WHY DOES LEVENSON'S RADIO DO THE LARGEST WIRELESS BUSINESS IN AUSTRALIA?

HERE ARE A FEW REASONS BELOW

WONDERFUL VALUES IN VALVES

ENGLISH METRO-VICK COSMOS 2-VOLT VALVES, Amplifier or Detector, American Made, $2 40 1/2 oz.
CLEARMOUNT BRITISH MADE EX. 31 VALES 16. NOW ENGLISH BASE 4-VOLT VALVES, Amplifier or Detector, 16. NOW
LIKE-A-FLOSH HIGH-GRADE VALVES.

LIGHTWORTH HEADPHONES, 4000 ohms.

Lionel. Grid Leaks

SPEAKER UNITS 13/9

Cone Reeds for Same 1/6

Super Audio Transformers

Edixwan A.R. Valves, CV 100 1'X 2014/6

6 Volts. V.T. Sockets

HIGH-GRADE VALVES.

Amplifier ENGLISH BASE 4-VOLT or Detector, ENGLISH METRO-VICK

NOW American Base, Amplifier or Detector, ENGLISH METRO-VICK

The Largest Wireless Goods Distributors


All Parts Cost 10/- Simple Chart Free with

You can build it in 10 Minutes.

STROMBERG-CARLSON LOUD SPEAKERS, List Price, 85/6. 4 M.F.D. 9/6 Made abroad for Levenson's Radio.

"COMPACT" S.L.F. Brass Plate Variable CONDENSERS. List Price, 10/6. A solid, well-built job.

The Famous and Genuine GRADEON GRAMOPHONE PICK-UP, with Tone Control and Adapter. List Price, 6/6. NOW

AMPLION SPEAKER UNITS, or Gramophone Attachments. A.R. 67. A.R. 35. 30/- 40/-

Don't Omit List Price.

MINILUX MIDGET CONE SPEAKERS. British Manufacture. 15/6

1000 VOLT TEST BY PASS CONDENSERS.

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4 M.F.D. 9/6

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WITH FUSE and HOLDER. L-WAY, 10/6. NOW 6/6 5-Way. 12/6. NOW 6/6

BABY LOW LOSS COIL KIT.

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Third shipment. A Wonderful Sale. 13/6

"DE JUR" THERMOTALS The New Fixed Rheostat. 3/6

"DE JUR" AMPLIONS 7-Way. 12/6. NOW 5/6 5-Way. 10/6. NOW 4/6

CONTINENTAL CONE SPEAKER UNITS.

Third shipment. A Wonderful Sale. 13/6

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British Built Ethovox Loud Speakers

List Price, £2/5/6. MY PRICE, £3.

Selling in Thousands

LIKE A FLASH, HEAVY DUTY 45 VOLT

"B" BATTERIES

Built Your Own "B" Battery Eliminator for 1, 2, or 3 Valve Sets.

A child could. Built and operated inside your home.

Simple Charts Free with parts.

Buy All Parts and Value.

£2/8/6

THE GREATEST ALL-ROUND RADIO EXHIBITION EVER HELD.

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ADMISSION FREE.

Inspection Invited.

THE GREATEST WIRELESS SHOW ON EARTH. All Latest Models and fittings from leading manufacturers.

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ADMISSION FREE.

WE HAVE NO TIME FOR ANY OTHER RADIO EXHIBITION BUT OUR OWN.

The days are far past with one-store to keep pace with new-growing by leaps and bounds—business.

To the Radio Selling House to Levenson's, the Largest Wireless Good Store in Town.

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LEVENSON'S RADIO

The Largest Wireless Goods Distributors in the Commonwealth.

226 PITT STREET, SYDNEY.

Opposite Palace Theatre.

Branch: 86a Pitt Street, Sydney.

Out of Town Folk—Note WE DO THE LARGEST RADIO MAIL ORDER BUSINESS IN AUSTRALIA.

MAIL YOUR ORDER TO-DAY.
I, Ham, tenor - "At the End of an Irish Moonbeam."

During the afternoon results of the Coleraine races will be
...
"COLMOVOX" RECEIVERS

Practically the oldest Receiver manufacturers in New South Wales "Colmovox" Receivers have stood the test of time and are still in demand from those who buy recommended goods. "Colmovox" Receivers are guaranteed for twelve months, and are built to suit Australian conditions, being selective to a high degree, giving good faithful reproduction, and they are moderately priced.

Our new Model AC3 Batteryless Receiver is the latest addition to our large range of Receivers, and intending purchasers should see this wonderful Receiver before they buy elsewhere.

<table>
<thead>
<tr>
<th>Cash Price</th>
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<tr>
<td>&quot;Colmovox&quot; Crystal Receiver</td>
<td>3 10 0</td>
<td>0 7 0 3 6</td>
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</tbody>
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ALL SETS ARE COMPLETE WITH LOUD SPEAKER, BATTERIES, ETC., AND INSTALLED FREE OF CHARGE

Demonstrations given in your own home without any obligation.

WIRELESS WEEKLY

STAND 17
See Our Stand at R A D I O

STAND 17
EXHIBITION

Colville-Moore Wireless Supplies Ltd.,
10 ROWE STREET (Next Hotel Australia) SYDNEY

Phone B2261

Page Fifty-Nine
Under the direction of Ray Allsop
and
Don B. Knock.
Associate Technical Editors

P.L. (Toowoomba).-Thanks for information. Will use in these columns when I have a B antenne space.

W.G.W. (Dickson).-Three stage resistance coupled (string) push-pull circuit published recently.

A.B.C. (Blackheath).-Build Countryman's Oct.

A.C.T. (Brinyheme).-Open grid.

J.G.H. (Rekley).-Bunthum primary in transformer.

R.L.M. (Torrab).-A solution to a problem, but difficult to co-in.

R.M. (Newcastle).-Take new parts with old coil.

R.G. (Brisbane).-Yes, too much for one letter.

M.F. (Newcastle).-These variables resistances e. v. 500,000 ohms. Formula is as Ohm's Law equals E over R. If 500,000 resistance required equals required vol-

dage drop over that current will show through the re-
colution. You did not make current so the re-
crect resistance could not be calculated. A 100 amp.

current would show around 10,000 volts. If the current

drops all the way to be a large 10,000 volts. Can down voltage using 0.0006.

L.M. (Brisbane).-An aerial's aerials is let out to a reading when the output is one volt.

A.C.T. (Toowomba).-Either set. Both the same.

J.T.R. (Victoria).-Resistance does vary with vary-

ing voltage readings in proportion to the transformer. For example, a 2 ohm transformer would make 4 x

difference, in a reading when the input is one volt. If the

electric is raised to 100 the resistance is practically double. Re-consider, or? Thanks for notes. Will reply.

C.D.P. (Sawmills St.).-Wind 70 turns and try every tenth turn.

J.A.H. (Lithgow).-Sorry, no data on present.

Cot Trent and part in primary of detector stage may be necessary to reverse re-action hand for last re-action one.

A.B. (No Address).-Have only one set. Will try 2 ohm over-
at. A lead-in should be cage type, also on smaller

S.T.J.C. (Twoowonga).-Three stage resistance coupled circuit published in these columns recently.

W.G.W. (Dickson).-Three stage resistance coupled (string) push-pull circuit published recently.

V.R. (Brisbane).-These variables resistances e. v. 500,000 ohms. Formula is as Ohm's Law equals E over R. If 500,000 resistance required equals required vol-

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electric is raised to 100 the resistance is practically double. Re-consider, or? Thanks for notes. Will reply.
T.E.I. (Moss Vale).—An amplifier of some sort is possible. Wrong coil combination probably cause of failure. Use Go-Gelter house-made coils.

R.E. (Bundaberg).—Circuit of a short-wave receiving S.G. valve appeared recently in an article by Tony Graham, AAC.56. pXL. The R.F. is of the second type, and A442 of the four-volt type. I think you can hear broadcast stations on S.W. 15 better. Your detector is not inviting to the listener. The first half-wave would be (for 250) 212 metres, the second as far as 10 metres, and so on. The sixth harmonic is the fundamental divided by seven.

A.W. (Richmond, Victoria).—Sorry to hear of your troubles with the Mitchell Four. It is hard to imagine what the possible cause of the trouble is. The best thing you can do is to ignore the RF detector and get the detector in operation first with regard to smooth oscillation. If not any better then try A442 of the four-volt type. You can hear broadcast stations on S.W. 15 better. Your detector is not inviting to the listener. The first half-wave would be (for 250) 212 metres, the second as far as 10 metres, and so on. The sixth harmonic is the fundamental divided by seven.

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When you have visited the Exhibition and picked out the set you like best call around to our showroom and let us demonstrate OUR models to you.

We are too busy attending to our numerous clients to exhibit this year, but we invite your comparison of our sets, on a quality for price basis, with any other sets on the market.

Resco Complete Sets can be obtained from

£16

WRITE TO DESK DD FOR TERMS AND PRICES.

The Resco Radio Supply Co.
28a Pitt St., Sydney
(Near Quay)

Phone, B1817

WIRELESS WEEKLY
Friday, 3rd May, 1926

W.R. (Brisbane).—has been kept some considerable time for this circuit of the 20M block. Others interested in modernised versions of standard receivers will do well to adapt their Neutrodynes to Screen Grid. The circuit is practically the same throughout.

F.W.H. (Queensland).—Phonograph is not yet in. Can any trader supply it in Australia?—B.F.C. (Queensland).—Building fine.
**Combination Wave Trap.**

The trap is first tuned in to any two stations you want cut out—say, ZBL for the lower band, and 2FC for the upper band, and left permanently on this station, and in using set you simply turn a switch to tune out one or the other. Once tuned, you only have to turn switch for results. The whole of the parts to make same

- **£1/10**

The above parts, drilled and aluminium box, all drilled ready for use

- **£1/7/6**

The Set Complete...

- **£2 2/5**

**Furness Patent Screen Grid Valve Holders**

**Adjustable Screen Grid Valve Holder for Upright Type**

Furness Patent Adjustable Screen Grid Valve Holder, for both upright and 5625 types. This Holder saves time and temper in fixing and changing valves, and can be fixed in any position in set, either on baseboard or screen, enabling set builder to get a much better layout, and when fixed is perfectly screened. Valves easily changed, and both types being made of insulating lessens danger of shorts or set.

**S625 Type without Screens, 5/— with 7/— Type for Upright Valve, 8/— 9.—**

**W. FURNESS**

1st FLOOR, FURNES CHAMBERS, KING'S CROSS, TOP OF WILLIAM STREET, DARLINGHURST
AT LAST!!

A really successful all-wave three valve receiver 8 to 550 Metres—Foreign as well as the locals on the Speaker, employing the new magnetic reaction Lewcos all-wave coil kit of four interchangeable coils.

8 TO 550 METRES

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
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<td>Bakelite Panel, 15 x 6 x 9</td>
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<td>A.S.L. Bakelite Vernier Dial</td>
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<td>Honey 30 Ohio Bakelite Rheostat</td>
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<td>Muter Fixed Audio Resistance</td>
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<td>Viking Audio Transformers</td>
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<td>Single Circuit Jack</td>
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<tr>
<td>Lewcos Special All-Wave Choke</td>
<td>12</td>
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<tr>
<td>Lewcos Coil Kit, 8 to 450 Metres</td>
<td>42</td>
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<tr>
<td>3 Bakelite U.X. Sockets</td>
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<tr>
<td>Sangamo Grid Condenser and Clips</td>
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<td>Aerovox Special Grid Leak</td>
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<td>10 x 1 Terminal Strip</td>
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<td>1 Dozen Bus Bar</td>
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<tr>
<td>2 Short Wave Variable Condensers</td>
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<td>3 Specially Matched Philips Valves</td>
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<td>1 4-Volt 45-Amp Actual Ediswan</td>
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<td>2 Ever-ready B Batteries</td>
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<td>Ediswan 9-Volts C Battery</td>
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<td>6</td>
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<tr>
<td>1 Dalmonte Cone Speaker</td>
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<td>6</td>
</tr>
<tr>
<td>1 Phone Plug</td>
<td>1</td>
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</tbody>
</table>

Total: £14 17 10

Purchase this outfit, complete with circuit, for £14/10/-

WE WILL CONSTRUCT IT FOR AN EXTRA 30/-

(See This Receiver in Our Special Window.)

THIS WILL BE A SHORT-WAVE WINTER—FASCINATING AND INTERESTING

PRICE’S RADIO SERVICE

Wingello House, ANGEL PLACE, SYDNEY. B4146

RADMO Storage Batteries

The Ideal Battery for Radio Work

The Radmo Radio “A” Battery is specially constructed to meet the demand for a high-grade battery for radio work—one which will stand up to the solid service the “A” battery is expected to give. Made from the highest-grade materials, exceedingly well finished, in an attractive rubber box, complete with carrying handle.

The terminals are plainly marked to facilitate connecting up.

The ratings are very conservative, and we can thoroughly recommend these batteries as a strong, lasting storage unit.

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You hear them all with a MARCONI

WANG of the banjo—boom of the drum—high notes of the violin—blare of the cornet. They're all there with the Marconi Speaker. Nothing is lost; every single instrument is reproduced naturally just as though the orchestra were actually in the room. Volume controlled to any pitch by a simple adjustment—tone that satisfies the most critical ear.

MARCONI SPEAKERS AND VALVES MAY BE SEEN AT THE RADIO EXHIBITION. STAND IS 15.

Amalgamated Wireless (Australasia) Ltd.
47 YORK STREET, SYDNEY.
AC9 £7/10 Senior Chippendale Cone, Rosewood Finish

SEE STAND 19 MAIN HALL, Radio Exhibition, Sydney Town Hall, May 1 to 11.

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