

WIRELESS WEEKLY

Vol 9, No. 6.

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

Friday, Dec. 3, 1926.



Improve Your Set

With Guaranteed
Radio Equipment

A Small Deposit secures immediate
delivery of the following goods.
The Easy Terms will suit you.

| | £ | s. | d. |
|--|---|----|----|
| "PHILCO" 90 volt set | 2 | 15 | 0 |
| "B" Battery | 3 | 0 | 0 |
| "AMPLION" Loud Speaker, all sizes, from | 4 | 10 | 0 |
| "C.A.V." 6 volt, 48 amp. Accumulator | 4 | 15 | 0 |
| "TUNGAR" Battery Character. | 4 | 15 | 0 |
| PHILLIPS "B" Battery Eliminator, Eliminates all "B" Battery troubles | 5 | 15 | 0 |

CALL OR WRITE TO-DAY.

Keogh Radio Supplies

40A PARK STREET, SYDNEY.



M. E. J. VAN DE VELDE
2 F.C.S. Aerial Ambassador
SEE PAGE 4



The Selectrodyne

Is the only 4-valve set that will
bring in 3L0 without interference
from 1B1. Constructed in Sydney
from all Australian material. Com-
plete, £29/10/- to £38/10/-.

Take one home to-night
Deposit, £2/17/6. Weekly, 5/9

Radio-W'less Mfg. Co.
317 George Street, Sydney
B 5747

"Radio is Revitalising the Church,"
Rev. F. H. Raward on page 5



Bayer Four Valve Receiver
Japanese Outlook on Radio

CUT OUT INTERFERENCE CUT DOWN STATIC



THE MUTER INTERFERENCE ELIMINATOR AND STATIC REDUCER has been designed to assist the tuning of your set and is absolutely effective in eliminating interference on the broadcast bands. It is composed of a tuning coil which is balanced by a variable condenser providing an additional means of tuning for the valve or crystal set.

The Muter Eliminator is far more effective than any other form of wave trap, because it can be used in either one of two methods. The first is by induction and the second is by absorption.

It not only cuts out interference and smooths reception, but it definitely **REDUCES STATIC**—and to an extent which can only be appreciated by those who have installed one.

Fit a Muter Eliminator and get real radio reception ——— Easily fitted

Retail Price 15/9

IF YOUR DEALER DOES NOT YET STOCK THIS PART, WRITE TO US DIRECT

United Distributors Limited

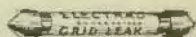
(Wholesale Only)

72 CLARENCE STREET, SYDNEY

343 Queen St., 27 Chesser St., 26 Queen St., Cr. Jervois Quay & Harris St., 66 Charles St.,
BRISBANE. ADELAIDE. PERTH. WELLINGTON, N.Z. LAUNCESTON, Tas.
464 Bourke St., MELBOURNE.

ELECTRAD

Certified Radio Products



Electrad Glass Grid Leaks

Electrad Grid Leaks are made by a new and controlled process. Each Grid Leak is individually tested before it leaves the Electrad factory. They are non-microphonic and moisture proof, while the resistance is constant.

Sizes $\frac{1}{2}$ to 5 megohms, plain. Price 2/3
 Sizes $\frac{1}{2}$ to 5 megohms, de luxe. Price 3/9



Electrad Lightning Arrester

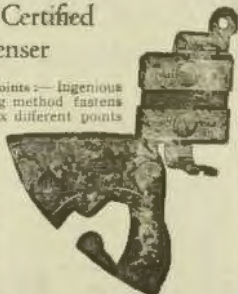
Consists of an air gap between two copper conductors, arranged in an improved manner, so that it is impossible for the spacing of the gap to vary. It is then hermetically sealed and the gap is therefore absolutely watertight. The housing protecting the air gap is moulded in glazed porcelain with a highly ornamental finish. These arresters comply with Fire Underwriters regulations. Price 3/6

Electrad Certified Condenser

The Six Pressure Points:—Ingenious riveting and binding method fastens parts securely at six different points and exerts EVEN PRESSURE upon the largest possible surface.

Thin sheet copper is used in place of tin-foil. A slip of the soldering iron cannot damage the copper and thereby ruin this condenser.

.001 - - - Price 2/6
 .00025 - - - " 3/-



Electrad Audiohm

Converts noisy distorted volume into clear true tones by a simple twist of adjusting knob. Mount across secondary of your audio transformer as illustrated. Price 9/-

OBTAINABLE AT ALL RADIO DEALERS

Amalgamated Wireless
Australasia Ltd.

167-D Queen St., Melbourne

97 Clarence St., Sydney

King and King Chambers, Queen St., Brisbane

Now
announcing the

NEW



GILFILLAN 1927 Neutrodyne

A new and improved five valve Neutrodyne at the old price

NEW AND EXCLUSIVE FEATURES

EXTRAORDINARY SELECTIVITY, preventing any interference between stations, local or Interstate. No howling noises. Static reduced to a minimum.

SIMPLICITY OF OPERATION—employs only two Vernier controls for tuning (shown on the indicator in the centre of the front panel). The knob at the bottom of the front panel is for volume control.

CABINET—Hand-carved, toned Walnut, deserving of a place in the furnishings of the finest home.

SIZE—Very neat and compact, 19½ inches long, 9½ inches high, and 10 inches deep.

£10 Deposit—Balance Monthly

Supplied complete and ready for installation in the home, with Aerial equipment, Loud Speaker, Accumulator, "B" Batteries, Valves, Lightning Arrestor, and a well illustrated book of instructions.

CASH PRICE—£59/10/-

Obtainable from Leading Radio Dealers

SOLE AUSTRALASIAN AGENTS

CUT THIS OUT AND POST TO-DAY

Please send me post free Illustrated Booklet of the 1927 "Gilfillan" Neutrodyne Radio

NAME

ADDRESS

W.W.—3/12/26

Harringtons LTD

| | |
|------------------|---------------------|
| Sydney | 55A George Street |
| Newcastle | 91-95 Hunter Street |
| Katoomba | Katoomba Street |
| Melbourne | 26 Collins Street |
| Brisbane | 93 Queen Street |
| Adelaide | 10 Rundle Street |
| Wellington, N.Z. | 42 Willis Street |
| Auckland, N.Z. | 149 Queen Street |

WIRELESS WEEKLY

VOL. 9, NO. 6.

FRIDAY, DEC. 3, 1926.

A Phonograph or a Radio?

RADIO ruins sopranos, according to Thomas A. Edison, the famous inventor, in a statement published by almost every American newspaper last month. Drawing a comparison between his own phonograph music and radio entertainment, he is reported as having said that wireless distorts music and the human voice. He contended that public interest in broadcasting is on the wane because people are finding that they can get far better musical entertainment from the phonograph.

Can Mr. Edison tell us how thousands of farmers scattered throughout Australia can receive last-minute news, market and stock reports on the phonograph? Or how an even greater multitude, tense with the excitement of the moment, can hear a vivid description of the Melbourne Cup the very second issued from the observer's lips? Where, in the phonograph, is the thrill of reaching out into the unknown ether and perhaps hearing some strange foreign station—a Japanese opera or an American jazz band? What owner of a talking machine can hear a new symphonic concert or musical comedy each week—not the same one over and over again?

As long as radio can offer these features its popularity will not wane. The phonograph gives us world-famous musicians and singers, some now dead, but the radio gives us variety and topical news. They have never been rivals, otherwise why would some stations have regular gramophone or phonograph sessions, or why would records be made of radio items?

Even if Mr. Edison is correct in his accusation that the radio receiver is a bad reproducer, the statement is made to seem paradoxical in view of the fact that the amplifying device employed on the very modern electric phonographs is distinctly taken from similar systems employed in the average radio receiver. This adoption was due to a comparison made between a radio set and an ordinary phonograph in which the background of noise caused by the motor and the needle was noticeable on the phonograph but absent in the radio receiver. Certainly many listeners experience a background of noise in reception, but were they to spend the same amount of money on their set as the phonograph owner spends on his machine and records, they would not have this trouble.

Between You and Me and the Microphone

ACCORDING to "L'Antenne," there are now in the world 922 broadcasting stations. The country having the greatest number in proportion to its size is Cuba, which has 36.

MR. GEORGE BERNARD SHAW has announced himself as "a declared enemy of radio," and has prohibited the broadcasting of his plays in Germany.

A FEW WEEKS back the 4QG announcer became uneasy as the hands of the clock crept round to 8 p.m. A concert was to be broadcast by the Blackstone St. David's Society, and most of the titles of songs had to be pronounced in Welsh. Nevertheless, he rose to the occasion and was afterwards complimented by Welsh listeners on his pronunciation.

THERE ARE times, however, when even the best announcer will break down. The name of one of the foreign ships in touch with the Pinkenba Coastal Radio Station upset the 4QG announcer's mental equilibrium recently. The ship's name was "Bjornstjernen," and the only alternative left was to spell it.

A STORM drove 3LO off the air for several hours recently. Continuing the service meant risking the loss of expensive valves, involving a longer stoppage. The accident threw the programmes for the night out of gear, but the artists, including Rupert Hazel, the comedian, and Sam Clapham, world's champion wrestler, held an impromptu concert in the studio for an audience of visitors.

FIRST RADIO ENTHUSIAST: You know I've got an old P.I. at home that separates 2BL from 3LO and I only live a hundred yards from 2BL. Second Ditto: That's nothing. Last night I tuned in 2FC with a double male quartet singing and by a patent device of my own I separated the eight voices and heard each one of them singing solo.



Conducted by

R. E. CORDER

UNDER THE new broadcasting administration in Germany the State will hold 51 per cent. of the shares.

FOR ATTEMPTING to "raffle" a wireless set, Clifford Howarth was recently fined five shillings and costs, at Preston, London, under the Lottery Act of 1823.

INTEREST in broadcasting is steadily increasing in Sweden. No fewer than 25,000 new listeners have taken out licenses during the summer months, and the total in that country now amounts to about 210,000.



CHARGED WITH having neglected our own country in the matter of broadcast transceivers, 2FC has expended much time and money on preparing an annual series of descriptive talks on the country districts of N.S.W. and Victoria, by Mr. E. J. Van de Velde, above. He is now toting the two States by air, taking photographs with a special aerial camera.

WE SHALL soon have the human voice "swimming" the channel. Senator Marconi has been experimenting in the "Electra" with a remarkable new loud speaker, which can be heard on both sides of the River Dart, in the middle of which the yacht is lying. He thinks it quite possible to make the human voice carry from Dover to Calais, with slight modifications of the apparatus. The chief claim for this giant loud speaker is that, in spite of the enormous volume obtainable from it, quality is not sacrificed to any noticeable extent.

AS A MEANS of educating the public in matters relating to the Traffic Acts Regulations, the police authorities are prepared to answer from the broadcasting stations queries on any matter of general traffic interest.



IF A MOTORIST were to state that he enjoyed being caught in the full glare of another man's headlight, we should know what to call him. And yet, strangely enough, the variety artist in front of the microphone so enjoys being dazzled that the B.B.C. has begun experiments with spot lights!

A TALENTED blind girl musician has been discovered by broadcasting station 2FC, Sydney—Miss Joyce Frew. She is a pupil of Mr. Gordon Lavers, who is also blind, and Miss Frew is an artist of a very high order both on the piano and the violin. She holds three British and Australian musical degrees. In conjunction with Mr. Gordon Lavers, Miss Frew will be heard from broadcasting station 2FC on the evening of December 8.

TWO MORE HOSPITALS are being equipped with radio receiving sets for the entertainment of patients—Manly which has been equipped at the low cost of £120, and the Home of Peace, Petersham, where a campaign is being conducted with a view to raising £100 to equip that institution. There are 35 men and women patients at the Home of Peace and if the experience of other institutions is repeated the radio will bring them much cheer.

I SAW AN ingenious ghost picture a few days ago, taken by order of 3LO to illustrate a feature of their programmes—a ghost story written expressly for the station. The effect of the picture is that of a studio full of auditors, all looking up with terror at a grey ghost that rises terrifying arms above a head that looks like death, while its trailing, misty feet simply fade out. The conviction of the beholder is irresistible that he is looking at a genuine photograph.

"Radio is striking a death blow at Denominational Prejudice"

An article by the
Rev. F. H. Raward

ONE occasionally meets a self-appointed critic who declares with great emphasis that the Christian church is a conservative, unprogressive institution, finding in its history its supreme glory and its outworn forms an inadequate programme for these scientific days.

Speaking broadly, the criticism is not borne out by facts. There has grown up a new race of clerics and church officers who are wide awake and progressive. They find the inspiration for their practice in the theory that the business of spreading the philosophy of the Christ deserves as scientific prosecution as any other business.

To these the opportunity presented by radio has been eagerly seized. Their efforts to secure the finest results have been crowned with a splendid measure of success. In numerous instances the best type of "radio voice" and "radio sense" have been rapidly achieved. The tremendous vote recorded for church services in the census recently taken was an eloquent testimony to the public's recognition of the excellence of church broadcasting. From churches there have been broadcast in addition to services anniversary meetings, concerts, weddings, and sacramental services. As far as the writer's knowledge goes, the only service which has not as yet been put on the air is the funeral service.

Church broadcasting has been for some time a regular institution. It is well past the experimental stages. From the wealth of data available, one is able without any hesitation to arrive at a clear-cut decision as to its real value.

For the prominent churches from which services are regularly transmitted church broadcasting has signified a very wide publicity. Desired or otherwise, this fact stands out. It has meant an infinite widening of its

sphere of influence. It has also incalculably increased its opportunity for appeal. Many a church thus favoured has experienced a revitalisation of its whole life.

To the suburban and near country churches the broadcasting of services has not made a great deal of difference. The amazing number of such, however, which found the Gipsy

Smith campaign services a great opportunity for short transmissions has a broad hint of what may be done along similar lines. The significance of church broadcasting for country homes is great indeed. To such, an institution as the Central Methodist Mission, which, counting in its frequent afternoon transmissions, broadcasts more frequently than any other church in the State, large numbers of letters come in. Practically every one of these is eulogistic and some are quite pathetic in their expressions of appreciation.

The significance of church broad-

The business of spreading the philosophy of Christ deserves as scientific prosecution as any other business, says the Rev. F. H. Raward in this article. He is seen here in a characteristic attitude broadcasting from the Central Methodist Mission.



casting for the dwellers in the outback is beyond words. Having lived with these people and shared their sense of isolation I thank God for the new day which has dawned for the brave hearted pioneering people back of beyond. It has lifted the sense of responsibility from the souls of many mothers and fathers who contemplated the rearing of their family quite apart from religious services with the deepest concern. To churchless lands the radio has brought regular services of the finest type Sunday by Sunday.

To outback missionaries radio comes with the offer of infinite help. One of the latest developments is indicated in the practice of one progressive cleric who carries with him a fine set which he operates for the benefit of his congregations. Thus he is relieved from one of his greatest worries, i.e., the preparation of addresses at the sacrifice of his extensive pastoral work, while he ministers to his people to the very limit of his powers during the week, he is comforted by the thought that one of the finest preachers in the State is busily preparing the message for his flock.

To the person prevented from attendance at church, to the hospital patient lying in some institution well equipped with radio, to the student for the preaching office, and to the person who is estranged from church life, but who will listen-in, church broadcasting has a significance that none but an infinite mind could reckon.

One of the most important contributions which church broadcasting is making to the Commonwealth is along the lines of the removal of denominational prejudice. Previously it was possible for a person to think that his church had a monopoly of truth and decorum, but to become familiar with the excellence which belongs to each type of church service invariably is to destroy such an erroneous conception. The truth beats in upon one that there is no such thing as monopoly but a more or less even distribution among the churches of merit. Out of this better understanding springs mutual respect. Organic church union may be merely a dream but real church unity

is not only a reality but a practicable basis for united effort and mutual benefit. After all, church differences are more fancied than real. In the great essentials and the mutual recognition of the authority of the Scriptures as well as the supremacy of Christ, we stand side by side. It is undeniable that radio is contributing to the wider appreciation of this set of facts. As wireless goes on its way it strikes a death blow at the unreasoning spirit of denominational prejudice. The significance of church broadcasting to the public generally is a fascinating subject for speculation. To say that the widest dissemination of truth and the earnest inculcation of the finest principles of con-

are irresistibly led to the conclusion that they are finished masters of English to listen to whom is a liberal education. This in days when our glorious mother tongue suffers untold indignities at the lips of so many is something of outstanding importance. Further, beyond the words one is brought to the recognition of reasoning power which is superb. I submit that such living touch as radio offers with these cultured leaders is to the receptive and impressionable mind a tremendously significant thing. Personally I have come from the transmissions of a church service with something approaching mental exhilaration. I felt keyed to a finer music and capable of better effort. I am loth to believe that the experience of many others fails to approximate to my own.

Not the least important effect of the broadcasting of church services is upon the preacher himself. This effect is invariably beneficial. First, it is mentally stimulating. To reflect that some of the keenest thinkers in the State may be listening to his address stabs him broad awake to the necessity of the production of the very best of which he is capable. Reasoning must be sound; logic must be flawless; facts must be incontrovertible; conclusions must be unassailable. Second, it is elocutionarily stimulating. Slurred words, dropped syllables faulty endings, indistinct articulation, are capital crimes in the sphere of radio. A new carefulness with words and their pronunciation is an inevitable element in the radio preacher's experience. Third, it tends to the development of personality. The preacher knows that beside the dear old lady who is ready to believe that everything is perfectly lovely if her dear curate says it, there is the ruthless critic who is prepared to divest himself of every feather with which he has been wont to fly. Before he lies a letter from a listener-in who begins: "I said when I picked up the 'phones, I wonder what piffle this fellow is going to give out." From the seclusion of the local church and the circle of more or less admiring friends, the radio preacher is flung neck and crop into the rough and

(Continued on Page 37.)

The Rev. Raward says:

Church broadcasting has a significance that none but an infinite mind could reckon.

As wireless goes on its way it strikes a death blow at the unreasoning spirit of denominational prejudice.

Not the least important effect of the broadcasting of church services is upon the preacher himself.

Many churches favoured by the broadcasting companies have experienced a revitalisation of their life.

The significance of church broadcasting for the dwellers outback is beyond words.

duct are valueless is to lay the most serious of charges against the intelligence and moral sense of society. It is a well known axiom of psychology that we are consciously or unconsciously influenced by whatever enters even the margin of consciousness. Reasoning then from the established fact that church services are shared in by many people in their homes, we find that the influence of s. h is a natural inference with all the characteristics of truth about it.

Some of the preachers of to-day use the finest English that is to be heard in the world. Listen carefully to certain men who for obvious reasons cannot be named and you

All the World's a Stage

Even when one broadcasts, says Laurence Halbert in this interview by W.P.H. Having run the whole gamut from pantomime to grand opera on stages in Great Britain, Europe, Africa, the East, Australia and New Zealand he believes that he has at last found his right place as an announcer.

I HAD heard his voice on the air from an aeroplane 11,000 feet up, and from a trawler at sea, and was determined when the first opportunity occurred that I would know him in the flesh. With this idea in view, I visited 2FC the other night, and made the acquaintance of Laurence Halbert, one of the station's announcers. I found him a shy sort of chap, and not very willing to talk about himself, but I felt that the man who took on broadcasting from 11,000 feet in the air and also went to sea for three days on a trawler on a similar mission, could tell a good story if he was once persuaded to talk.

I had heard that Halbert was once on the stage, and I turned the conversation in this direction in the hope of getting some reminiscences. After a little leading he began to talk more freely, and let me know that he had been for some twelve years on the stage playing in most European countries. He had run the whole gamut from pantomime to Grand Opera. We got on to talking about different parts of the Old Country we both knew well, and he told me of the famous 6 a.m. performances in the Rhondha Valley, where he had performed at that ungodly hour to the miners, and where nobody outside a Welshman was considered a singer. Then getting on to common ground again, we talked about the Javanese in Dyjoceta, and we laughed together over many similar experiences with the Dutch, French and Malaysians. I found that he had been through the East with the Royal Opera Company and he told me many of the ups and downs of his two years' tour with the company.

His trips into the countries where the sun shone told their tale, for on

returning to London he pined for warmer climes. Africa and Australia were always in his mind, and when an opportunity presented itself to tour South Africa with Thurston Hall—who at a later date visited this country—he jumped at the chance. Following this Halbert joined up with the Renee Kelly Company and toured for a further period in South Africa.

As he put it, all good things ultimately come to an end," and the day came when he had to decide whether he would return to England or strike out on his own and visit Australia. It was a case of London with rain and fogs, or Australia with its sunshine—and Australia won the day. Halbert then told me of his delightful trip to Sydney, and of his surprise at the sights presented by the capital cities of Australia. Of course, he gave me the usual old-jar about "Our 'Arbour."

He then visited New Zealand and upon his return to Australia became associated with 2FC—at first as a soloist and then as an announcer. Halbert then went on to say how they tried him out on the prices of potatoes and onions, and also how they joked him about his pronunciation of some of the aboriginal names attached to country towns; also, how, after many months of severe trial, he was ultimately considered far enough advanced to be given night sessions in the studio.

We then chatted on the difference between work on the stage and work in the studio. I asked Halbert if he found it as difficult to please the unseen audience as it was the crowd who attended in the theatre, and he replied that the main difference lay in the fact that the theatre audience, when critical, said things—while the radio audience wrote things. He told



Laurence Halbert.

me that broadcasting was a very severe trial for anyone who was super-sensitive. When a member of an audience in a theatre disapproved of you he could hardly disturb the show to the point of telling you what he thought, whereas the radio fan sits down in his calm moments and puts a letter into the station, which, when it has been read, makes you feel like a quick trip to the Gap. "However, there is always the satisfaction of knowing that no one is exempt from criticism in this game," he added.

I asked him whether he liked announcing, and he said, "I do, indeed." There is a wonderful field for the imagination, and a boundless supply of new experiences. Halbert told me that in both his aeroplane and trawler trips the excitement and novelty carried him through. Asked if he would like to go back again to the old stage life, he quickly replied—"No, I much prefer to remain in broadcasting."

At this moment I heard a buzzer in the studio, and took this as a hint that it was time for me to leave.

Coming Programme Features

LISTENERS-IN are promised an opportunity of judging between the choirs of the Marist Bros., Ridge St., North Sydney, and the Marist Bros. of Mosman. Each church has a boys' choir numbering 100, and on December 7 the Mosman boys, under the conductorship of Brother Barnabas, will broadcast from 2FC at 8.30. On the following Monday, December 13, the Ridge Street boys, conducted by Brother Adrian, will be on the air.

SPORTSMEN CAN look forward to December 18, 27, and 29, when 2FC will broadcast a full description of very race at Randwick direct from the racecourse. For those who do not care for racing, 2FC will broadcast the whole performance of the Messiah on Sunday afternoon, December 5, and again on Sunday afternoon, December 12. Flotow's Grand Opera, "Martha," will be broadcast on the afternoon of December 19.

PRODUCED BY the Railway and Tramway Institute Musical Society, the well known musical comedy — "Very Good, Eddie,"—will be broadcast by 2FC on December 4. The cast



Miss Hilda Lane, a charming young Queensland, who is often heard from 2BL.

is one of the strongest the society has had for some time. Erolld Healy as Eddie and Jack Grant as the clerk will carry the comedy roles. Mr. Harry McInerney will play the lead. Opposite him will be Miss Myee Taylor, while Miss Lois Melville, Miss Laurie Diad, Miss Muriel Drake, and Messrs. Whelan, Trunks, Heffernan, and Macdonald help to make the show one of the best the society has played for some time.

ON MONDAY, December 6, 2BL will open with its daily physical culture exercises at 7.15 a.m. During the Early Morning Session, news is also broadcast. The Women's Session, conducted by Mrs. Jordan, will include a talk on "Meatless Dishes."

MUSICAL STUDENTS will welcome the announcement that Mr. Sutton Crow contemplates giving a series of lunch-hour talks from 3LO on various musical subjects, lasting half an hour. For the first series he has chosen "Lives of famous Composers" and the discourse will be illustrated by vocal and instrumental selections by University students.

THE CONCERT PARTY formed by 2FC will visit Lithgow Hospital on Saturday, December 11. In the evening the artists will entertain the patients in the hospital and the concert will be broadcast, so that all outside listeners in the State can hear. Uncle Monty and Uncle Rus. will entertain the children.

DURING THE EVENING after the concert the party will inspect the blast furnaces which will be described over the air and the party will sing the anvil chorus and other appropriate items. While at Lithgow the party will visit Mr. Jones' noted Zig Zag brewery—and no doubt their singing will be none the less brisk on that account. On December 18 a trip will be made to the Waterfall Sanatorium in conjunction with the "Smith Family of Joy Spreaders."



Mr. A. E. Y. Benham, the well-known basso, a Melba protegee who is heard frequently from 2FL.

ACTING IN CONJUNCTION with the Harbours and Rivers Department controlling the buoys and lights of the Queensland coast, a party from 4QG will accompany the diving plant down Moreton Bay to the Pile Light shortly. A full description of the bay will be broadcast and an announcer from Station 4QG will make a descent in 40 feet of water, broadcasting his experiences from the bottom of the bay. This "stunt" transmission has been effected by Station 2FC and 3LO, but 4QG, profiting by experience, will use a special microphone designed and built by the station engineers. It will not be fitted in the diver's helmet, but in another portion of the diving suit. It is hoped this will eliminate the echo effects which would tend to muffle the announcer's voice.

THE FOLLOWING ARTISTS are now being heard from 2FC: Mr. Alfred Cunningham, English baritone; Victor Gouriet, comedian; Miss Dorothy Dewar, comedienne; Miss Rosalie Duvalli, harpist; Miss Eileen Boyd, contralto; Mr. Chas. Lawrence, entertainer, in conjunction with Miss Nea Hallett, soubrette; Victor Evans, baritone; and Miss Daisy Richards.

Japan's Outlook On Radio Broadcasting

By TAKEO KIMIZUKA

In quaintly phrased English our correspondent, writing from Fusano, Kayusa, Chiboken, gives here a Japanese listener's ideas on radio. He invites correspondence with Australians.

THERE exists no such national boundary in space of radio wave activity as the frontier of a country. Space must be of joint ownership just as the Sun. Others cannot make even a single complaint when one breathes a great deal of air which fills up all the space, and likewise, no country can do that when one listens to a sweet voice which is brought from a far country by means of electric wave travelling through space.

We have as much appetite for hearing as that for seeing. This desire for hearing is about to be contented by the gullioning development of radio broadcast. As a voice in a place is now to be heard at any corner of the world with suitable transmitter and receiver, radio is of unlimited interest, and I believe this is the best means to promote the friendship among nations.

The lack of friendly relations leads to misunderstanding between nations, and, in turn, this sometimes results in terrible destruction of peace. There is no more miserable loss than war for mankind. Though it means the race for tools of civilisation, the conduct is nothing but the offensive appearance of wild beasts. War is really the most barbarous act done by mankind. As we have no doubt been born to live in peace and with happiness on earth, I hope radio will be of great service for dispelling the misunderstanding between nations and worldly everlasting peace will come.

Having this aim in mind, it is quite essential for us to take proper steps to mutually obtain the true knowledge of radio broadcasting field of all the world. This conception has driven me to the compilation of a list of world-wide radio broadcasting stations.

It was April last I happened to enjoy beautiful foreign musics through a speaker. It took me, indeed, nearly

one hundred days until I might ascertain by letters that they had been broadcastings from 3LO (Melbourne), 4QG (Brisbane), 5CL (Adelaide), 2BL (Sydney), of Australia, KZRHQ (Manila) of the Philippine, 2GR (Madras) of India, and KGO (California) all several thousand miles away from here. It was so long for waiting answers that it was beyond description. This is because of the lack of the correct and latest informations in regards to foreign broadcasting stations. I have in hand a few copies of informations published in a certain country, but they were so obsolete and inaccurate that they were nothing but misleading.

Deep impressions of the inconvenience and sympathy extended to earnest fellow radio-fans of the world are a second motive for the compilation of the list. Of course the copies of the list are to be distributed with the author's compliments to most of broadcasting stations, publishers of radio magazines and newspaper offices when printed.

This plan is to put all the voices in the air by radio in worldly common possession and to try to arrive at the goal of worldly peace. I eagerly desire the recognition of my sincerity and their hearty co-operation to the ladies and gentlemen of any nationality who pay attention to this circular of mine.

As up-to-date and accuracy are the purport of the list, it is desirable to publish it monthly, if possible. You will find, enclosed herewith, the first publication of the list which has been collected recently. If you kindly let me know, at an earliest opportunity, such particulars of the broadcasting stations in your neighbouring countries as necessary for the list, I am very much obliged to you. In addition, I am very anxious to know the names and addresses of newspaper offices, magazines and organizations

in connection with radio, to be able to communicate with them.

I shall be very glad to receive the newest informations from you at the beginning of every month and to forward to you the succeeding issues of the list when ready for distribution. As the second issue is to be out after my reception of your reply, it will be two or three months later, but the three and the following are expected to be out regularly. I sincerely hope that the second issue and the following will be authorized by your deepest sympathy and cordial guidance. When you find any mistake or anything to be improved in the list, please be so kind as to let me know without delay. If you send me magazines, printed matters, photos, etc., which serve the investigation of present radio in your country, I shall be glad to send you, in return, something you like.

I know the day is coming radio fans of all the world can hear radio voice of all the world with a simple apparatus. In near future, I believe such a marvellous revolutionary radio invention will be accomplished that we shall be able to hear a voice coming from the other extreme of the earth, 20,000 kilometers apart, as easily as that coming from a place, a few hundred kilometers apart, at present. From this point of view, I think my advocacy for the promotion of international friendship by radio and by publication of a list of the world-wide radio broadcasting stations deserve something. Expecting your cordial co-operation, I am eagerly waiting for your kind answer before I post my letter. For my own convenience, it is hoped your answer will be written in English. Besides this, if you stick on the envelope of your letter a piece of paper on which my name and address is printed in Japanese it will reach me very soon without fail.

Radio's Greatest Enemy is Interference

"WE like the band performances best; but sometimes we don't know whether it is a band or a thunderstorm!" That was the expressive comment made to me in a tram recently by a man from outback Queensland. He was referring to the broadcasting services, and explained that at his homestead they listen-in regularly to 3LO, Melbourne. The descriptions of the wrestling and the popular science talks were popular items always, as were also many of the musical numbers. But the band items won greatest favour amongst those distant listeners.

The traveller's severe comment on the band reproductions, however, was a reference to the interference caused by atmospherics. That form of noise in radio receivers is a severe handicap to the enjoyment of broadcasting in many districts; probably more so in Western Queensland than in the Southern States. Atmospherics constitute the greatest, or one of the greatest, problems confronting the radio engineer. It is not only in broadcasting that the annoyance is experienced; in wireless telegraph signalling over short and great distances the same problem is met, and many precautions are taken to eliminate the interference.

What Causes Atmospherics

Although very great strides have been made in wireless development, particularly during the past five years, the difficulties caused by atmospherics have not been overcome. Very many and varied devices and methods have been tried, and some are in use, designed for the purpose of getting rid of the nuisance; but all these have failed. There are certainly some very successful methods for limiting the effect of the interference—but this limiting always involves reducing the signal strength. It is possible to reduce the effect of atmospherics, but in doing so the volume of sound in the headphones is also reduced. And it follows that to reduce the interfering signals—if atmospheric disturbances in receivers can be called signals—to a minimum,

One thing is outstanding in the development of broadcasting — our failure to defeat interference. In this article the writer gives some hints which will help you to reduce the trouble.

the desired signals or sounds would also be reduced to a useless minimum. Therefore, a compromise must be effected.

The failure to produce a device or method for cutting out atmospherics is due to a want of knowledge of the origin of the atmospherics. It is known that they are associated with changes in the electric state of the atmosphere; they are worst when thunderstorms are prevalent, and are experienced most in the equatorial regions. But there is no scientific data as to their exact causes. That is the big handicap that faces the experimenter or research worker who attacks the problem of designing equipment—simple and economical—for the purpose of leaving the receiver free to reproduce the studio items without the distorting and annoying noises. It is generally recognized that atmospherics are electrical discharges in the atmosphere, invisible lightning—and these discharges act on the aerials like wireless signals, with the important difference that they have no regular wavelength. And having no definite frequency or wavelength, they cannot be tuned out completely.

How can they be Cut Out?

They cannot be tuned out altogether but it is possible to lessen the disturbance in the loud speaker. In broadcast reception the use of a small aerial is often very effective. The small frame aerial used with super-heterodynes and other sensitive sets is very satisfactory in counteracting the nuisance. With or-

inary receivers such small aerials cannot be used unless the set is near a powerful broadcasting station, and other methods must be employed. One method is to connect a condenser across the aerial and earth terminals.

Loose contacts between wires and their terminals, or in the moving parts of a condenser, or in the valve sockets will also cause noises. Such noises in conjunction with rundown batteries may have been more the cause of the disturbing noises in his set than the atmospherics referred to by the traveller from Queensland.

A condenser across the loud speaker terminals will also be of use. But the two main points to watch are—an aerial that is not too long and loosely coupled circuits. If the set is not home assembled we cannot have any more loose coupling than the set will permit, except in sets that have movable coils. The aerial, however, can be attended to. It must not be too long. Generally, a good length to use is 75 to 80 feet, including about 20 feet down lead. The higher the better. A crystal set requires a bigger aerial than a valve set, containing two or more valves.

(Continued on Page 41.)

It is not certain whether little Miss Van de Velde has borrowed the cat's whisker to listen-in, or whether she is attempting to intercept her pet in the Dick Whittington bedtime story from 2FC.



Interesting Things Said Interestingly

MR. E. T. FISK, Managing Director of Amalgamated Wireless, at a dinner to the staff of the radio-electric works of the company:

"We are building up one of the vital secondary industries—an industry particularly adaptable to Australian conditions. The present prosperous conditions in Australia have been made possible by pioneers, who had gone through many experiences and vicissitudes in achieving their objects.

"First there came the pioneers of the primary industries, those interested in mining, agriculture, and pastoral pursuits. Another and later body of pioneers were those who essayed the establishment of the secondary industries. Of that body you here present are a part: Ten years ago, it would have been far easier for the company to have written out indent orders for wireless equipment than to have commenced wireless manufacture in Australia. Whilst difficulties innumerable have been encountered in the establishment of manufacturing wireless apparatus in Australia, I am pleased to say that they are achieving wonders. In every phase of Australian wireless activities, equipment designed and manufactured in Australia by Australians is being successfully utilised."

USING MORE ELECTRICITY.

DAVID SARNOFF (New York; vice-president, general manager, Radio Corporation of America):—

"The development of radio sets, which dispense with batteries and use house lighting current, together with the fact that radio keeps people at home, is resulting in larger consumption of electricity.

"The types of broadcast receivers which now operate completely from the lighting circuit, require up to 200 watts for their operation. The numerous power accessories on the market require from seven to fifty watts. It is reasonable to assume that within the next three to five years, by far

The increasing importance of the part played by radio in politics, industry, and our social life is well indicated by these extracts from the statements of world famous men.

The larger percentage of broadcast receivers will draw their local source of energy from the lighting socket. It is estimated that the average of such receivers will consume energy at the rate of eight kilowatt hours per month."

RADIO THE PEACEMAKER.

MR. J. RAMSAY MACDONALD, M.P., in a statement made after listening to the broadcasting of speeches of the Assembly of the League of Nations, said:—

"I doubt if any discovery of our time is more marvellous in its effects, or is destined to have more influence on the human mind than wireless. The broadcasting of Geneva has brought this mighty assembly of the world States into the home of thousands of our people and of millions like them in other parts of the world. It could not have meant so much to them as it did to me because I have been there, and, consequently, my ears awakened a responsive vision. But to be behind a curtain and to hear, even if seeing be forbidden, the business of such a gathering, must enliven interest and quicken intelligence. The League of Nations must be more real to every listener after that morning than ever it was before.

"How appropriate it has been that a landmark has been set in this marvellous development in human contact by the broadcasting of speeches delivered at an Assembly of the League of Nations. I see in it not only a promotion of peace and enlightenment, but a vast extension of the rare opportunities which the mass of mankind have of judging the qualities and the capacities of those set to rule over them."

JUDGING A PEOPLE BY RADIO.

IN an article in the "Radio Times," London, Sir Harry Lauder, the famous Scotch comedian, says:—

"Let us (the concert and radio programme managers) work smoothly together. The importance of maintaining British prestige demands it, because, in the days to come, if broadcasting maintains its present rate of development, other nations will judge us by what they hear as well as by what they see. We must, therefore, take care that what is sent out from our broadcast stations is the very best we have to offer. I think the time has already arrived when we should be making plans with this end in view. The time is coming when Paris, Rome, New York, and other parts of the world will regularly listen to the radio programmes of London and Daventry. When that time comes, the London station should have the finest orchestra in the British Isles, no matter what the cost.

"Time will prove the accuracy of my vision. Henceforth, British prestige among the nations will depend largely on how we develop our radio. Let us now make certain that the foundation shall be built on harmony among ourselves."

FREE RADIO FOR THE BLIND.

ARTHUR BURROWS (Geneva; manager of the International Radiophone Bureau, writing in "Popular Wireless," London), says:

"Broadcasting is actually changing the outlook in the lives of many persons. Its value to the blind is already so freely recognised that the German Government has not hesitated to pay for 2000 sets of receiving apparatus for the afflicted within its frontiers, and the recent British Governmental Committee has recommended exemption from licence fees for the sightless living in the British Isles. I hope that this proposal may be carried a stage further, and that all blind persons in Britain without the necessary means will sooner or later be given a suitable receiving set."

How long before we can tune in London?

THE most interesting radio news of the past few days has been the announcement that arrangements are being made to sound the Dominions as to their participation in a huge scheme by which nine 50 kilowatt stations will be established round the world so that by a proper system of co-ordination it will be possible to broadcast Dominions music to the Old World, and vice versa.

I must confess that although I look for this development of radio in the fullness of time, I am rather sceptical of its immediate fulfilment, since it depends on the Dominions agreeing to contribute their quota of the half-million or so it is estimated to cost. The actual commercial and governmental business in radio will be sufficiently catered for by the beam wireless that is already under submission, and which has been recently proved so successful in Canada. I do not see signs of such a mellow generosity in the Commonwealth Government, to take but one instance, as to lead me to hope that their rapid desire to allow the natives of the Orkneys to listen to an opera in Melbourne will lead them to spending 50,000 of the taxpayers' money to bring it about. As long as the fruition of the plan depends on governments, then, I fear that we shall have to wait a long time.

There is something very stimulating to the imagination in thinking that voices may one day echo round the world, but a few minutes' reflection will show that, after the first novelty wears off, there is a danger of boredom. Programmes from America and England are no whit better than those from Australia. It is remarkable how quickly one loses the "kick" of distance. I believe that if communication were to be established with Mars, every user of a crystal set would howl with fiendish and far-reaching effect for a few months; after that most of them would be tuning in to an earth station like 3LO or any other where a good, ordinary, well-transmitted programme was to be heard.

Among other things our 3LO correspondent discusses this week the experiments now being carried out by the British Broadcasting Corporation for the erection of relay stations throughout the Empire. It will not be long before we will be able to tune in 2LO as well as 3LO, he says

Continuous service round the world would necessitate a 24 hours' programme. This would bring complications in its train. One fact I see sticking out a mile. When such universal communication is an established fact, governments will move to take over all control of radio. It will mark the end of the private entrepreneur of the air.

3LO's Greatest Musical Venture.
On December 8th, 3LO will broad-

cast from its studio the most ambitious concert it has yet given. The University Symphony Orchestra will be transported to the studio, and in conjunction with the Collingwood Citizens' Band, it will perform under the baton of Professor Bernard Heinze.

The fact of outstanding importance about such concerts as this is that the great mass of people, not one per cent. of whom ever heard really good music well done prior to the advent of wireless, now are beginning to realise that "classical" does not necessarily mean "dull" in relation to music. Men and women whose ideal of the excellent in music used to be a melody from "High Jinks," now know that a tune can be just as merry and yet not so cloying as popular hurdy gurdy tunes. I have noticed the faces of the musically uneducated while they were listening to Raymond Ellis' excellent rendering of the "Largo al Factotum" from "The Barber of Seville" and have seen the surprised delight with which they betrayed the fact that they were actually enjoying a song from grand opera. Dr. Floyd has shown me letters from simple souls away outback to whom his organ playing has brought wondrous pleasure. There can be no doubt that the radio is going to prove an extraordinarily valuable agent in raising public taste.

The University Conservatorium recognises this, and wishes to go the step further that is logically compulsory, namely, to tell the listening people just why it does and should love certain music and despise certain other. To this end, Mr. J. Sutton Crow, on December 8th, has been engaged to give the first of a series of lunch-hour talks on music. His little lectures will give no one a pain in the head. They are designed for popular consumption and he will drive home each point he makes with a practical demonstration. When he tells his listeners to keep their ears open for certain effects in a symphony, some of the Conservatorium

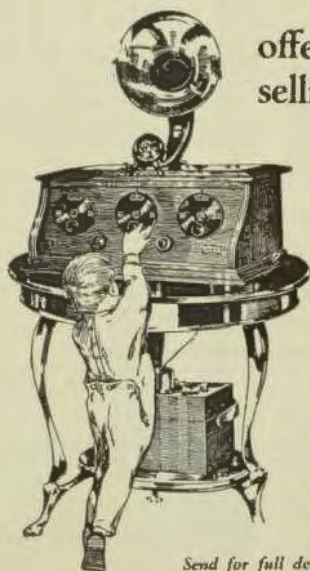


Mr. W. A. Priestly, "Musket," of the "Spartan Globe," who gave a realistic description of the Melbourne Cup for 3LO.

A Revolution in Radio

The MINGAY (UNIQUE) SUPER-FIVE

offering exclusive
selling features



The progressive radio merchandising proposition offered by the manufacturers of the well-known Mingay set is worth your investigation. It extends an opportunity extraordinary — one which must mean increased turnover — profits! And selling "Mingay" means satisfied enthusiastic customers. — goodwill! Write for the particulars of our agency proposition in your district.

Send for full details to

Mingay's Wireless Mfg. Ltd.

Alma Street, Darlington, N.S.W.

Telephone: Redfern 1124 Telegrams: "Mingaywire," Sydney

students will actually play the number he refers to, as an illustration of his point. These talks should prove very popular.

Children's Choirs to be Broadcast.

Few things are more inspiring than the voices of children raised in song. The Cathedral Choir's golden voices are always eagerly listened to each evening. B.O. is going to try an experiment in children's community singing on the 10th of December. The Northcote Central State School is proud of its children's voices; proud, too, of its boy's band. Both will be heard on the date mentioned. Everyone knows Mr. F. C. Johnson, the conductor of the Collingwood Citizens' Band. Mr. Johnson will conduct the boys. It would not be surprising if the success of this band led to the establishment of many others. Boys love to make a row, and when the row can be forced through brass and toned down to resemble music, their cup of happiness overflows. There is no reason why their "savage breasts" should not be soothed by this means. The Toorak Central School, jealous of the reputation of the south side of the river, will also be heard in community song, though they lack the extra entertainment of a band. Both programmes will take only half an hour, commencing at 8.

A Perfect Instrument.

The other day I joined some friends in a private room at Allan's to hear a thing they called a super-phonie Sonora. I had previously heard them both talking with bated breath, though, I confess, I never knew exactly when a breath is sufficiently bated. I overheard adjectives flying about—"marvellous," "unbelievable," and so on, so I begged to be let in on the joke. Solemnly, almost in procession, they led the way to where a big, overgrown gramophone stood. It is not a gramophone, but it is what every good gramophone hopes to be when it dies. It is an angel gramophone. There is no sound of a needle; the volume is tremendous, and yet it can be "stopped down" to a whisper; its tone is all that is claimed.



The Bayer Sub-panel Four Valve Receiver

A receiver embodying a new principle in construction, designed for the listener-in requiring a neat set, selectivity, compactness, and simplicity.

THE receiver to be described this week is a slight departure from the usual back of panel layout. Almost every set described in "Wireless Weekly" has been constructed on the lines of a baseboard for the component parts. This certainly is a most satisfactory arrangement, but the writer has noticed recently that quite a number of manufacturers of high grade sets employ the sub-panel method of construction and wiring. This sub-panel method of wiring, besides looking very neat, lends itself admirably to short leads so necessary in obtaining maximum efficiency. Again, the simplicity of construction is apparent and quite a fair amount of space is also saved. Looking at the back of panel view of the Bayer, the audio transformers are seen mounted beneath the sub-panel where most of the wiring is kept, as all the connections for the valve sockets and transformers are underneath this sub-panel, thus ensuring remarkable neatness, which will appeal to most constructors.

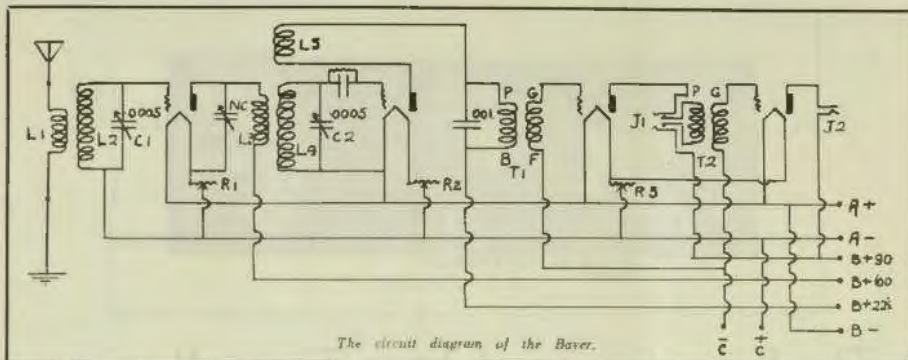
A glance at the circuit diagram will indicate a strong similarity between the circuit employed in this receiver and that usually employed in the Browning Drake receiver. Comprising one stage of radio frequency, detector and two stages of audio frequency, the Bayer is ideally suited

for bringing in the distant stations at loud speaker strength. It will be gathered from the circuit that the transformer method of radio frequency coupling is used, with the reaction coupled to the secondary of this transformer. As only a small number of turns in the primary coil of this radio frequency transformer and also of the aerial coupling coil is used, selectivity, a most essential feature in radio receivers to-day, is thus assured. The radio frequency is stabilised by a small Midget variable condenser connected from the plate of the first valve to the filament minus. As a further assistance in stabilising, the radio frequency valve has a separate rheostat as well as a separate "B" battery tapping. Many receivers of the neutralised radio frequency type are difficult to neutralise, mainly on account of too much plate voltage being applied on the plate of the radio frequency valve. This difficulty is overcome in this receiver as already indicated.

Two stages of audio frequency are added in order that excellent loud speaker strength will result on all stations, provision being made to plug in to one stage only if desired. The well-known transformer coupled method of audio frequency is maintained and a "C" battery is in the

circuit, thereby producing good quality reception as well as saving the drain on the "B" battery.

A few words concerning the parts used will not be out of place here. On account of its softness Radion has been used, as there are four one-inch holes required for the Benjamin sub-panel sockets. These sockets are of the anti-microphonic type, generally known amongst amateurs as "punching ball" sockets, as the valve can be punched about in the socket without any microphonic noises being heard on the speaker or headphones. The Commodore condensers are a very high grade brass plate S.L.F. job, and the Atlas filament controls are of the carbon type, yet do not pack. The Bayer coils are a product of the Metropolitan Electric Company and are very well made. L1 and L2 are coupled together, L1, the primary, being fitted inside the secondary L2 in such a manner that the primary is slightly variable in relation to the secondary. This is an advantage, but once the position has been set it need not be touched again. The radio frequency transformer consists of L3, L4 and L5, L3 being situated in a similar position as the primary of the aerial coils. L5 the reaction, is mounted on a rotor which allows a variation of ninety degrees to the secondary, L4. This



The circuit diagram of the Bayer.

can be seen in the photograph of the back of panel.

The Midget condenser is also seen in this view, there being many different types on the market to choose from. The Benjamin brackets are required for holding the sub-panel, and are also attached to the front panel. They are indispensable in all sub-panel receivers. All of the parts itemised may be purchased from any of the advertisers in "Wireless Weekly." The cabinet seen in the top photograph is a product of Grose & Daniell, the sides and top being of glass, and the corner pillars of nickel plated brass, the rest of the material being of highly polished maple presents a very nice appearance.

Construction.

Gather all your components together, and start off building this receiver. Firstly, mark off your panel consulting the panel layout for this purpose. Use the template provided with the condensers to locate the fixing holes for these particular components. The Atlas filament controls are one whole fixing, thus saving time in mounting. The same applies to the inter-stage transformer. Now plot the position for the Benjamin brackets. These will be seen in the photograph, one on each end of the panel, and below the level of the variable condenser. Mount your panel components, noting that the condensers do not foul the position of the Benjamin brackets. Don't mount the brackets just yet.

Attention is now to be paid to the sub-panel, on which is mounted your

four Benjamin sockets, two transformers, Midget condenser and terminals. No sub-panel diagram is given here, as this will not be required. The aerial coupling coils, L1 and L2, are mounted at the one

transformer, T1, followed by the first audio valve socket, then transformer T2 at right angles to T1, and finally the second audio valve socket. Arranged right at the back, within half an inch from the edge, are the terminals. The back of panel view shows this sub-panel layout clearly, excepting the fact that the knob of the Midget condenser hides the detector valve socket, although the four terminal screws of this socket are clearly seen.

Looking at this back of panel view, the terminal arrangement reading from left to right is as follows: B positive, 90 volts for the audio stages, B positive, 22 volts for the detector stage, then B positive 60 volts for the radio stages. Next B minus, then A positive, A negative, C positive and C negative. At the extreme right end is the earth and aerial terminals, ten terminals in all. The best way to locate the positions of the different sub-panel components is to lay them temporarily on the sub-panel, thus determining the most suitable layout.

The Benjamin sockets come to you equipped with a template, which is used to determine the exact positions of the four screws required for each socket, also the position of the large one inch hole which allows the top portion of the socket to protrude through the sub-panel. To remove the socket from the cardboard template it is necessary to unscrew a screw on the under side of the socket. This will leave the socket in two portions. One-inch holes are necessary for each socket, and they may

SHOPPING LIST FOR THE BAYER.

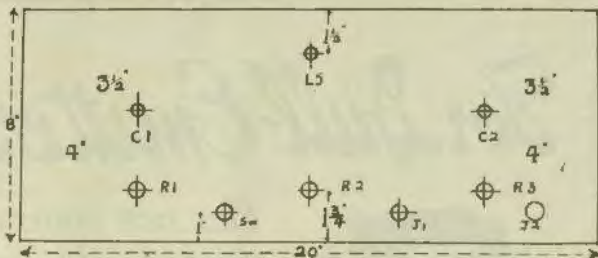
- 1 Radion panel, 20 x 8 x 3/16 inches.
- 1 Radion sub-panel, 18 x 4 x 1/16 inches.
- 2 .0005 Commodore S.L.F. condensers.
- 3 Clarke's Atlas filament controls.
- 1 Emmeo D.C. jack.
- 1 Emmeo S.C. jack.
- 1 Emmeo battery switch.
- 1 Set of Radiokes Bayer coils.
- 4 Benjamin sub-panel sockets.
- 2 Jefferson 41 transformers.
- 1 Midget condenser.
- 10 Engraved terminals.
- 1 Pair of Benjamin brackets.
- 1 Wetless .00025 grid condenser and leak.
- 1 .001 Wetless condenser.

end, next to this again is located the radio frequency valve socket, next the detector socket about three-quarters of an inch away. At the back of this socket is placed the Midget condenser, next comes the first audio

be cut out with an extension bit or with a fretsaw. An alternative is to drill the largest sized hole possible and with a half round file bring the hole up to the correct dimensions. The position of the Midget condenser is behind the detector valve socket. Don't forget to allow the required room for the Benjamin brackets and to drill the necessary holes for fixing these brackets to the sub-panel. The sub-panel should overlap about one eighth of an inch over the Benjamin brackets, but measure this for yourself, noting that the sub-panel when mounted will not crush against the Bayer transformer. Mount the required parts on this sub-panel, paying particular attention to the valve sockets.

Wiring.

Everything is now ready for wiring. First of all, join one side of each of the filament controls together, then one side of the switch to this common wire. Next link to this common wire moving plates of the aerial condenser C1. Then join the fixed plates of the radio condenser C2 to the top of the secondary of the Bayer transformer, the bottom of this transformer is to be connected to the moving plates of this same condenser, C2. This is about



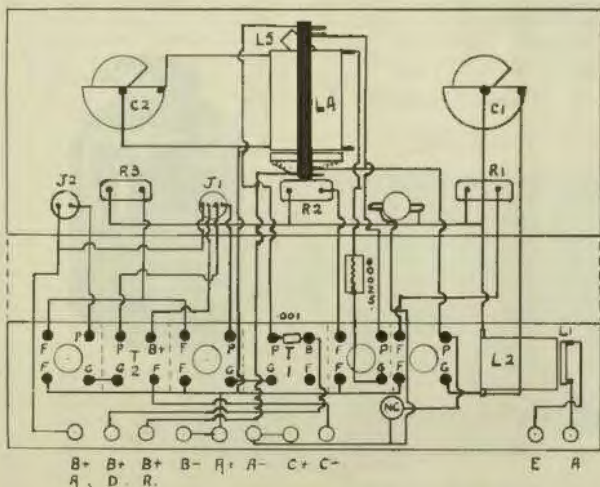
The drilling template for the main panel slots.

as far as you can go with the main panel wiring for the moment, therefore turn your attention to the sub-panel, which, at this stage, should not be connected to the main panel. Proceed with the wiring of this sub-panel, starting off at the audio end first and working up to the radio end, completing as much of the wiring as is possible before finally assembling by means of the Benjamin brackets to the main panel. The wiring diagram is of great assistance to you in this matter, but for the sake of clearness the audio transformers are not shown at right angles, and the grid leak and condenser is out of

position. The Bayer transformer is equipped with soldering lugs which can be traced to the correct coils. For example, the two top lugs are for connections to the reaction coil L5, the third lug from the top is for the top of the secondary (which is taken to the fixed plates of condenser C2), the two bottom lugs are for the primary coil L3, whereas the third lug from the bottom is for the filament positive or grid return of the detector valve. There is no mistaking the correct soldering lugs of the aerial and grid coils of the first valve.

It will be, perhaps, advisable to employ spaghetti covered wire for this sub-panel work, as this will prevent any possibility of short-circuiting the various leads. Varnished cambric spaghetti and No. 20 bare wire may be used, if desired, as in this instance nothing is gained by right angled bends as is so with the standard baseboard layout. Compare the back of panel diagram with the circuit diagram as you proceed, thereby checking off as you are working. A fair amount of soldering is required, particularly with the Benjamin sockets, so employ a good, clean, hot iron and some resin cored solder for this purpose.

Soldering is quite an easy matter, but the average person is inclined to consider a joint is soldered when it is only stuck together. Let your iron rest just long enough to let the solder run in, and do not handle the soldered joints until it has set properly. Blowing on a new joint assists to cool it quickly. Try it. Again, when soldering, do not get your fingers too close to the prescriptive joint as the heat travels along



The back of panel wiring diagram, showing sub-panel connections.

For Dull-Emitter Valves



AMPLION CARBONCEL No. 222
A heavy duty low tension battery for filament lighting.

Voltage, 1.45. Capacity, 500 a.h. complete with sal ammoniac. It is only £2/15/-

This new battery gives uniform voltage and possesses remarkable :: "staying power" ::

AMPLION presents the first air-depolarising primary battery to really successfully replace the expensive accumulator. Further it is actually an improvement, especially on the independable "dry" battery.

THE AMPLION CARBONCEL is constructed to an exclusive formula which enables it to deliver steady, level voltage over a remarkably long period.

STAYING POWER
is a conspicuous characteristic. It gives 12 to 18 months service on a multi-valve set on its first charge.

RECHARGING
may be done at home in a few minutes by simply adding a little sal ammoniac, and new zinc.

TABLE SHOWING THE VOLTS MAINTAINED AT VARIOUS RATES OF DISCHARGE.

| Type | Discharge Rates. | | | | |
|------|------------------|---------|---------|---------|---------|
| | .1 amp. | .3 amp. | .5 amp. | 1 amp. | 1 amp. |
| 222 | | 1.20 v. | 1.15 v. | 1.10 v. | 0.96 v. |
| 229 | 1.1 v. | 1.05 v. | 1.00 v. | | |

The above figures relate to intermittent or semi-continuous discharge only, for 3 to 5 hour periods.

Ask for Amplion Carboncels by name and number.

AT ALL DEALERS

Sole Agents for Asia

Amplion (Australasia) Limited

56 Margaret Street, Sydney

A few Territories open for Agents.



AMPLION CARBONCEL No. 229
Another highly efficient low tension battery for filament lighting. Voltage, 1.45. Capacity, 300 amp. hours. Price (complete with sal ammoniac) £1/12/6

the busbar very quickly, frequently resulting in a nasty burn. Always grip the busbar with a pair of pliers and hold steadily while soldering.

Perhaps if the uninitiated were to tin each respective joint before soldering it would help matters. To each of the lugs of the Benjamin sockets apply a small portion of solder with a hot iron, then, when a joint is being made, all that is necessary is to apply a similar portion of solder to the end of your busbar, then laying the two tinned ends together, and applying heat with the iron only. This will ensure a thoroughly satisfactory joint. Wipe off all residue of resin with a damp rag and a neat clean joint is the result.

When you have completed the wiring of the sub-panel as far as you can go, permanently attach it to the main panel by means of the brackets, and finish off the wiring. When this is done the receiver is now ready for testing.

Testing.

If you are satisfied that your wiring is absolutely O.K., insert the four valves in their respective sockets, and connect up your "A," "B," and "C" batteries. A four and a half volt grid bias battery will be ample provided not more than ninety volts is used on the audio valve plates. The "A" battery depends on the particular valves used. For the standard 201A type, a 6 volt accumulator will be found necessary. This 6 volt accumulator is also required for the

True Blues, Phillips C509 and the Mullard types. On the other hand, the Phillips B406, D.V.3's, and other similar valves only require a 4 volt accumulator. Cossor Point One valves need only a two volt accumulator. Still, carefully read any literature which comes with valves to determine the correct size of "A" battery, as dire results are frequently the consequences of employing an accumulator which is not of the correct voltage. The "B" battery voltages are already specified in a previous portion of this article.

Connect your aerial and earth to their respective terminals, and plug in your headphones in the first jack, turn up your valves and listen in. Keep your reaction coil L5 at zero coupling, that is, with the coil at right angles to the secondary. It may happen that the station you tune-in will come in with a very shrill whistle. Overcome this by adjusting the Midget condenser until the whistle disappears, just disappears and no more, and good, clear reception should take place. Locate a station of low wavelength while you are adjusting this Midget condenser. Then, after clearing up the whistle, rotate your dials through the different stations, noting of course all the time that clear reception results. If this balancing condenser is adjusted too much, it will decrease the signal strength unnecessarily. Once adjusted, this need not be touched any further.

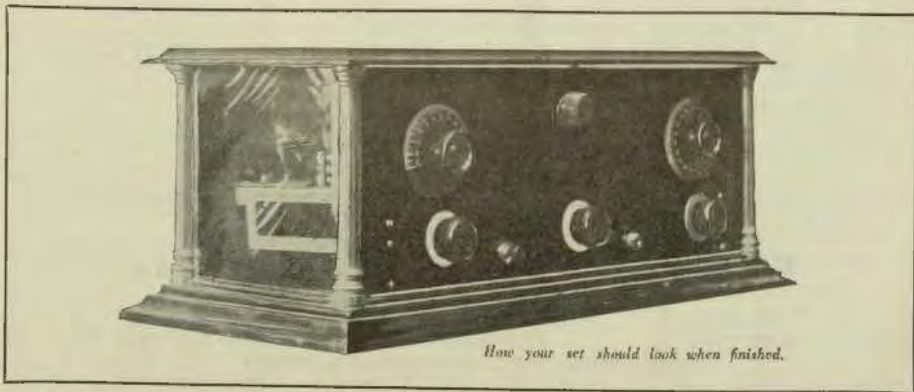
Both dials should read almost cor-

respondingly on the different stations. If the Inter-state station is difficult to clear up a slight adjustment of the filament control, particularly the detector valve, will help greatly. On some stations, too, the radio frequency filament control plays a most important part. The reaction coil L5 really acts as a volume control, but balance this up carefully with the radio frequency rheostat. Spend about an hour or so familiarising yourself with your new receiver, note the effect of the different controls, tune in all the local stations first, and later on note your results on the long distance stuff. A short aerial is most suitable for this receiver, don't exceed fifty feet over all, and remember a short earth lead is a distinct advantage.

You will be proud of the Bayer receiver, the results will please you immensely. The quality of tone is splendid. In actual operation, tested at Marriekville, this receiver proved a huge success. Inter-state stations were received at good loud speaker strength, even on a 25 foot aerial, but the fifty foot aerial yielded louder results with an equal amount of selectivity.

Next Week.

It is proposed next week to describe the details necessary to construct a split secondary two-valve receiver. This method allows interesting reception with extraordinary selectivity from long distance stations.



How your set should look when finished.

There's a size in Burgess for every Cabinet.

The New Wondertone IV. Home Construction Receiver

is the result of exhaustive experiments to place before the Australian public a receiver that does not require any electrical knowledge whatever to build. With our new and simple building instructions a boy of 7 can build it. Furthermore, the circuit employed is especially designed for the combination of Simplicity of Control—Distance—Volume—Clarity and Selectivity. No jamming of stations with the new and wonderful Wondertone HCIV., and no special tools are required, only a screw-driver, pliers. The connecting wires are all cut and prepared to the required lengths and by following the instructions it is impossible to make a mistake.



| | £ s. d. |
|--|---------|
| Wondertone HC4 parts ready to assemble with 60 ampere hour accumulator | 19 17 6 |
| Wondertone HC4 parts ready to assemble with dry cell "A" Battery | 17 12 6 |

The accessories include everything necessary for a complete receiver such as Stained Maple Cabinet, Bakelite Panel drilled and engraved, heavy duty "B" Battery, Accumulator or dry "A" Battery, "C" Battery, "B" Battery Voltmeter, Hydrometer (for 6 volt accumulator), Headphones, Battery Connecting cable and Aerial equipment.

Send for illustrated leaflet.

NEW ACCESSORY PRICE LIST R7 NOW AVAILABLE
POSTED FREE UPON REQUEST

MECCANO ENGINEERING PARTS FOR BOYS. PRICE LIST UPON
REQUEST.

Wiles Wonderful Wireless

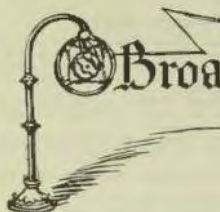
Electrical Stores:

BRANCH:
23 PITT ST.

PITT & GOULBURN STS.,
SYDNEY

BRANCH:
384 PITT ST.

MAIL ORDER DEPT., 60 GOULBURN STREET.



Broadcasting Programmes

for the Coming Week.



Friday, Dec. 3

2 FC

EARLY MORNING SESSION.

- 7.—The Chimes of "Big Ben."
- 7.5.—Music from the Studio.
- 7.10.—Official Weather Forecast; Commercial News.
- 7.25.—Shipping Intelligence; Rainfall, Temperatures; Astronomical Memoranda.
- 7.25.—Investment Market, Mining Shares Markets, Metal quotations.
- 7.35.—Wool Sales, Breadstuffs Markets, Intermediate Markets, Produce Markets.
- 7.45.—"Sydney Morning Herald" News Service.
- 8.—"Big Ben." "Chorus" Talk by Mr. J. K. Purcell.
- 9.15.—Close down.

MORNING SESSION.

- 9.15.—The Chimes of 2FC and Announcements.
- 9.25.—Music from the Studio.
- 9.30.—Marching Music for the School Children.
- 9.45.—Music from the Studio.
- 10.—Late "Sydney Morning Herald" News Service.
- 10.15.—Music from the Studio.
- 10.45.—A Morning Reading.
- 11.—The Chimes of "Big Ben." Australian Press Association and Reuter's Cable Service.
- 11.30.—Music from the Studio.
- 11.35.—Marching Music for the School Children.
- 11.55.—Close down.

MIDDAY SESSION.

- 12.—"Big Ben" and Announcements.
- 12.5.—Stock Exchange. First Call.
- 12.10.—Music from the Studio.
- 12.30.—Marching Music for school children.
- 12.40.—Music from Studio.
- 12.45.—From Farmer's Tea Rooms; The Oak Hall Trio.
- 12.50.—Rugby Wireless News.
- 12.55.—Miss Thelma Mitchell, soprano.
- 1.—"Big Ben." Weather information.
- 1.2.—"Evening News" midday news service. Producers' Distributing Report.
- 1.3.—From Farmer's Tea Rooms; The Oak Hall Trio.
- 1.25.—Stock Exchange—Second Call.
- 1.30.—Marching Music for the School Children.
- 1.40.—Miss Thelma Mitchell, soprano.
- 1.45.—Music from the Studio.
- 1.50.—From Farmer's Oak Hall; The Oak Hall Trio.
- 5.—The Chimes of "Big Ben." Close down.
- 2.30.—The Chimes of 2FC and Announcements.
- 2.45.—Broadcast from the Haymarket Theatre, items by the Operatic Orchestra, under the baton of Mr. Stanley Power.
- 2.20.—Talk on "Country Women's Week."

AFTERNOON SESSION.

- 3.30.—Marching Music for the School Children.
- 3.40.—Miss Nellie Judson, soprano.
- 3.45.—From Farmer's Tea Rooms; The Oak Hall Trio.
- 3.55.—Music from the Studio.
- 4.—Miss Jeannette Rooney, contralto.
- 4.5.—Musical talk, by Mr. Fwars Chappie.
- 4.15.—Music from the Studio.
- 4.20.—Miss Nellie Judson, soprano.
- 4.25.—From Farmer's Oak Hall; The Oak Hall Trio.
- 4.35.—Music from the Studio.
- 4.40.—Miss Jeannette Rooney, contralto.
- 4.45.—Stock Exchange. Third Call.
- 4.46.—Close down.

Farmer's Service, Sydney, call sign 2FC, wave length 442 metres.
 Broadcasters Ltd., Sydney, call sign 2BL, wave length 355 metres.
 Trades Hall Broadcasting Station, call sign, 2KY, wavelength, 350 metres.

Theosophical Broadcasting Service, call sign, 2GB, wavelength, 316 metres.
 Dargin Electric Coy. Ltd., Sydney, call sign, 2BE, wavelength, 314 metres.

Broadcasting Co. of Australia, Melbourne, call sign 31G, wave length 371 metres.

Associated Radio Co., Melbourne, call sign 2AH, wave length 354 metres.

Queensland Radio Service, Brisbane, call sign 4QQ, wave length 355 metres.

Central Broadcasters Ltd., Adelaide, call sign 2CL, wave length 395 metres.

Radio Broadcasting Co. of N.Z., Auckland, call sign 1YA, wave length 450 metres.

Westralia Farmer's, Perth, call sign 6WF, wave length 1250 metres.

Tasmanian Broadcasting Pty. Ltd., Hobart, call sign 7ZL, wave length, 535 metres.

EARLY EVENING SESSION.

- 5.45.—The Chimes of 2FC.
- 5.50.—The "Hello Man" Talk to the children.
- 6.30.—A Story for the Older Children.
- 6.45.—Musical items from Farmer's Oak Hall.
- 7.—From the Studio; Lost minute sporting information, by the 2FC Racing Commissioner.
- 7.15.—"Evening News" late news service; weather information.
- 7.30.—Daily's Market Reports (wool, wheat, stock), fruit and vegetable markets.
- 7.40.—A talk on next week's film releases.

NIGHT SESSION.

- 7.55.—Announcements.
- 8.—"Big Ben." Broadcast from the Lyceum Theatre, items by the Theatre Orchestra, under the baton of Mr. Emanuel Aarun.
- 8.20.—From the Studio; Mr. Jack Lumadaine, entertainer.
- 8.30.—The Sydney Instrumental Trio, consisting of Mr. Lionel Lawson violinist, Mr.

Gladstone Bell cellist, Mr. Lindley Evans pianist.

- 9.10.—Miss Mabel Batchelor, soprano.
- 9.25.—Mr. Gladstone Bell, solo items.
- 9.45.—Mr. Alfred Cunningham, baritone, "Where ere you walk" (Handel); (b), "The Crown of the Year" (Martin).
- 9.54.—Piano solo, by Mr. Lindley Evans.
- 9.5.—A Talk by Dr. T. J. Henry, on "Barot" Life in Japan.
- 9.10.—Miss Mabel Batchelor, soprano.
- 9.25.—Mr. Gladstone Bell, solo items.
- 9.35.—Mr. Jack Lumadaine, entertainer.
- 9.45.—Items by the Sydney Instrumental Trio.
- 9.55.—Mr. Alfred Cunningham, baritone, "Programme from 'Pagliacci'" (Leoncavallo); (b), "Sonne the Cellarer" (Hattun).
- 10.5.—Broadcast from the Lyceum Theatre, further items by the orchestra, under the direction of Mr. Emanuel Aarun, forming a background to the description of the new films, from the projection room of Union House, given by Mr. S. H. Rowden.
- 10.30.—From the Westworth Hotel, Sydney, items by the Westworth New Symphonic Dance Orchestra, under the baton of Mr. Sydney Simpson.
- 11.—"Big Ben" and Announcements.
- Westworth New Symphonic Dance Orchestra.
- 12.—National Anthem. Close down.

2 BL

EARLY MORNING SESSION.

- 7.10.—Physical Training and Health Exercises.
- 7.25.—Health Hint.
- 7.30.—Physical Training and Health Exercises.
- 7.45.—Weather Forecast.
- 7.47.—Sporting Information.
- 7.51.—Broadcasters' Special News Service.
- 8.—G.P.O. Clock and Chimes. Close down.

MORNING SESSION.

- 10.—G.P.O. Clock and Chimes; Musical programme from the studio.
- 10.30.—Broadcasters Direct News service from Rugby.
- 10.50.—"Daily Telegraph" News Service.
- 10.57.—Weather Report and Forecast by courtesy of Govt. Meteorologist.
- 11.—G.P.O. Clock and Chimes.
- 11.1.—Musical programme from the studio.
- 11.15.—Market Reports.
- 11.20.—London Metal Quotations.
- 11.24.—Broadcasters News Service; Items in call by wireless, Shipping, Weather, and Rainfall, Mails.
- 11.34.—Daily Telegraph News Service.
- 11.40.—Women's Section, conducted by Mrs. Jordan. Social notes.
- 11.50.—Mrs. Jordan replies to correspondents.
- 12.—G.P.O. Clock and Chimes; talk, "Summer Drinks," by Mrs. Jordan.
- 12.25.—Sydney Stock Exchange Calls.
- 12.30.—News from the Sun.
- 12.45.—Miller's Instrumental Quartette, under the direction of Caryl Castling.
- 1.30.—Sydney Stock Exchange calls.
- 1.35.—Latest Sporting Information and race results on race days.
- 1.46.—"Sun" Newspaper's News Service.
- 5.—G.P.O. Clock. Close down.

AFTERNOON SESSION.

- Racing Information broadcast by courtesy of "The Sun."
- 2.—G.P.O. Clock and Chimes; Weather Report and Forecast by courtesy of Mr. C. J. Marx, Govt. Meteorologist.
- 3.5.—Social notes from "The Sun."
- 3.10.—"Sun" Newspaper's News Service.

PHILCO—"Ask the man who has one."

- 4.15—Civil Service Restaurant Trio, under the direction of Miss De Curcy Bremer.
- 5.30—"Sun" Newspapers News Service.
- 4.45—Musical Programme from the Studio.
- 4.45—G.P.O. Clock and Chimes; Civil Service Stores Trio.
- 4.15—Serial Story.
- 4.45—Musical programme from the Studio.
- 4.45—Producers' Distributing Society's Vegetable and Fruit Markets Report.
- 4.50—Shipping information when available.
- 4.52—Day's racing results when available.
- 4.55—News from "The Sun."
- 4.58—Resume of night's programme.
- 5.—G.P.O. Clock and Chimes; Close down.

EARLY EVENING SESSION.

- 5.45—G.P.O. Clock and Chimes.
- 5.45—The pupils of Miss Monica Scully will entertain the ladies.
- 6.40—Pavilion Dinner Orchestra, under the direction of Mr. C. W. Morrison.
- Special Country Session.
- 7.—G.P.O. Clock and Chimes; Australian Mercantile Land and Finance Coa Bank, Wool and Hide Report.
- 7.5—Weather Report and Forecast, by courtesy of Mr. C. J. Mares, Government Meteorologist.
- 7.9—Stock Exchange Reports.
- 7.14—Producers' Distributing Society's Vegetable and Market Fruit Report.
- 7.17—Fruit and Vegetable Report ("Sun").
- 7.20—Grain and Fodder Report ("Sun").
- 7.26—Daily Produce Report ("Sun").
- 7.30—Country news from "Sun."

NIGHT SESSION.

- 8.—G.P.O. Clock and Chimes; Broadcasters' Tonal House.
- 8.3—Miss Grace Saville, contralto.
- 8.10—Mr. Gilbert Johnson, basso.
- 8.17—Miss Camille Adler, dramatic soprano.
- 8.24—Mr. Billy Dick, songs at the piano.
- 8.34—Talk, "Commencing year alive set."
- 8.44—Broadcasters' Trio.
- 8.52—Resume of following day's programme.
- Weather Report and Forecast by courtesy of Mr. C. J. Mares, Govt. Meteorologist.
- 9.—G.P.O. Clock and Chimes.
- 9.1—Mr. Roger Jones, baritone.
- 9.8—Broadcasters' Trio.
- 9.15—Mr. Gilbert Johnson.
- 9.22—Miss Camille Adler.
- 9.29—Interval.
- 9.31—Headliners' Trio.
- 9.41—Senior Sporting Expert of the "Sun" will talk on "The Prospects of Saturday's Racing."
- 10.—G.P.O. Clock and Chimes.
- 10.1—Miss Grace Saville.
- 10.8—Mr. Roger Jones.
- 10.15—Al Harnett and Ambassadors Dance Band until midnight. "Sun" News Reports during intervals between dances.
- 10.—G.P.O. Clock and Chimes; National Anthem.

3LO

MIDDAY SESSION.

- 12—Time Signal, British Official Wireless News from Rugby. Reuter's and the Australian Press Association cables. "Argus" and "Herald" news service.
- 12.45—Stock Exchange information.
- 12.50—Meteorological information. Weather forecasts for Victoria, Tasmania, South Australia, and New South Wales. Ocean forecast.
- 1—Time Signal.

EARLY AFTERNOON SESSION.

- 1.1—Studio Orchestra.
- 1.19—Maizie Dawson, soprano.
- 1.17—"At a Bush Picnic." Music, story and verse, grave and gay, by poets and writers of Australia, Mr. V. Upton-Brown.
- 1.48—Studio Orchestra.
- 1.47—Maizie Dawson, soprano.
- 1.41—Studio Orchestra.
- 2—Close down.

AFTERNOON SESSION:

- 2—Studio Orchestra.
- 2.10—"Au Fait," of Messrs. Buckley & Nunn Ltd.; Fashion Talk.
- 2.25—Dorothy Resburgh, violin.
- 2.35—Studio Orchestra.
- 3.—"St. Alban's" Quartet.
- 3.50—Bruce Green, Pantomime Dame, selected.
- 3.57—Studio Orchestra.
- 4.7—Mrs. M. Callaway Mahood, Art in Modern Life. "The Kitchen."
- 4.22—"St. Alban's" Quartet.
- 4.30—Tasma Tiernan, tello.
- 4.35—Studio Orchestra.
- 4.45—"Herald" News Service; Stock Exchange information.
- 5—Close down.

EVENING SESSION.

- 5.45—Children's Hour. Answers to letters and birthday greetings.
- 6.—Bess Beace will whistle for the children.
- 6.7—"Billy Bunny"; Story for the Littlest ones.
- 6.17—Bess Beace will give some bird and animal selections.
- 6.24—Billy Bunny.
- 6.40—"Argus" and "Herald" News Service; Reuter's and the Australian Press Association cables.
- 6.43—Weather Synopsis; Shipping Movements.
- 6.57—Stock Exchange Information.
- 7.3—Fish Market reports by J. K. Borrett Ltd.
- 7.5—River Reports.
- 7.6—Market Reports by the Victorian Producers Co-operative Co. Ltd.; Haymarket Sheep Sales; poultry, grain, chaff, hay, straw, jute, dairy produce, potatoes and onions. Market prices of oranges, and lemons, supplied by the Victorian Central Citrus Association Pty. Ltd.

NIGHT SESSION.

- 7.30—Under the auspices of the Department of Agriculture, Mr. J. T. Ramos, Potato Expert, "Intelligence of Potatoes."
- 7.40—Miss Maizie Dawson, now appearing with the "Tell Me More" Company, will speak to you from her dressing-room, by permission of J. G. Williamson Ltd.
- 8.—Studio Orchestra.
- 8.16—"Faust" (Grand), Elsie Davis, Malcolm Sempie, and Les Edwards. "Cavatina," Salvo Dimita, Act 3, by Malcolm Sempie. "Scots o' Arie" (Marcherita), Violet Saper; Act 3, Elsie Davis. "Cavatina" (Valentino), Act 2 Scene 4, Les Edwards. Trio & Finale Act 5, Mephistophilis Margherita and Faust, Les Edwards, Elsie Davis, and Malcolm Sempie. Orchestral numbers by the Studio Orchestra.
- 9.19—Mr. E. H. C. Taylor, "School Life and School Sport."
- 9.30—Super-Phonic Sonora, orchestral, "Blue Danube Waltz" (Strauss), by De Groot and Pieradilly Orchestra.
- 9.45—Collingwood Citizens' Band, Mr. F. C. Johnson, conductor.
- 9.45—"Cardigan," Mr. H. A. Wolfe, sporting editor of the "Argus" and the "Australasian"; "Walter Platte and Other Races."
- 9.55—Madame Evelyn Ashley, soprano.
- 10.2—Collingwood Citizens' Band.
- 10.10—Mr. H. K. Lovs, Technical Talk, "A" and "B" Batteries.
- 10.15—Burgert Hassel and Elsie Day, in harmony.
- 10.25—Collingwood Citizens' Band.
- 10.33—"Argus" News Service, British Official Wireless News; Meteorological Information; Announcements; Road Notes, supplied by the Royal Automobile Club of Victoria.
- 10.47—Madame Evelyn Ashley, soprano.
- 10.54—Collingwood Citizens' Band.
- 11.—Our Great Thought for To-night: "Let us be of good cheer, remembering that the misfortunes hardest to bear are those which never happen." Local recital.
- 11.1—3LO Melody Masters.
- 11.40—God Save the King.

3AR

MORNING SESSION.

- 11.30—British Official Wireless Press, received from Rugby Super Wireless Station, England, by 3AR's Operator. Express Train information. "Ade" News Bulletin, exclusive to 3AR.
- 12—Time Signal Chime from G.P.O. Studio.
- Barometer Readings, 1st Weather Forecast. Events of the day.
- 12.5—Musical selections from Hoyt's De-Luxe, Buncie Street. Mr. T. L. Campbell at the Wurlitzer.
- 12.30—Stock Exchange News, Market Reports.
- 12.40—Musical Selections.
- 12.55—Shipping Movements, Mail Notices.
- 1—Close down.

AFTERNOON SESSION.

- 2.30—Hoyt's Premier Orchestra, Cecil W. Fraser, conductor.
- 3—Musical selections from Studio, by the Ron Brearley Quartette.
- 4—Time Signal Chime, 2nd Weather Forecast. Miss Emily Noble, cooking lecture, by courtesy of the Australian Gas Company. Hoyt's Premier Orchestra.
- 4.30—Mr. R. Stanley Haines, gardening chat to children.
- 4.55—Evening Amusement Guide.
- 5—Time Signal Chime, Studio Barometer Readings, Close down.

EARLY EVENING SESSION.

- 6.45—Children's Corner, by "Uncle Bud."

EVENING SESSION.

- 7.45—British Official Wireless Press, Studio Barometer Readings, Racing Anticipations and Sporting Events reviewed, by "Field Glass."
- 8—Time signal chime from G.P.O. Mr. Len. Creighton, baritone.
- 8.7—Miss Grace Douglas, Mus. Bac, pianiste.
- 8.12—Miss Ethel Ross, mezzo.
- 8.19—Miss Olive Dardwell, electricianist.
- 8.24—Miss Eunice Gregory, violiniste.
- 8.31—Mr. R. Stanley Haines will give his Weekly Gardening Talk.
- 8.46—Miss Flora Berrett, soprano.
- 8.51—Humorous Sketch.
- 9.8—Mr. Len. Creighton, baritone.
- 9.15—Miss Grace Douglas, Mus. Bac, pianiste.
- 9.23—Miss Ethel Ross, mezzo.
- 9.30.3—Mr. F. Thompson, M.A., LL.B., Literary Talk—Rudyard Kipling.
- 9.45—Miss Eunice Gregory, violiniste.
- 9.52—Miss Olive Dardwell, humorous recital.
- 10—Time Signal Chime from G.P.O.
- 10.1—Mr. George Newham, tenor.
- 10.8—Miss Flora Berrett, soprano.
- 10.15—Luggett's Hallroom Orchestra, relayed from Greville Hall, under the leadership of Mr. Harry Nangle.
- 11—Time Signal Chime, Close down.

4QG

MIDDAY SESSION.

- 12.45—Time in.
- 12.56—Time Signal.
- 1.—Market reports; weather information; "The Daily Mail" news; "The Daily Standard" news.
- 1.50—From Hotel Carlton: Lunch music from the lounge, Hotel Carlton, played by Hotel Carlton Symphony Orchestra.
- 2—Close down.

AFTERNOON SESSION.

- 3.30—From Hotel Carlton: Afternoon-tea music from the Lounge, Hotel Carlton, played by Hotel Carlton Symphony Orchestra.
- 4.15—From the Studio: "The Telegraph" news.
- 4.30—Close down.

EARLY EVENING SESSION.

- 6—"Daily Standard" News, Weather information; Announcements.

- 6.30—The Children's Session—Stories by "The Sandman."
- 7—From the Council of the Agricultural Studio: The Farmer's Session; Market Reports; Lectures: "Co-operation in Ireland," first of a series by Mr. J. F. F. Reid, Editor "Queensland Agricultural Journal."
- 7.30—From the Studio: Stock Reports; Announcements.

NIGHT SESSION.

- 7.45—Lecture Session: "The National Anthem, arr. by the Returned Soldiers' League."
- 8—Concert from the Studio.
- 9—Metropolitan Weather Forecast; Week-end Road Information for motorists, officially supplied by the Royal Automobile Club of Queensland; Concert continued.
- 10—"The Daily Mail" news service. Close down.

5CL

MORNING SESSION.

- 11.30—G.P.O. Chimes.
- 11.31—Stock Duo Act.
- 11.40—"Advertiser" News Service.
- 11.55—Vocalion number.
- 12—G.P.O. Chimes.
- 12.1—"Advertiser" news service.
- 12.15—Stock Duo Act number.
- 12.30—5CL Studio Orchestra.
- 1.55 (approx.)—Ward & Co.'s Stock Exchange Intelligence, Weather Reports and Station Announcements.
- 2—G.P.O. Chimes.

AFTERNOON SESSION.

- 3—G.P.O. Chimes.
- 3.1—Relay from "Maple Leaf" Cafe—Orchestral numbers.
- 3.45—From Studio: Talk by Mrs. Coghlin.
- 4—G.P.O. Chimes.
- 4.1—Relay from "Areadis" Cafe—Orchestral numbers.
- 4.55—Stock Exchange reports, general information, and station announcements.
- 6—G.P.O. Chimes.

EVENING SESSION.

- 6.50—G.P.O. Chimes.
- 6.51—Headline stories for the children by Uncle Mills and Aunt Peggy.
- 7.30—Market Reports.
- 7.40—Sporting Talk by Mr. Arnold Treinar.
- 8—G.P.O. Chimes.
- 8.1—Relay from Malcolm Reid & Co.—Orchestral numbers.
- 8.20—Signor Torre, baritone.
- 8.24—Merymakers.
- 8.30—Mr. Don Fraser, comedian.
- 8.35—Relay from Malcolm Reid & Co.—Orchestral numbers.
- 8.65—Miss Jean Rinder, contralto.
- 9—G.P.O. Chimes.
- 9.1—Weather reports.
- 9.2—Mr. Harold Purdin, bass.
- 9.4—Merymakers.
- 9.16—Mr. J. Barrett.
- 9.20—Mr. Seith Smith, bango.
- 9.25—Merymakers.
- 9.35—Miss Jean Rinder, contralto.
- 9.38—Merymakers.
- 9.41—Mr. Harold Purdin, bass.
- 9.46—Mr. Seith Smith, bango.
- 9.50—Signor Torre.
- 9.54—Merymakers.
- 10—G.P.O. Chimes.
- 10.1—Miss Jean Rinder, contralto.
- 10.5—Merymakers.
- 10.18—Mr. J. Barrett.
- 10.19—"Advertiser" News Service.
- 10.25—Mr. Don Fraser, comedian.
- 10.30—Merymakers.
- 10.35—Miss Jean Rinder, contralto.
- 10.40—Mr. Seith Smith, bango.
- 10.45—Signor Torre.
- 10.48—Merymakers.
- 10.53—Mr. Don Fraser.
- 10.57—Mr. J. Barrett.
- 11—G.P.O. Chimes. National Anthem. Close down.

7ZL

MORNING SESSION.

- 11—G.P.O. Clock Chimes. The "Mercury" news, stock market, shipping, commercial intelligence, weather information "Salonola" selections.
- 12—G.P.O. Clock Chimes. Close down.

AFTERNOON SESSION.

- 1—G.P.O. Clock Chimes.
- 1.10—Musical items from the Studio.
- 1.30—Hobart Stock Exchange quotations.
- 1.55—Weather Information.
- 4—G.P.O. Clock Chimes. Close down.

EARLY EVENING SESSION.

- 7—Children's Corner. "Big Brother" chats to his Peas.

EVENING SESSION.

- 8—G.P.O. Clock Chimes. "The Mercury" special Tasmanian news service. Railway sanction produce sales. Weather information.
- 8.5—Hobart Stock Exchange quotations.
- 8.10—Weekly Gardening chat, by Mr. George Nation.
- 8.50—Sports Budget, supplied by Mr. T. W. Newton, of Hobart Sports Depot.
- 8.50—Concert from the Studio:—Miss Jean Rinder, mezzo soprano; Miss Kathleen Pearce, contralto; Miss Gwendolyn Bidenge, mezzo-soprano; Mr. Thomas Spencer, tenor; Mr. Pharaoh, basso solo; Rev. Arthur C. Nelson, organist.
- 9.15—Frolics reports from Roberts & Co., Ltd., Murray Street, Hobart. Tasmanian District Weather reports.
- 9.50—"The Mercury" special interstate news service. Weather synopsis. Station announcements. National Anthem.

Saturday, Dec. 4

2FC

EARLY MORNING SESSION.

- 7—Chimes of "Big Ben" and Announcements.
- 7.6—Music from the Studio.
- 7.10—Official Weather Forecast; Rainfall; temperatures; Astronomical Memoranda; Shipping Intelligence; Mail Services.
- 7.25—Investment Market, Mining Shares Market, Metal Quotations.
- 7.40—"Sydney Morning Herald" News Service.
- 8—The Chimes of "Big Ben."
- A "Cheerful" Talk, by Mr. J. K. Powell.
- 8.10—Close down.

MORNING SESSION.

- 9.15—The Chimes of 2FC and Programme Announcements.
- 9.20—Music from the Studio.
- 9.45—Last minute sporting information, by the 2FC Racing Commissioner.
- 10—Chimes of "Big Ben" and music from the Studio.
- 10.5—Late "Sydney Morning Herald" news service.
- 10.15—Music from the Studio.
- 11—The Chimes of "Big Ben." Music from the Studio.
- 11.15—A talk on Gardening by "Red Gum." (Mr. J. G. Lockley).
- 11.30—Close down.

MIDDAY SESSION.

- 12.55—Chimes of 2FC and programme announcements. Usual Saturday afternoon sporting events. During the afternoon, between sporting events, items will be given by the "Cairo" Dance Orchestra.
- 4.25—Resume of the afternoon's sporting results.
- 5—Close down.

EARLY EVENING SESSION.

- 8.45—The Chimes of 2FC.

- 8.50—"The Hello Man" talks to the children.
- 8.55—A story for the older children, entitled "The Little Black Prince."
- 6.40—Broadcast from the Hotel Australia, items by the Hotel Orchestra, under the direction of Miss J. Egan.
- 7.15—From the Studio: "Evening News" late news service and sporting information.
- 7.40—A talk on Country Women's Week, by Mrs. Irvine.

NIGHT SESSION.

- 7.45—The Chimes of 2FC and announcements.
- 8—"Big Ben." Broadcast from the Railway and Tramway Institute (by arrangements with Messrs. J. C. Williamson Ltd., and heard on the air for the first time, a complete performance of the musical comedy, "Very Good Eddy").
- 8.45—Music from the Studio: Mr. Arthur Aldrich, tenor, "Eve Tomorrow Dawn."
- 8.55—Piano solos, by Mr. Ewart Chapple.
- 9—From the Railway and Tramway Institution, Act 2 of "Very Good Eddy."
- 9.45—From the Studio: Mr. Laurence Halbert, 10.55—Mr. Ewart Chapple, in piano solos.
- 10.55—From the Railway Institute—Act 2 of "Very Good Eddy."
- 10.45—From the Wentworth Hall, items by the Wentworth Symphonic Dance Orchestra, under the baton of Mr. Sydney Simpson.
- 11—"Big Ben." Broadcast from the Paddington Town Hall, items by Wilson's Old Time Dance orchestra, vocal soloist.
- 12—National Anthem. Close down.

2BL

EARLY MORNING SESSION.

- 7.15—Musical Programme from the Studio.
- 7.18—Physical Training and Health Exercises.
- 7.25—Health Hints.
- 7.30—Physical Training and Health Exercises.
- 7.45—Weather Forecast.
- 7.47—Sporting Information.
- 7.51—Broadcasters' Social News Service.
- 8—G.P.O. Clock and Chimes. Close down.

MORNING SESSION.

- 11—G.P.O. Clock and Chimes.
- 11.1—Musical Programme from the Studio.
- 11.30—Broadcasters' Ragby News Service.
- 11.36—Sydney Telegraph News Service.
- 11.40—Women's Session, conducted by Mrs. Jordan's Social Notes.
- 11.50—Mrs. Jordan replies to correspondents.
- 11.55—G.P.O. Clock and Chimes.
- 12.1—Talk on "Simple Cooking for Children," by Mrs. Jordan.
- 12.25—London Mail Quotations.
- 12.30—Broadcasters' Information Service; Route in call by wireless. Weather and Rainfall, Mail, Shipping.

AFTERNOON SESSION.

- 1—G.P.O. Clock and Chimes; News from "Sun" Cable Edition.
- 1.10—Musical programme from the Studio.
- 1.40—Sydney Daily Telegraph News Service.
- 1.50—Musical Programme from the Studio.
- 2—Talk on sporting and athletic fixtures for the day. Lawn Tennis, Hockey, Tennis, Cricket, Sailing, Boating, Athletics, Rifle Shooting, Golf, Bowls, Racing.
- During the afternoon, sporting information will be broadcast by courtesy of "The Sun" Newspapers. Musical programme from the Studio during the afternoon.
- 6—G.P.O. Clock and Chimes. Close down.

EARLY EVENING SESSION.

- 5.45—G.P.O. Clock and Chimes; Uncle George and the Kiddies.
- 6.40—Pavilion Dinner Orchestra, under the direction of Mr. Cec. Morrison.
- 7.45—Results of all sporting, information, including Sailing, Swimming, Racing, Courting, Bowls, by courtesy of Sun Newspapers.
- 7.50—Country News from the Sun and results of all sporting and athletic fixtures.
- 7.45—Close down.

NIGHT SESSION.

- 8—G.P.O. Clock and Chimes; Broadcasters' Topical Chorus.
 8.5—The Ambassadors Instrumental Salon Quartette under the direction of Mr. Claude McGlynn.
 9.30—Mr. William Everard, tenor.
 9.37—Miss Dorrie Ward, mezzo soprano.
 9.44—Mr. W. E. Lewis, baritone.
 9.51—Mrs. L. Kirwan, songs at the piano.
 9.58—Resume of following day's programme.
 9.59—G.P.O. Clock and Chimes; Weather Report and forecast by courtesy of Mr. C. J. Maree, Govt. Meteorologist.
 9.44—King's Mandolin Orchestra.
 9.11—Molly Baynor and John Rutherford. Humorous sketch.
 9.41—Mr. William Everard.
 9.48—Interval.
 9.43—King's Mandolin Orchestra.
 9.49—Duet: Miss Dorrie Ward and Mr. W. E. Lewis.
 9.54—Mrs. L. Kirwan.
 10—G.P.O. Clock and Chimes.
 10.1—Mr. W. E. Lewis.
 10.8—Miss Dorrie Ward.
 10.15—A. L. Hannett and the Ambassadors Dance Band, broadcast from the ballroom of the Ambassadors. During the intervals between dances news reports by courtesy of "The Sun" will be broadcast.
 10.45—G.P.O. Clock and Chimes; National Anthem.

3 LO

MORNING SESSION.

- 11—Sonora Recital, selected.
 11.7—Harold Rodgers, organ.
 11.17—Bobby Pearce, baritone.
 11.23—Sonora Recital.
 11.31—Harold Rodgers, piano.
 11.41—Bobby Pearce, baritone.
 11.48—Sonora Recital, selected.
 12 noon—Time Signal, British Official Wireless News from Ruims; Reuters and the Australian Press Association Cables; Argus and "Herald" News Service; Shipping Intelligence.
 12.45—Stock Exchange Information.
 12.50—Meteorological Information; Weather Forecast for Victoria, Tasmania, South Australia and New South Wales; Ocean Forecast; River Reports.
 1—Time Signal.
 1.1—Studio Orchestra.
 1.10—Zoe Harrison, violin.
 1.17—Maudie Owen, soprano.
 1.24—Studio Orchestra.
 1.34—Gwen Harrison, piano.
 1.40—Maudie Owen, soprano.
 1.47—Studio Orchestra.
 2—Description of Hurdle Race, Moonee Valley, by "Muskiet," of the "Sporting Globe." Close down.

AFTERNOON SESSION.

- 2.50—Description of Two Year Old Handicap, Moonee Valley, by "Muskiet," of the "Sporting Globe." Close down.
 3—Description of Welter Plate, Moonee Valley, by "Muskiet," of the "Sporting Globe."
 3.5—3 LO Melody Masters.
 3.40—Description of the Fund Handicap, Moonee Valley, by "Muskiet," of the "Sporting Globe."
 3.45—3 LO Melody Masters.
 3.50—Description of Highweight Handicap, Moonee Valley, by "Muskiet," of the "Sporting Globe."
 4.25—3 LO Melody Masters.
 4.40—"Herald" news service. Stock Exchange Information.
 4.50—Description of the Welter Plate, Moonee Valley, by "Muskiet," of the "Sporting Globe."
 5—Close down.

EVENING SESSION.

- 5.30—All Sporting Results.
 5.45—Children's Hour; Answers to letters and birthday greetings.

- 6—Mr. G. Eric Hanford, "Life amongst the Black Giants of Central Africa."
 6.15—"Mary Gamble's" poems: "Halfway down," "Waterlilies." Story for the littlest ones, "The Yellow Dwarf." For the boys and girls, "Wattle Gold," in music and story, by "Bobby Boronia" and "Mary Gamble."
 6.40—"Argus" and "Herald" news services. Sporting results, Reuters and the Australian Press Association cables, Shipping Movements.
 6.53—Weather Synopsis; Shipping Movements.
 6.57—Stock Exchange Information.
 7.2—Fish Market Reports by J. B. Dorrett Ltd.
 7.4—River Reports.
 7.5—Market Reports, by the Victorian Produce Cooperative Co. Ltd.; grain, chaff, hay, straw, tann, dairy produce, potatoes, and onions.

NIGHT SESSION.

- 7.25—Mr. R. Rawson, "Talk on Esperanto."
 7.40—Dr. Leach, "Dust and Caseworms."
 8—Super-Phonic Sonora Recital.
 8.15—Quartet for strings in D Minor (Mozart) Madame Zelman soprano, Alberto Zelman, violin, Madame Zelman, voice, Quartette for Strings in G flat, Op. 51 (Dvorak), The British Music Society's Quartette.
 10—"Argus" news service. British Official Wireless news.
 10.10—John Hobbs, baritone.
 10.17—Taama Tiernan, violin.
 10.22—Meteorological information. Sporting results. Announcements.
 10.35—John Hobbs, baritone.
 10.40—3 LO Melody Masters.
 11—Our Great Thought for to-night is—"Half the failures in life come from pulling one's horse when he is leaping."—Thomas Hood.
 11.5—3 LO Melody Masters.
 11.40—God Save the King.

4 QG

NO MIDDAY TRANSMISSION.

AFTERNOON SESSION.

- 2.25—Tune-in.
 2.30—3 QG Mathure for Little Listeners by "Miss Waratah."
 4.30—Close down.

EARLY EVENING SESSION.

- 6.25—Tune-in.
 6.40—"The Children's Semson: Bedtime stories by "Uncle Ben" and "Uncle Jim," assisted by "Mabel Sunshine."
 1.14—Sporting News.

NIGHT SESSION.

- 7.45—A Sporting Talk.
 8—Concert from the Studio.
 10—From the Studio: "The Sunday Mail" news service. Close down.

5 CL

MORNING SESSION.

- 10.30—G.P.O. Chimes.
 10.31—5 CL Studio Orchestra, Selections.
 11.45—"Advertiser" news service.
 12—G.P.O. Chimes.

AFTERNOON SESSION.

- Relay from Gawler racecourse, by permission of Gawler Jockey Club, running description of races by Mr. A. Treloar.
 From the Studio—Interstate sporting results.

EVENING SESSION.

- 6.30—G.P.O. Chimes.
 6.31—Bedtime stories.
 7.30—Market reports.
 7.40—Sporting Results.
 8—G.P.O. Chimes.
 8.5—Mr. Broadland Hook.
 9.5—Mr. J. Lenthall, violinist.

- 8.10—Miss Mabel Buckam, solo.
 8.11—Relay from Floating Palais—dance music.
 9—G.P.O. Chimes.
 9.1—Mr. Broadland Hook.
 9.5—Mr. J. Lenthall.
 9.55—Miss M. Buckam, solo.
 9.13—Relay from Floating Palais until 9.35.
 9.40—Mr. Broadland Hook.
 9.50—Mr. J. Lenthall.
 9.56—Miss Mabel Buckam.
 9.40—Mrs. James, piano solo.
 9.44—Relay from Floating Palais.
 10—G.P.O. Chimes.
 10.1—Relay from Floating Palais.
 10.15—Sporting results.
 10.20—Relay from Floating Palais.
 10.58—Announcements from Studio.
 11—G.P.O. Chimes; National Anthem. Close down.

7 ZL

MORNING SESSION.

- 11—G.P.O. Clock Chimes. The "Mercury" stock market, shipping, commercial, intelligence, Weather information and sporting anticipations, "Salonta" Selections.
 11.45—Hobart Stock Exchange quotations.
 12—G.P.O. chimes. Close down.

EVENING SESSION.

- 7—Children's Corner: "Big Brother" chats to his Pals.

NIGHT SESSION.

- 8—G.P.O. Clock Chimes. The "Mercury" special Tasmanian news service. Railway auction produce sales; weather information and sporting results.
 4.5—Hobart Stock Exchange quotations.
 8.15—Dance numbers from the Studio.
 8.45—British Official Wireless News, copied direct from Rugby by our own operator. Weather synopsis. Station Announcements. National Anthem.

Sunday, Dec. 5

2 FC

MORNING SESSION.

- 10.55—Announcements.
 11—"Big Ben." Broadcast from St. Andrew's Cathedral, Sydney, the Morning Service, conducted by Dean Talbot.
 12.15—From the Studio: News Session.
 12.30—Close down.

AFTERNOON SESSION.

- 2.10—Announcements.
 2.45—Broadcast from the Lyceum Hall—a pleasant Sunday afternoon's programme, arranged by the Central Methodist Mission, including Handel's oratorio, "The Messiah," by the Central Methodist Mission Augmented Choir. Principals: Miss Elsie Findlay, soprano; Madame Bennett North, contralto; Mr. Lance Jefferson, tenor; Mr. Raymond Beatty, bass.
 3.20—Organ solo, by Mr. A. J. Iand.
 3.25—Part Two of "The Messiah."
 4.35—Benediction.
 4.40—Close down.

NIGHT SESSION.

- 6—"Big Ben" and Announcements.
 From the Studio: A recital, by artists from the studio of Mr. Hector Fleming.
 7—A talk on hymns by Mr. William Adams, illustrated by various selections.
 7.20—The bells of St. Mark's, Church of England, Darling Point, Sydney.
 7.25—The Evening Service from St. Mark's, conducted by the Rev. Howard Lee.
 8.20—From the Manly Band Stand: A Sunday evening concert by the Manly Municipal Band, conducted by Mr. J. Pheloung.

- 9.30—From the Studio: "Songs of the Open Country," arranged by Mr. Bennett North; Vocal Quartette, "Down in a Flowing Vale," the Company.
- 9.34—2. Songs: (a) "Away on the Hill," (b) "A Little Winding Road," by Miss Rosalie Kochel.
- 9.40—3. Monologue, "The Watermill," Miss Adelaide Holvick.
- 9.43—4. Song, "Friendship," Mr. Herbert Folland.
- 9.48—5. Duet, "I Heard a Voice," by Mr. Edwin Hudson and Miss Johnstone.
- 9.52—6. Songs: (a) "A Poor Man's Garden," (b) "Little Brown Bird," by Miss Nancy Marley.
- 9.57—7. Monologue, "The Winding Lane," by Miss Adelaide Holvick.
- 10.2—8. Song, "The Romany Road," by Mr. Arthur Lee.
- 10.2—9. Song, "Dream Once Again," by Miss Olive Wrench.
- 10.10—10. Quartette, "May Day," by the Company. At the piano, Mr. Horace Keate.
- 10.15—National Anthem. Close down.

2 BL

MORNING SESSION.

- 10.15—News Reports.
- 11—Service broadcast from Methodist Church, William Street.

AFTERNOON SESSION.

- 3.30—Bible Class, conducted by Mr. W. "Cofre" Bradley.
- 4—Organ Recital.
- 5—G.P.O. Clock and Chimes; Close down.

EVENING SESSION.

- 5.45—Uncle George and the Kiddies.
- 7.15—Service broadcast from Petersham Baptist Church.
- 8.20—Concert from the Studio.
- 10.15—G.P.O. Clock and Close down.

3 LO

MORNING SESSION.

- 10.55—Express Train information.
- 11—Service from the Salvation Army Temple, Bourke Street, Melbourne.
- 12.15—British Official Wireless News from Rugby. Close down.

AFTERNOON SESSION.

- 3—Pleasant Sunday Afternoon Service, from Wesley Church, Lonsdale Street, Chairman, Rev. J. H. Cain.
- 3.30—Close down.

EARLY EVENING SESSION.

- 7.45—Children's Hour; Hymns by Billy Hunny and his Brer Babbits.
- 8—Answers to letters and birthday greetings.
- 8.15—Another Hymn by Billy Hunny and his Brer Babbits.
- 8.20—Stories by "Billy Bunny," "Mimosa" and "Lovellest Life."

NIGHT SESSION.

- 7—Service from Scot's Church, Collins Street, Melbourne. Rev. Norman Maclean, D.D., preacher.
- 8.30—Brunswick City Band. Mr. Hugh Niven, conductor.
- 8.35—Heidelberg and District Musical Society (winners of the 49 voice contest, South Street, 1926. Mr. Graham Burth, conductor).
- 8.44—Harold Rodgers, piano.
- 8.54—Herbert Browne, tenor (by permission of J. C. Williamson Ltd.).
- 9.1—Harold Rodgers, piano.
- 9.11—Herbert Browne, tenor.
- 9.15—Brunswick City Band.
- 9.25—Heidelberg and District Musical Society.
- 9.31—Brunswick City Band.
- 9.37—Heidelberg and District Musical Society accompanied by the Brunswick City Band.

- 9.45—"Argus" news service, British Official Wireless news. Weather forecast. 3LO Girl. Announcements.
- 9.58—Our Great Thought: "Strength is natural, but grace is the growth of habit. This charming quality requires practice, if it is to become lasting."—Joubert.
- 10—God Save the King.

4 QG

MORNING SESSION.

- 11—The complete Morning Service will be relayed from St. Stephen's Roman Catholic Cathedral.

AFTERNOON SESSION.

- 3.10—Tune in.
- 3.15—Band Concert by Metropolitan Band.

NIGHT SESSION.

- 7.30—The complete Evening Service will be relayed from St. Stephen's Roman Catholic Cathedral.
- At the conclusion of the church service, the concert by the Greater Brisbane Municipal Concert Band will be relayed from Wickham Park. Second special request programme.
- 9.30—Close down.

5 CL

MORNING SESSION.

- 11—Relay: Divine Service.

EVENING SESSION.

- 6.30—Sunday stories for children.
- 7—Relay from Black Forest Baptist Church—Divine service.
- 8.15 (approx.)—Band concert interspersed with vocal numbers.
- 8.45—Mr. P. H. Nicholls' talk, "Credo."
- 9—G.P.O. Chimes.
- 9.1—Weather reports.
- 9.5—Studio Concert continued.
- 10—G.P.O. Chimes. National Anthem. Close down.

7 ZL

EVENING SESSION.

- 7—Divine Service from St. David's Cathedral, Macquarie Street, Hobart.
- 8.15—Concert from the Studio.
- 9.45—The "Mercury" Special Interstate news service; Weather Synopsis; Station Announcements; National Anthem.

Monday, Dec. 6

2 FC

EARLY MORNING SESSION.

- 7—"Big Ben" and Announcements.
- 7.15—Music from the Studio.
- 7.30—Official Weather Forecast, rainfall, temperatures, astronomical memoranda, shipping intelligence, commercial news, mail service.
- 7.45—Investment market, mining share market, wool quotations.
- 7.55—Metal sales, breadstuffs markets, interstate markets, produce markets.
- 7.58—"Sydney Morning Herald" News Service.
- 8—"Big Ben" and Announcements.
- 8.15—Close down.

MORNING SESSION.

- 8.15—The Chimes of 2FC.
- 8.20—Music from the Studio.
- 8.30—Marching Music for School Children.
- 8.40—Music from the Studio.
- 10—"Big Ben" and Announcements.
- 10.5—Late "Sydney Morning Herald" News Service.
- 10.15—Music from the Studio.
- 10.45—A Morning Reading.
- 10.58—A Talk by 2FC Racing Commissioner.
- 11—"Big Ben"; Australian Press Association and Reuter's Cables.

On Guard!

There is no leakage with a "Lotus" Buoyancy Valve Holder on guard.

Immediate and lasting connection made when valve pins enter valve sockets. The leg socket expands and automatically locks.



Absorbs shock — protects the valves and eliminates all micro-phonous noises.

LOTUS
BUOYANCY
VALVE HOLDER

From all Radio Dealers

Made from the best bakelite mouldings with springs of nickel silver and phosphor bronze valve sockets.

Without Terminals 4/-
With Terminals 4/6

Garnett Whitely & Co. Ltd.,
Lotus Works, Broadgreen Road,
Liverpool.

Makers of the famous "Lotus"
Vernier Coil Holder.

Manufacturers' Representative:
John Arnold, G.P.O. Box BT1,
Degraves Buildings, Degraves
St., Melbourne; and 35 Tar-
anaki St., Wellington,
New Zealand.

- 11.10—Music from the Studio.
 11.30—Marching Music for School Children.
 11.35—Close down.

MIDDAY SESSION.

- 12.—"Big Ben" and Announcements.
 12.15—Stock Exchange—Second Call.
 12.30—Music from the Studio.
 12.30—Marching Music from the Studio for School Children.
 12.40—Music from the Studio.
 12.45—From Farmer's Oak Hall; The Oak Hall Trio.
 12.50—Radio Wireless News.
 12.55—Music from the Studio.
 1.—Chimes of "Big Ben." Weather intelligence.
 1.5.—"Evening News" midday news service.
 1.55.—Producers' Distributing Society's Report.
 1.30.—The Oak Hall Trio.
 1.25.—Stock Exchange. Second call.
 1.30.—Marching Music for School Children.
 1.40.—Music from the Studio.
 1.50.—The Oak Hall Trio.
 2.—Close down.

AFTERNOON SESSION.

- 2.30.—Chimes of 2 P.M. and Announcements.
 Broadcast from the Theatrical Theatre, items by the orchestra conducted by Mr. Will Quintfell.
 2.40.—Marching Music for School Children.
 2.45.—From Farmer's Tea Rooms, Miss Fannie Rutter, soprano.
 2.45.—From Farmer's Oak Hall; The Oak Hall Trio.
 2.50.—Music from the Studio.
 4.—Miss Peggy Dunbar, contralto: "Just a Ray of Sunlight" (Soprano).
 4.0.—The Oak Hall Trio.
 4.15.—Music from the Studio.
 4.20.—Miss Pessia Butler, soprano.
 4.25.—From Farmer's Oak Hall; Oak Hall Trio.
 4.35.—Music from the Studio.
 4.40.—Miss Peggy Dunbar, contralto: "Country Fair" (Soprano).
 4.45.—Stock Exchange—Third Call.
 4.45.—Close down.

EARLY EVENING SESSION.

- 6.45.—The Chimes of 2 P.M.
 6.50.—The "Hello Man" talks to the children.
 6.50.—A talk to the Older Children: Serial Story.
 7.—Broadcast from the Hotel Australia, items by the orchestra under the direction of Miss A. J. Egan.
 7.15.—From the Studio: "Evening News" Late News Service: Weather Information.
 7.30.—Daly's Market Reports (wool, wheat, stock), fruit and vegetable markets.
 7.40.—Close down.

NIGHT SESSION.

- 8.—"Big Ben" and Announcements.
 8.4.—Broadcast from St. James' Hall, the first production in Australia of Arthur Penn's romantic opera, "Mam'elle Taps," produced by John Eastford, performance to be given by students of Madame Ada Baker, Professor: 1. Overture.
 8.5.—"Evening Showers Creeping." Miss May Croft, Miss Doris Rowland and Richard Barry.
 8.10.—"If I'd been born a Man." Miss May Croft.
 8.15.—From the Studio: Signor Alberto Marini, tenor: "Blanca" (Matted).
 8.20.—From St. James' Hall. Act one of "Mam'elle Taps." 3. "Marie! Marie! Marie!" Madge Cafe and Chorus 4. "The Great Red Cross." Madge Cafe and Doris Rowland: 5. "One, Two, Three Musketeers." Misses Morris Dale, Angus Keighran and Harry Jackson; 6. "The Military Ballet." 8. "What did she say to me." Angus Keighran: 9. "Take a puff." William Collins, Morris Dale, Harry Jackson, James Jackson and Clara Fleming: 10. "Signs are off deceiving." chorus: 11. "When the bugle sounds its martial notes abroad." Miss May Croft and Richard Barry: 12. "Twill be very merry for a while." Angus Keighran, Harry Jackson, Maria Dale and Miss May Croft: 13. Finale: "Till it again." Principals and Chorus.
 9.—From the Studio: Mr. Ford Adams, in re-

- collections of Comic Opera—(a) "Of course you can never be like us." From "The Belle of New York."
 9.7.—Mr. Lionel Lawson in violin solos.
 9.10.—Signor Alberto Marini, tenor: "Bowl of Roses" (Clarke).
 9.17.—Mr. Ford Adams; "Pushful" and "Oh, Mr. Revolver," from "The Orchid."
 9.22.—Mr. Lionel Lawson in violin solos.
 9.25.—Signor Alberto Marini, tenor: (a) "Trusting Eyes" (Gartner), (b) "Blackbird and Rose" (Clarke).
 9.30.—Mr. Rupert Hazel, comedian.
 9.50.—Mr. E. J. Vande-Velde will describe his experiences in connection with his recent trip from the country (covered) Exclusive photos taken by Mr. Vande-Velde during the tour will be shown in the issue of the "Evening News" of this date, giving listeners the opportunity of following the talk in detail. Mr. Van-de-Velde will have the assistance of the studio staff in providing a record.
 10.40.—Mr. Rupert Hazel, comedian.
 10.50.—From the Wentworth Hotel, items by the Wentworth New Symphonic Dance Orchestra.
 11.—"Big Ben" and Announcements.
 11.5.—Wentworth New Symphonic Dance Orchestra until midnight.
 12.—National Anthem: Close down.

2 BL

EARLY MORNING SESSION.

- 7.15.—Physical Training and Health exercises.
 7.16.—Musical Programme from the Studio.
 7.18.—Physical Training and Health Exercises
 7.25.—Health Hints.
 7.30.—Physical Training & Health Exercises.
 7.45.—G.P.O. Clock and Chimes.
 7.46.—Weather Forecast.
 7.48.—Sporting Information.
 7.50.—Broadcasters' Special News Service.
 8.—G.P.O. Clock and Chimes: Close down.

MORNING SESSION.

- 10.—G.P.O. Clock and Chimes.
 10.1.—Broadcasters' News Service from Rugby.
 10.6.—Daily Telegraph News Service.
 10.23.—Musical Programme from the Studio.
 10.38.—Daily Telegraph News Service.
 10.53.—Musical Programme from the Studio.
 11.—G.P.O. Clock and Chimes.
 11.1.—Musical programme from the Studio.
 11.10.—Vegetable Market Reports.
 11.15.—Fruit Market Reports.
 11.20.—Other Market Reports.
 11.24.—Boats in call by Wireless.
 11.27.—Weather Report and Forecast by courtesy of Govt. Meteorologist.
 11.33.—Shipping information.
 11.33.—Information re Interstate and Overseas Mails.
 11.41.—Daily Telegraph News Service.
 11.45.—Women's Session: Social Notes by Mrs. Jordan.
 11.50.—Mrs. Jordan replies to correspondents.
 12.—G.P.O. Clock and Chimes; A Talk by Mrs. Jordan on "Matters Diabes."
 12.30.—G.P.O. Clock and Chimes.
 12.31.—Sydney Stock Exchange Calls.
 12.35.—News Service from the Sun.
 12.45.—Fruit Market Reports.
 1.40.—G.P.O. Clock and Chimes.
 1.41.—Weather Report.
 1.45.—Sydney Stock Exchange Calls.
 1.58.—Track Gallies and Sporting information.
 1.46.—Sun Newspaper's News Service.
 2.—G.P.O. Clock and Chimes: Close down.

AFTERNOON SESSION.

- Racing Information broadcast by courtesy of The Sun.
 3.—G.P.O. Clock and Chimes; Weather Report and Forecast by courtesy of Mr. C. J. Marses, Govt. Meteorologist.
 3.5.—Special News from the Sun.
 3.10.—Sun Newspaper's News Service.
 3.15.—David Jones' Tea Room Trio.
 3.30.—G.P.O. Clock and Chimes.
 3.31.—News from the Sun.

- 3.45.—Musical programme from the studio.
 4.—G.P.O. Clock and Chimes; David Jones' Tea Room Trio.
 4.1.—Special Story.
 4.30.—Musical programme from the studio.
 4.45.—Producers' Distributing Society's Vegetable and Market Fruit Report.
 4.50.—Shipping Information when available.
 4.52.—Day's Racing resume on race days.
 4.55.—News from the Sun.
 4.58.—Weather and Forecast for to-night's programme.
 5.—G.P.O. Clock; Close down.

EARLY EVENING SESSION.

- 5.45.—G.P.O. Clock and Chimes.
 5.46.—Uncle George and the Kiddies.
 5.49.—Pavilion Dinner Orchestra under the direction of Mr. Geo. Morrison.
 Special Country Session.
 7.—G.P.O. Clock and Chimes; Australian Mercantile Land and Finance Co's Stock Wool and Hide Report.
 7.5.—Weather Report and Forecast by courtesy of Mr. C. J. Marses, Govt. Meteorologist.
 7.30.—Stock Exchange Reports.
 7.16.—Producers' Distributing Society's Fruit and Vegetable Report.
 7.23.—Special and Reliable Reports (Sun).
 7.24.—Grain and Fodder Reports (Sun).
 7.26.—Dairy Produce Reports (Sun).
 7.30.—Primary Producers Newspaper Report on London Butter Market.
 7.35.—Country News from the Sun.

NIGHT SESSION.

- 5.—G.P.O. Clock and Chimes; Broadcasters' Topical Opera.
 5.3.—Newtown Band, broadcast from Industrial Hall, Newtown.
 6.23.—Mr. Lance Jeffrey, tenor.
 6.30.—Miss C. L. Robertson, elocutionist.
 6.39.—Miss Elaine Fenday, soprano.
 6.45.—Marlshini Duo.
 6.45.—Resume of following day's programme.
 Weather report and forecast, by courtesy of Mr. C. J. Marses, Government Meteorologist.
 9.—G.P.O. Clock and Chimes.
 9.1.—Miss Phyllis Atkinson, mezzo soprano.
 9.5.—Newtown Band.
 9.28.—Interval.
 9.43.—Mr. Lance Jeffrey.
 9.46.—Marlshini Duo.
 9.50.—Miss Elaine Findlay.
 9.57.—Miss C. L. Robertson.
 10.5.—Miss Phyllis Atkinson.
 10.12.—Al Hammett and the Ambassadors Dance Band, broadcast from the ballroom of the Ambassadors. During the intervals between dances, news reports, by courtesy of "The Sun," will be broadcast.
 12.—G.P.O. Clock and Chimes; National Anthem.

3 LO

MIDDAY SESSION.

- 12 noon.—Time Signal; British Official Wireless News from Rugby; Reuters and the Australian Press Association Cables; "Archie" and "Herald" News Services.
 12.45.—Stock Exchange Information; Shipping Intelligence.
 12.50.—Meteorological Information; Weather Forecasts for Victoria, Tasmania, South Australia, and New South Wales; Queensland Forecast; River Reports. 3 LO Grid.
 1.—Time Signal.
 1.1.—Studio Orchestra.
 1.10.—Gladys Lampe, contralto.
 1.17.—Pete Major Cunningham. In a skirt of the pipes.
 1.22.—Studio Orchestra.
 1.30.—Gladys Lampe, contralto.
 1.37.—Pete Major Cunningham.
 1.43.—Studio Orchestra.
 2.—Close down.

AFTERNOON SESSION.

- 3.—Studio Orchestra.
 3.10.—Miss Dorothy Silk, talk on "Homes-crafts."
 3.25.—Betty Green, famous Pantomime Dame, breaks in upon us.
 3.32.—C. Richard Chugg, fate.

- 3.46—Signor D'Alessandro, tenor.
 4.—Studio Orchestra.
 4.—Miss Flora Pell, Supervisor of Domestic Arts, Education Department, "Domestic Economy."
 4.15—Tasma Tiersan, solo.
 4.23—Bruce Green, famous Pantomime Dancer, is here again.
 4.27—Studio Orchestra.
 4.33—Signor Alessandro, tenor.
 4.40—Studio Orchestra.
 4.42—"Herald" News Service; Snak Er change information. SLO Girl.
 3.—Close down.

EVENING SESSION.

- 5.16—"Children's Hour; Answers to letters and Birthday Greetings.
 6.—Vera Spanil will sing to the children.
 6.7.—Miss Koolahurra will tell the dear little tiny tots a tale.
 .14.—Harold Collier, mouth organ selections.
 6.21.—Miss Koolahurra will tell the boys and girls another episode of "The Trials of the Twins."
 6.31.—Vera Spanil, more songs for the children.
 6.40—"Argus" and "Herald" News Services; Reuters and the Australian Press Association Cables.
 6.55.—Weather Synopsis; Shipping Movements; Overseas Shipping.
 6.57.—Fish market reports, by J. R. Borrett Ltd.
 7.—River reports.
 7.3.—Market Reports, by the Victorian Producers' Co-operative Co. Ltd.; Haymarket Sheep Sales; Poultry, grain, chaff, hay, straw, fute, dairy produce, potatoes and onions.
 7.15.—Market prices of oranges and lemons, by the Victorian Central Citrus Association Pty. Ltd.

NIGHT SESSION.

- 7.20.—Under the auspices of the Develop Australia League, Mr. Alberto Zeiman, "Musi-cian's view of Australia's Development."
 7.46.—Under the auspices of the Department of Agriculture, Mr. S. A. Lock, Citricultureist, "Picking, Packing, and Branding Tomatoes."
 8.—University Symphony Orchestra, Mr. Bernard Holzap, conductor.
 10.30.—British Official Wireless news from Rugby; Weather Forecast; "Argus" News Service; Announcements; SLO Girl.
 10.56.—SLO Melody Masters.
 11.—Our Great Thought for To-night is:—"The most brilliant qualities become useless when they are not sustained by the force of character." Segue.
 11.1.—SLO Melody Masters.
 11.40.—God Save the King.

4 Q Q

MIDDAY SESSION.

- 12.56.—Tune-in.
 1.3.—Time Signal.
 1.—Market Reports, supplied by the Council of Agriculture. Weather Information, supplied by Commonwealth Weather Bureau. News, supplied by "The Daily Mail." News Service, supplied by "The Daily Standard."
 1.26.—From Hotel Carlton: Lunch Music from the Lounge, Hotel Carlton, played by Hotel Carlton Symphony Orchestra.
 2.—Close down.

AFTERNOON SESSION.

- 2.50.—From Hotel Carlton: Afternoon Tea Music, played by Hotel Carlton Symphony Orchestra.
 4.12.—From the Studio: News Service, supplied by "The Telegraph."
 4.50.—Close down.

EARLY EVENING SESSION.

- 6.—News Service supplied by the "Daily Standard."
 6.30.—Children's Session: Stories by "The Bandman."

Faithful battery service

To have faith in your battery is to presume it will give faithful service. The Ever-Ready Battery enjoys the confidence of thousands of users throughout the Commonwealth because of its long life and all-round reliability. Your dealer stocks a variety of types, one of which is made to suit your requirements.



THE "STANDARD" DRY CELL RADIO BATTERY.

Price 3/-
 The Ever-Ready Radio "Standard" Dry Cell, as illustrated, is fitted with two screw terminals, and since its introduction has met with great success, users recognizing its immense superiority, over any imported cell. Size, 2 1/2 x 4 1/2. Weight, 2 1/2 lbs. Also for bells, telephones, signalling and electro-medical apparatus, etc.



"WANDA" PLUG RADIO BATTERY.

This illustrates the new Radio High-tension "W" Battery, which can be obtained 5 1/2, 42, or 55 volts—fitted with a Wanda Plug, and 2 screw terminals.

Price:
 Small size, type WP, 3 1/2 volt 2/6
 Small size, type WF, 42 volt 12/6
 Small size, type WJ, 55 volt 15/-
 Large size, type XP, 3 1/2 volt 16/-
 Large size, type XJ, 42 volt 21/-
 Extra Large Super Service, 42 volt 26/8



"STANDARD" "A" BATTERY.

Price 3/-
 The Ever-Ready "Standard" "A" Battery (3 cell), 4.5 volt, specially designed for economical operation of 1, 2, or 3 valves, taking .06 amperes at 3 volt. For sets with four or more valves, the most economical service is obtained by using two "Standard" "A" batteries connected in parallel.



NEW EVER-READY No. 126, OR "A," "B," OR "C" BATTERY.

Price 2/9
 One of a group of radio batteries—Useful in wireless, lighting, and amplification. Size, 3 1/2 x 4 x 1 1/2. Most useful for bells, telephones, burglar alarms, medical coils, etc. With three brass terminals. Voltages 1.5, 3 or 4.5 volts. Useful for all wireless purposes as well as general utility.

If unobtainable locally, write for address of nearest source of supply to

The Ever-Ready Co. (Gt. Britain) Ltd.

163 Pitt Street

SYDNEY

7.—From The Council of Agriculture Studio: The Farmers' Session; Market Reports; Lecture, "A Review of the Pamphlets on Pig Raising" (Mr. E. J. Shelton, Instructor in Pig Raising).
 7.30.—From the Studio of 4QG, Stock Reports; Announcements.

NIGHT SESSION.

7.45.—Lecture Session: The Children's Music Corner, conducted by "The Music Man."
 8.—The dual recital by the City Organist (Mr. George Sampson, F.R.C.O.), will be relayed from Exhibition Hall.
 8.15.—Concert from the Studio.
 10.—The "Daily Mail" News; Announcements; close down.

5CL

MORNING SESSION.

7.15.—G.P.O. Chimes.
 7.31.—Stock Day Art number.
 7.45.—"Advertiser" news service.
 7.55.—Vocalion number.
 8.—G.P.O. Chimes.
 8.15.—"Advertiser" news service.
 7.15.—Stock Day Art number.
 7.30.—G.P.O. Studio Orchestra in concert numbers.
 1.35.—Ward & Co's Stock Exchange Intelligence, official weather synopsis, and station announcements.
 2.—G.P.O. Chimes.

AFTERNOON SESSION.

3.—G.P.O. Chimes.
 3.1.—Relay from "Maple Leaf" Cafe—Orchestral numbers.
 3.45.—From the Studio: Stock Day—Art and Vocalion numbers.
 4.—G.P.O. Chimes.
 4.1.—Relay from "Arcadia" Cafe—Orchestral numbers.
 4.55.—Stock Exchange reports, general information and station announcements.
 5.—G.P.O. Chimes.

EVENING SESSION.

6.30.—G.P.O. Chimes.
 6.31.—Bedtime stories.
 7.—Market reports.
 7.40.—Mr. Frederickson, automotive engineer, Vacuum Oil Company.
 7.50.—Care of the Teeth, by Mr. Danper.
 8.—G.P.O. Chimes.
 8.1.—Mr. Malcolm Jones, baritone.
 8.5.—Mr. James Glenison, violinist.
 9.—Madame D. Back.
 9.14.—Mr. George Horton, comedian.
 9.20.—"Twinklers" Boys' Club.
 9.40.—Relay from Floating Palace.
 9.—G.P.O. Chimes.
 9.1.—Weather reports.
 9.2.—Mr. Howard Bauerche, tenor.
 9.5.—Madame D. Back.
 9.15.—Relay from Floating Palace.
 9.25.—Mr. Malcolm Jones, baritone.
 9.29.—Mr. George Horton, comedian.
 9.36.—Mr. Howard Bauerche, tenor.
 9.40.—Mr. Walter Bursi, bass.
 9.44.—Madame D. Back.
 9.48.—Relay from Floating Palace.
 10.—G.P.O. Chimes.
 10.1.—Relay from Floating Palace.
 10.15.—"Advertiser" News Service.
 10.25.—Mr. Howard Bauerche, tenor.
 10.29.—Mr. James Glenison.
 10.34.—Mr. Malcolm Jones.
 10.38.—Mr. George Horton.
 10.44.—Relay from Floating Palace.
 10.45.—G.P.O. Chimes, National Anthem, Close down.

7ZL

MORNING SESSION.

11.—G.P.O. Clock Chimes. The "Mercury" news, Stock Market, Shipping, Commercial Intelligence, Weather Information.
 "Salmonella" selections.
 12.—G.P.O. Clock Chimes. Close down.
 AFTERNOON SESSION.
 3.—G.P.O. Clock Chimes. Musical items from the Studio.

3.30.—Robert Stock Exchange quotations.
 3.35.—Weather Information.
 4.—G.P.O. Clock Chimes. Close down.

EVENING SESSION.

7.—Children's Corner. "Big Brother" chats to his pals.

NIGHT SESSION.

8.—G.P.O. Clock Chimes. The "Mercury" special Tasmanian news service. Railway auction produce sales. Weather information.
 8.5.—Robert Stock Exchange quotations.
 8.10.—Talk by Mr. G. H. Schneider, on — "Shale Oil Industry of Tasmania."
 8.50.—Concert from the Studio: Miss Dorcen Glover, mezzo-soprano; Miss Jean Spales, soprano; Miss Joan Dodd, elocutionist; Miss Amy Hattersworth, pianist; Mr. Rolf Lyons, baritone; Mr. Roy Scudiero, cornet soloist; Mr. N. Goulding, baritone.
 0.15.—Tasmanian District, Weather Reports.
 9.50.—The "Mercury" special interstate news service. Weather synopsis. Station announcements. National Anthem.

Tuesday, Dec. 7
2FC

EARLY MORNING SESSION.

5.—"Big Ben" and announcements.
 7.5.—Music from the Studio.
 7.13.—Official weather forecast, rainfall, temperatures, astronomical memoranda, shipping intelligence, commercial news, mail services.
 7.25.—Investment market, mining share market, metal quotations.
 7.35.—Wool sales, breadstuffs markets, interstate markets, produce markets.
 7.45.—"Sydney Morning Herald" news services.
 8.—"Big Ben."
 8.15.—Close down.

MORNING SESSION.

9.15.—The Chimes of 2FC.
 9.20.—Music from the Studio.
 9.30.—Marching Music for the School Children.
 9.40.—Music from the Studio.
 9.45.—Racing talk, by 2FC Racing Commissioner.
 10.—"Big Ben" and announcements.
 10.5.—Late "Sydney Morning Herald" News Service.
 10.15.—Music from the Studio.
 10.45.—A Morning Reading.
 11.—"Big Ben"; Australian Press Association and Reuters' cables.
 11.10.—Music from the Studio.
 11.15.—A talk on House Cooking and Recipes by Miss Ruth Furst.
 11.30.—Marching Music for School Children.
 11.35.—Close Down.

MIDDAY SESSION.

12.—The Chimes of Big Ben; and Announcements.
 12.5.—Stock Exchange, First Call.
 12.10.—Music from the Studio.
 12.50.—Marching Music for the School Children.
 13.45.—Music from the Studio.
 12.45.—Music from the Oak Hall; The Oak Hall Trio.
 12.50.—Roughly Wireless News.
 12.55.—Music from the Studio.
 1.—"Big Ben"; Weather Intelligence.
 1.3.—"Evening News" midday news service. Producers' Distributing Society's reports.
 1.20.—Oak Hall Trio.
 1.25.—Stock Exchange—Second Call.
 1.30.—Marching Music for School Children.
 1.40.—Music from the Studio.
 1.50.—The Oak Hall Trio.
 2.—The Chimes of Big Ben; Close Down.

AFTERNOON SESSION.

2.30.—The Chimes of 2FC and Announcements.
 2.35.—A Recital on the "Dehning" Player Piano.

3.—A Talk by Mr. S. H. Bowden on "Art Gallery Snap Shots."
 3.30.—Marching Music for the School Children.
 3.40.—From Farmer's Tea Rooms: Miss Joyce Gillespie, soprano.
 3.45.—Music from the Studio.
 3.55.—Music from the Studio.
 4.—Miss Dorothy Benlow, contralto, "Coming Home" (Wilby).
 4.—The Oak Hall Trio.
 4.15.—Music from the Studio.
 4.25.—Miss Joyce Gillespie, soprano.
 4.25.—The Oak Hall Trio.
 4.30.—Miss Dorothy Benlow, contralto, "Lis there, By Lata" (Macdon).
 4.45.—Stock Exchange; Third Call.
 4.45.—Close down.

EARLY EVENING SESSION.

5.45.—Announcements.
 5.50.—The "Hello Man" talks to the Children.
 6.30.—A Serial Story for the Older Children: "The Little Black Princess."
 6.45.—From the Hotel Australia, items by the orchestra, under the direction of Max A. J. Egan.
 7.15.—From the Studio, "Evening News" Service late news; Weather Information.
 7.30.—Dulany's Market Reports (Wool, Wheat, Stock, Fruit, and Vegetable Markets).
 7.40.—A Talk by a member of the Wireless Institute of N.S.W.; Close down.

NIGHT SESSION.

7.55.—Announcements.
 8.—"Big Ben"; Broadcast from the Haymarket Theatre, items by the Operatic Orchestra, under the baton of Mr. Stanley Forster.
 8.15.—From the Marist Brothers' School Hall, Mission, items by the Boys' Choir of 100 voices, conducted by the Rev. Brother Barnabas: (a) "The Sea King" (Smart); (b) "Off in the Stilly Night" (Moore); (c) "The Star Light, Star Bright" (Lehmann); the Boys' Choir; (d) Resurrection, "The Obstructive Hat," Master G. Ferguson; (e) Song, "In a Monastery Garden," Master Shirley Hall and Chorus; (f) Trio, "The Bonnie Banks of Loch Lomond," Masters Vesper, Johnson, and Harengan.
 8.35.—From the Royal Naval Home; items by the State Military Band, conducted by Mr. King.
 8.55.—From the Marist Brothers' School Hall, Mission: (a) "O Hush thy, my Baby" (Sullivan), Chorus; (b) "Calm in the Sea" (Pfeil), Chorus; (c) "The Meeting of the Waters" (Moore), Chorus; (d) Solo, "A Brown Bird Singing" (Wood), Master K. Hanganan; (e) Vocal Trio, "The Harp that Once" (Moore), Masters Vesper, Hayes, and Collops.
 9.5.—From the Naval Home, further items by the N.S.W. State Military Band.
 9.30.—From the Studio: Mr. Charles Lawrence, entertainer, "Where are They" (Wenters); (b) "I'm Walking around in Circles" (Lewis, Young and Phillips).
 9.40.—From the Royal Naval Home: The N.S.W. State Military Band.
 9.45.—From the Marist Brothers' School Hall: (a) Solo, "A Little Boy Called Tom" (Master Joe Johnson); (b) "Nocturne" (Denza) Chorus; (c) "Nazareth" (Gounod), Chorus; (d) "The Birds Fly Home" (Harrison), Chorus.
 9.50.—From the Studio: Mr. Alex Whitson, baritone.
 10.—Mr. Charles Lawrence, entertainer (a) "The Market" (Wilcock); (b) "The Art of Propaganda" (Weston).
 10.15.—From the Haymarket Theatre; items by the Operatic Orchestra.
 10.30.—From the Studio: Mr. Alex Whitson, baritone.
 10.40.—From the Wentworth Hotel; items by the Wentworth New Symphonie Dance Orchestra.
 11.—"Big Ben"; Wentworth Dance Orchestra until midnight.
 12.—National Anthem; close down.

2BL

EARLY MORNING SESSION.

- 7.15—Musical programme from the Studio.
7.18—Physical Training and Health Exercises.
7.23—Health Hints.
7.30—Physical Training and Health Exercises.
7.45—G.P.O. Clock and Chimes.
7.46—Weather Forecast.
7.48—Sporting information.
7.50—Broadcasters' Special News Service.
8—G.P.O. Clock and Chimes. Close down.

MORNING SESSION.

- 10—G.P.O. Clock and Chimes.
10.1—Weather Report.
10.3—Broadcasters' News Service direct from Rugby.
10.5—Daily Telegraph News Service.
10.23—Musical Programme from the Studio.
10.38—Daily Telegraph News Service.
10.53—Musical Programme from the Studio.
11—G.P.O. Clock and Chimes.
11.1—Musical Programme from the Studio.
11.15—Vegetable Market Report.
11.18—Fruit Market Report.
11.21—Other Market Reports.
11.24—London Metal Quotations.
11.28—Boats in call by Wireless.
11.31—Weather Report and Forecast.
11.33—Shipping Information.
11.37—Information re Interstate and Overseas Mails.
11.40—Women's Section: Social Notes by Mrs. Jordan.
11.50—Mrs. Jordan replies to correspondents.
12—G.P.O. Clock and Chimes. Talk on "Correct Copying," Mrs. Jordan.
12.30—Sydney Stock Exchange Calls.
12.35—News Service from the Sun.
12.46—Hiller's Instrumental Quartette, direction Caryl Castles.
1.30—G.P.O. Clock and Chimes: Weather Report.
1.35—Sydney Stock Exchange Calls.
1.36—Track Gallops and Sporting Information.
1.46—Sun Newspapers News Service.
2—G.P.O. Clock and Chimes: Close down.

AFTERNOON SESSION.

- Racing Information, broadcast by courtesy of the Sun.
3—G.P.O. Clock and Chimes.
3.15—Weather Report and Forecast by courtesy of Govt. Meteorologist.
3.5—Social notes from "The Sun."
3.10—"Sun" Newspapers news service.
3.15—Civil Service Stores' Trio, direction Miss de Coney Bremser.
3.30—G.P.O. Clock and Chimes.
3.31—"Sun" Newspapers News Service.
3.46—Musical programme from the Studio.
4—G.P.O. Clock and Chimes.
4.1—Civil Service Stores' Trio.
4.15—Serial Story.
4.30—Musical Programme from the Studio.
4.45—Producers' Distributing Society's Vegetable and Fruit Markets Report.
4.50—Shipping information when available.
4.52—"Day's" Racing Resumes on Race Days.
4.55—News from "The Sun."
4.58—Resume of night's programme.
5—G.P.O. Clock and Chimes. Close down.

EARLY EVENING SESSION.

- 5.45—G.P.O. Clock and Chimes. Uncle George and the Kiddies.
5.50—Pavilion Dinner Orchestra, under the direction of Mr. Cec. Morrison.
Special Country Session.
6—G.P.O. Clock and Chimes.
7.1—Australian Mercantile Land and Finance Co's. Report.
7.5—Weather Report and Forecast, by courtesy of Mr. C. J. Mares, Government Meteorologist.
7.6—Stock Exchange Reports.
7.10—Producers' Distributing Society's Fruit and Vegetable Report.

- 7.20—Fruit and Vegetable Reports (Sun).
7.23—Grain and Fodder Report (Sun).
7.26—Daily Report (Sun).
7.30—Talk on the "World's Important happenings," by courtesy of F. Phillips Gilson, Esq.
7.35—A Talk on "Fishing in Tasmania."

NIGHT SESSION.

- 8—G.P.O. Clock and Chimes: Broadcasters' Topical Chorus.
8.3—Miss Mary Neal, mezzo soprano.
8.11—Miss Dorothy Witt, pianist.
8.22—Mr. David Smith, English baritone.
8.30—Mr. J. M. Post, show solos.
8.35—Madame Phyllis Howe, soprano.
8.45—Broadcasters' Miniature Orchestra.
8.56—Resume of following day's programme.
9—G.P.O. Clock and Chimes: Weather Forecast by courtesy of Mr. C. J. Mares, Govt. meteorologist.
9.20—Mrs. Orano and Alf J. Lawrence.
9.23—Broadcasters' Miniature Orchestra.
9.33—Interval.
9.48—Mr. David Smith.
9.55—Miss Mary Neal.
9.58—Mr. J. M. Post.
10.2—Madame Phyllis Howe.
10.10—Broadcasters' Miniature Orchestra.
10.20—Al. Hammett and the Ambassadors of the Ambassadors. During the intervals between dances, News Reports by courtesy of the Sun Newspapers will be broadcast.
10.45—G.P.O. Clock and Chimes: National Anthem.

3LO

MIDDAY SESSION.

- 12 noon—Time Signal: British Official Wireless News from Rugby; Reuters and the Australian Press Association Cables; "Argus" and "Herald" News Services.
12.15—Exchange Information: Shipping Intelligence.
12.50—Meteorological Information: Weather Forecasts for Victoria, Tasmania, South Australia, and New South Wales; Ocean Forecast; River Reports; 3LO Girl.
1—Time Signal.
1.10—Studio Orchestra.
1.14—Clara Lampe, contralto.
1.17—Terna Tiernan, sello.
1.23—Reginald Bradley and Bessie Gausson.
1.38—Studio Orchestra.
1.44—Clara Lampe, contralto.
1.48—Studio Orchestra.
2—Close down.

AFTERNOON SESSION.

- 3—Studio Orchestra.
3.12—"Au Fait" of Misses Buckley and Nunn Ltd. will give a fashion talk.
3.27—Prisc Green, pantomime dame.
3.34—Bessie Gausson, violin.
3.39—Vera Spaulf and Mascotte Malton, ukulele duet.
3.44—Studio Orchestra.
3.54—C. Richard Ching, flute.
4.2—Bruce Green, pantomime dame.
4.9—Matron Mowland, "Infant Welfare."
4.24—Vera Spaulf.
4.31—Studio Orchestra.
4.45—"Herald" News Service: Stock Exchange Information.
5—Close down.

EVENING SESSION.

- 5.45—Children's Hour: Answers to letters and Birthday Greetings.
6—Vera Spaulf, songs for children.
6.7—Mary Gumleaf, poems.
6.10—Thelma Reedy, baby items for children.
6.20—Vera Spaulf children's songs.
6.27—Mary Gumleaf, story for the boys and girls.
6.46—"Argus" and "Herald" News Services; 3LO Girl and the Australian Press Association Cables.
6.52—Stock Exchange information: Overseas Shipping.
6.55—Fish Market Reports by J. R. Borrell.
7.15—River Reports.
7.3—Market Reports by the Victorian Pro-

- ducers' Co-operative Co. Ltd.: Haymarket Sheep Sales; Poultry, grain, chaff, hay, straw, jute, dairy produce, potatoes and onions; Market prices of oranges and lemons; by the Victorian Central Citrus Association Pty. Ltd.
7.13—Market Prices of Oranges and Lemons by the Victorian Central Citrus Association Pty. Ltd.

NIGHT SESSION.

- 7.30—Madame S. E. Soward will give a French talk, entitled "The Cigarette Chair."
7.40—Under the auspices of the University Extension Board, Dr. C. R. McRae, lecturer in charge of Department of Experimental Psychology at the Teachers' College. "Vacational Guidance."
8.15—Victorian Opera Co., "Gelska."
10.30—Mr. J. Sutton Crow, lecture on the "Flute," illustrated by Leslie Harkison.
10.46—"Argus" News Service: British Official Wireless News from Rugby; Weather Forecast; Announcements: 3LO Girl.
11—"Our Great Thought for To-day is"—"Man is the poetry of the air"—Jean Paul Richter.
11.1—"The 3LO Melody Masters."
11.46—God save the King.

4QG

MIDDAY SESSION.

- 12.25—Time in.
12.35—Time Signal.
1—Market Reports: Weather Information. "The Daily Mail" and "The Daily Standard" news.
1.30—From Hotel Carlton: Lunch Music from the Lounge, Hotel Carlton, played by Hotel Carlton Symphony Orchestra.
2—Close down.

AFTERNOON SESSION.

- 2.50—A programme of Music from the Studio.
4.10—Lecture: Baby Welfare, by Nurse E. Dudgeon.
4.15—"The Telegraph" news.
4.30—Close down.

EARLY EVENING SESSION.

- 6—News Service supplied by the "Daily Standard"; Weather information, supplied by the Commonwealth Weather Bureau; Announcements.
6.30—The Children's Section. Stories by "Uncle Ben" and "Uncle Jim."
7—From the Council of Agriculture, Studio: The Farmers' Session. Market Reports. Lectures: "Principles and Application of Electroculture to Plant Life," Mr. D. W. Chandler.
7.30—From the Studio: Stock Reports; Announcements.

NIGHT SESSION.

- 7.45—Lecture Session.
8—From the School of Arts, Brisbane: Brisbane Apollo Club concert.
8.15—From the Read Press Ltd, a description of how the "Queenland Radio News" is printed. The microphone will be installed in the factory, and as the description is given, the various printing machines will be started and the noises broadcast.
9—Metropolitan Weather Forecast: concert (intended).
9.30—From the Crystal Palace: Dance Music.
10—"The Daily Mail" News; close down.

5CL

MORNING SESSION.

- 11.30—G.P.O. Chimes.
11.31—Featuring a Stock Duo Art number.
11.40—"Advertiser" news service.
11.55—Vocalion number.
12—G.P.O. Chimes.
12.1—"Advertiser" news service.
12.18—Featuring a Stock Duo Art number.
12.30—5CL Studio Orchestra.
1.35—Ward & Co's. Stock Exchange Intelligence, official weather synopses and station announcements.
2—G.P.O. Chimes.

AFTERNOON SESSION.

- 3.—G.P.O. Chimes.
 3.1.—Relay from the "Maple Leaf" Cafe—Orchestra numbers.
 3.45.—From the Studio: Talk by Mrs. Coghill.
 4.—G.P.O. Chimes.
 4.1.—Relay from the "Arcadia" Cafe—Orchestra numbers.
 4.55.—Stock Exchange Reports; General Information and Station Announcements.
 5.—G.P.O. Chimes.

EVENING SESSION.

- 6.30.—G.P.O. Chimes.
 8.1.—Bedtime stories.
 7.30.—Market reports.
 7.49.—Milling talk, by Mr. Jachett.
 8.—G.P.O. Chimes.
 8.1.—Relay from Wondergraph Theatre—Operatic Orchestra under direction of Mr. Bert Smith.
 8.29.—Concert items.
 8.41.—Relay from Wondergraph Theatre.
 9.—G.P.O. Chimes.
 9.1.—Weather Reports.
 9.2.—Concert continued.
 9.45.—Relay from Wondergraph Theatre.
 10.—G.P.O. Chimes.
 10.1.—Relay from Wondergraph Theatre.
 10.15.—"Advertiser" news service.
 10.25.—Concert continued.
 10.58.—Station Announcements.
 11.—G.P.O. Chimes; National Anthem; and Close Down.

7 Z L

MORNING SESSION.

- 11.—G.P.O. Clock Chimes.
 11.12.—The "Mercury" News; Stock Market; Shipping; Commercial Intelligence; Weather Information; Saloonia Selections.
 12.—G.P.O. Clock Chimes; Close Down.

AFTERNOON SESSION.

- 3.—G.P.O. Clock and Chimes; Selected Piano-forte Solos by Mr. Maurice Landis; Musical items from the Studio.
 3.50.—Hobart Stock Exchange Quotations.
 3.55.—Weather Information.
 4.—G.P.O. Clock Chimes; Close Down.

EVENING SESSION.

- 7.—Children's Corner, "Big Brother" chats to his pals.
 7.15.—The Adventures of George, the Bookshelf Cat, by "Aunt Stella".

NIGHT SESSION.

- 8.—G.P.O. Clock Chimes; the "Mercury" Special Tasmanian News Service; Railway Auction Produce Sales; Weather Information.
 8.5.—Hobart Stock Exchange Quotations.
 8.15.—Literary Logues and Library Lists, by Mr. W. E. Fuller.
 8.39.—Musical items from the Studio; Special Request numbers.
 9.—Tasmanian District Weather Reports.
 9.55.—The "Mercury" Special Interstate News Service; Weather Synopsis; Station Announcements; National Anthem.

Wednesday, Dec. 8

2 P C

EARLY MORNING SESSION.

- 7.—"Big Ben" and Announcements.
 7.1.—Music from the Studio.
 7.10.—Official Weather Forecast; Rainfall; Temperatures; Astronomical Memoranda; Shipping Intelligence; Commercial News; Mail Services.
 7.25.—Investment Market; Mining Share Market; Metal Quotations.
 7.35.—Wool Sales; Broadstuffs Markets; Interstate Markets; Produce Markets.
 7.45.—"Sydney Morning Herald" News Service.

- 8.—"Big Ben"; A "Cherish" Talk by Mr. J. K. Powell.
 8.15.—Close down.

MORNING SESSION.

- 9.15.—The Chimes of 2 P.C.
 9.50.—Music from the Studio.
 9.50.—Marching Music for the School Children.
 9.40.—Music from the Studio.
 10.—"Big Ben" and Announcements.
 10.4.—Late "Sydney Morning Herald" News Service.
 10.15.—Music from the Studio.
 10.45.—A Morning Reading.
 11.—"Big Ben"; Australian Press Association and Reuters's Cables.
 11.10.—Music from the Studio.
 11.15.—A Talk on Home Cooking and Recipes by Miss Ruth Funn.
 11.30.—Marching Music for School Children.
 11.45.—Close down.

MIDDAY SESSION.

- 12.—The Chimes of Big Ben; and Announcements.
 12.4.—Stock Exchange, First Call.
 12.10.—Music from the Studio.
 12.30.—Marching Music for the School Children.
 12.40.—Music from the Studio.
 12.45.—From Farmer's Oak Hall—The Oak Hall Trio.
 12.56.—Rugby Wireless News.
 1.—The Chimes of Big Ben; Weather Intelligence.
 1.5.—"Evening News" Mid-day Service; Producers' Distributing Society's Report.
 1.50.—Oak Hall Trio.
 1.55.—From the Studio—Stock Exchange, Second Call.
 1.50.—Marching Music for the School Children.
 1.55.—Music from the Studio.
 1.55.—From Farmer's Oak Hall; The Oak Hall Trio.
 2.—"Big Ben"; Close Down.

- NOTE.—1.15.—Broadcast from the Pitt Street Congregational Church, Sydney: An organ recital by Miss Lillian Frost. The final recital of the 1926 series.

AFTERNOON SESSION.

- 3.30.—The Chimes of 2 P.C. and Announcements; Broadcast from the Crystal Palace Theatre, items by the orchestra under the baton of Mr. Harry Storer.
 3.15.—Music from the Studio.
 3.30.—Marching Music for School Children.
 3.40.—From Farmer's Tea Rooms; Miss May Craven, soprano; "Little Steven Bird" (Del Rio).
 3.45.—From Farmer's Oak Hall; Oak Hall Trio.
 3.55.—Music from the Studio.
 4.—From Farmer's Tea Rooms: Miss Muriel Humphries, contralto.
 4.5.—The Oak Hall Trio.
 4.20.—Miss May Craven, soprano; "Summer".
 4.25.—Music from the Studio.
 4.46.—Miss Muriel Humphries, contralto.
 4.45.—Stock Exchange, Third Call.
 4.45.—Close down.

EARLY EVENING SESSION.

- 6.45.—Chimes of 2 P.C.
 6.50.—The "Hello Man" talks to the Children assisted by "Jerry".
 6.30.—A Serial Story for the older children, "The Little Black Princess".
 6.45.—From the Hotel Australasia; items by The Hotel Orchestra, under the direction of Miss A. J. Egan.
 7.15.—From the Studio, "Evening News" Service; and Weather Information.
 7.30.—Dulcety's Market Reports (Wool, Wheat, Stock, Fruit, and Vegetable Markets).
 7.40.—Talk by Miss V. A. Roche on "Impressions of a tour through N.S.W. and Victoria".
 7.55.—Close down.

NIGHT SESSION.

- 7.5.—Announcements.
 8.—"Big Ben"; Broadcast from the Lyric Wintergarden, items by the orchestra, under the direction of Mr. Alfred Moulton

- 8.15.—From the Studio: Mr. Ernest Archer, tenor.
 8.23.—Miss Virginia Bassetti, contralto.
 8.30.—Lynn Smith's Jazz Orchestra will depart shortly.
 8.42.—Miss Kitty Ellard, soprano, in some frothy trifles.
 8.50.—Lynn Smith in some instrumental gymnastics.
 8.5.—Mr. Laurence Hulbert, baritone.
 8.8.—Mr. Ernest Archer, tenor.
 8.16.—Miss Inez Buzza.
 9.04.—Miss Virginia Bassetti, contralto.
 9.30.—The Village Concert: A burlesque conducted by Mr. Rupert Hazel, English comedian.
 10.15.—From the Lyric Wintergarden Theatre, further items by the Theatre orchestra.
 10.30.—From the Wentworth Hotel; items by the Wentworth Dance Orchestra under the baton of Mr. Sydney Simpson.
 11.—"Big Ben".
 11.5.—The Wentworth New Symphonic Dance Orchestra until midnight.
 12.—National Anthem; close down.

2 B L

EARLY MORNING SESSION.

- 7.15.—G.P.O. Clock and Chimes.
 7.15.—Musical Programme from the Studio.
 7.10.—Physical Training and Health Exercises.
 7.25.—Health Hints.
 7.30.—Physical Training and Health Exercises.
 7.45.—G.P.O. Clock and Chimes.
 7.45.—Weather Forecast.
 7.48.—Sporting Information.
 7.50.—Broadcasters' Special News Service.
 8.—G.P.O. Clock and Chimes; Close down.

MORNING SESSION.

- 11.—G.P.O. Clock and Chimes.
 11.1.—Weather Report.
 11.5.—Musical Programme from the Studio.
 11.15.—Daily Telegraph News Service.
 11.20.—Lynn's Session, conducted by Mrs. Jordan; Social Notes.
 11.40.—Mrs. Jordan replies to correspondents.
 11.50.—Talk on "Summer Hygiene" by Dr. Morris.
 12.15.—Musical Programme from the Studio.
 12.21.—London Metal Quotations.
 12.35.—Broadcasters' Special Rugby News Service.
 12.55.—Boats in call by Wireless.
 12.40.—Weather Report and Rainfall by courtesy of Govt. Meteorological.
 12.42.—Shipping Information: Arrivals and Departures.
 12.44.—Mails, Interstate and Overseas.
 12.45.—News Service by courtesy of the Sun.
 1.—G.P.O. Clock and Chimes.
 1.1.—Midday Music broadcast from Christ Church St. Lawrence, Pitt St., Sydney.
 1.40.—Sydney Stock Exchange Calls.
 1.45.—Sporting Information and Race Results from the Sun.

AFTERNOON SESSION.

- 2.—G.P.O. Clock and Chimes.
 2.1.—Musical Programme from Studio.
 2.15.—News from the Sun.
 2.20.—G.P.O. Clock and Chimes.
 2.31.—Weather Report.
 2.33.—Musical Programme from Studio.
 2.45.—Special Notes from the Sun.
 2.40.—Sun Newspapers' News Service.
 3.—G.P.O. Clock and Chimes.
 3.1.—Musical Programme from Studio.
 3.15.—Racing Results.
 3.20.—Sun Newspapers' News Service.
 3.25.—Musical Programme from Studio.
 4.—G.P.O. Clock and Chimes.
 4.1.—Racing Results.
 4.5.—News from the Sun.
 4.15.—Serial Story.
 4.30.—Producers' Distributing Society's Fruit and Vegetable Report.
 4.35.—Race Results.
 4.39.—Musical Programme from Studio.
 4.51.—Shipping news when available.
 4.55.—Race Results.
 4.55.—Resumé of Night's Programme.
 5.—G.P.O. Clock and Chimes.

Simple, Accurate and easily adjusted

The vernier movement comprises three sets of enclosed precision machine cut gears, and reduces the speed of the moving coil block by eight times. The moving block moves in the same direction as the knob, which prevents confusion. It also becomes absolutely rigid in any position, holding the heaviest coil securely. No screws required to tighten it.



Moving block cannot fall

Bakelite Mouldings for the side plates, coil blocks and knobs; heavy nickel plating for the metal parts.

LOTUS

VERNIER

COIL HOLDERS

From All Radio Dealers
TWO TYPES:

For outside panel mounting:

| | |
|---------------------|------|
| Two-way | 11/- |
| Three-way | 16/- |

For inside baseboard mounting, with 6 inch handle:

| | |
|---------------------|------|
| Two-way | 12/- |
| Three-way | 19/- |

Garnett, Whiteley & Co., Ltd.

Lotus Works, Broadgreen Rd., LIVERPOOL.

Makers of the new improved "Lotus" Valve Holder.

Manufacturers Representative: John Arnold, G.P.O. Box B71, Degraeves Buildings, Degraeves St., Melbourne; and 35 Taranaki St., Wellington, New Zealand.

5.1—Resume of Day's Racing.
5.3—Close down.

EARLY EVENING SESSION.

- 6.45—G.P.O. Clock and Chimes.
- 7.0—Cock George and the Kiddie.
- 7.40—Pavilion Dinner Orchestra under the direction of Mr. Cec. Morrell.
- Special Country Session
- 7.5—G.P.O. Clock and Chimes.
- 7.11—Australian Mercantile Land and Finance Co.'s Report.
- 7.5—Weather Report and Forecast, by courtesy of Mr. C. J. Mares, Government Meteorologist.
- 7.9—Stock Exchange Reports.
- 7.14—Producers' Distributing Society's Fruit and Vegetable Report.
- 7.18—Fruit and Vegetable Report (Sun).
- 7.22—Grain and Fodder Report (Sun).
- 7.26—Dairy Produce Report (Sun).
- 7.30—Country news from the Sun.
- 7.45—Talk on Books, Wise and Otherwise.

NIGHT SESSION.

- 8—G.P.O. Clock and Chimes. Broadcasters' Tonal Chorus
- 8.15—Broadcasters' Trio.
- 8.18—Miss Bessie Cooke, contralto.
- 8.20—Mr. Raymond Beatty, basso cantante.
- 8.27—Mr. Howard Leighton, novelty pianist of Messrs. Wicksforth's Ltd.
- 8.37—Mr. S. Crittendon will talk on "Building a Valve Set."
- 8.57—Resume of following day's Programme.
- 9—G.P.O. Clock and Chimes; Weather Report and Forecast by courtesy of Mr. C. J. Mares, Govt. Meteorologist.
- 9.8—Miss Millie Hughes, soprano.
- 9.10—Miss Marguerite Maszenarb, electrician.
- 9.17—Broadcasters' Trio.
- 9.27—Interval.
- 9.32—Inst. Miss Millie Hughes and Mr. Raymond Beatty.
- 9.36—Miss Bessie Cooke.
- 9.52—Miss Marjorie Maszenarb.
- 10—G.P.O. Clock and Chimes.
- 10.1—Miss Millie Hughes.
- 10.8—Mr. Raymond Beatty.
- 10.16—Al. Hammett and the Ambassadors Dance Band, broadcast from the ballroom of the Ambassadors. During the interval between dances, News Reports by courtesy of the Sun will be broadcast.
- 12—G.P.O. Clock and Chimes; National Anthem.

3 LO

MID-DAY SESSION.

- 12—Time Signal; Router's and the Australian Press Association Cables; "Argus" and "Herald" News Services; Shipping Intelligence.
- 12.45—Stock Exchange Information.
- 12.50—Meteorological Information; Weather forecast for Victoria, Tasmania, South Australia and New South Wales; Ocean Forecast; River Reports.
- 1—Time signal.
- 1.5—Studio Orchestra.
- 1.15—Musical Half-Hour by students of the University Conservatorium.
- 1.45—Studio Orchestra.
- 2—Close down.
- 2.30—Description of Two Year Old Handicap, Epsom Races, by "Musket."

AFTERNOON SESSION.

- 2.30—First Half of Tivoli Programme, transmitted from the Tivoli Theatre, by permission of J. C. Williamson Ltd.
- 3.40—Studio Orchestra.
- 3.50—Results of Epsom Plate and Brusk Steeplechase, by "Musket." Description of Epsom Handicap.
- 4.5—Studio Orchestra.
- 4.10—Miss Frances Fraser, travologue: "London's Playroom."
- 4.25—Vera Spaul and Mascotte Ralston, ukulele duets.
- 4.40—Description of Epsom Purse, by "Musket."
- 4.55—Sister Peck: Mothercraft.
- 4.62—"The 3LO Girl" Competition; "Herald"

News Service; Stock Exchange Information. Description of Encourage Mile, by "Musket." Close down.

EVENING SESSION.

- 6.45—Children's Hour; Answers to letters and Birthday Greetings.
- 6—Musical Hour for Children, arranged by Dr. Floyd, assisted by his chorists.
- 6.40—"Argus" and "Herald" News Services; Router's and the Australian Press Association Cables; Shipping Movements; Overseas Shipping; Weather Synopsis.
- 7—Stock Exchange Information.
- 7.4—Fish Market Reports, by J. R. Borrett Ltd.
- 7.6—River Reports.
- 7.8—Market Reports by the Victorian Producers' Co-operative Co. Ltd.; Haymarket Sheep Sales; Poultry; Grain; Chaff, Hay, straw; Info, dairy produce, potatoes and onions; Market prices of oranges and lemons, by the Victorian Central Citrus Association Pty. Ltd.

NIGHT SESSION.

- 7.20—Under the auspices of the Agricultural Department, Mr. R. Croze, Exporta Superintendent; Market Comments.
- 7.49—Mr. H. C. Slescombe, A Chat on Photography.
- 8—University Conservatorium Students' Concert, transmitted from the Auditorium.
- 8.15—Capt. Peters: Books, Wise and Otherwise.
- 9.30—Cecilia Ladies' Choir.
- 9.37—Mr. O. A. Mendelsohn: Aynbow-Aynwhon.
- 9.52—Signor Alessandro, tenor.
- 9.59—"The 3LO Girl" Competition; British Official Wireless News; Announcements.
- 10.9—Cecilia Ladies' Choir.
- 10.16—C. Richard Gutz, flute.
- 10.23—Studio Orchestra.
- 10.33—Cecilia Ladies' Choir.
- 10.40—Signor O'Allesandro, tenor.
- 10.48—"Argus" News Service; Meteorological Information.
- 11—Our Great Thought for to-night: "Intelligence and sympathetic understanding of our friends and associates is the sweetest balm for all ills; gives courage to those who are in despair, and is an incentive for new endeavour."
- 11.3—3LO Melody Masters.
- 11.40—God Save the King.

4QG

EARLY MORNING SESSION.

- 6.30—Physical Culture Session.
- 7—Close Down.

MIDDAY SESSION.

- 12.50—Tune in.
- 12.53—Time Signal.
- 1—Market Reports, Weather Information, "The Daily Mail" and "The Daily Standard" news.
- 1.20—From Hotel Carlton: Lunch Music from the Lounge, Hotel Carlton, played by Hotel Carlton Symphony Orchestra.
- 2—Close down.

AFTERNOON SESSION.

- 2.30—From Hotel Carlton: Afternoon Tea Music from the Lounge, Hotel Carlton, played by Hotel Carlton Symphony Orchestra.
- 4.13—"The Telegraph" news.
- 4.50—Close down.

EARLY EVENING SESSION.

- 6—News Service supplied by the "Daily Standard"; Weather information, supplied by the Commonwealth Weather Bureau; Announcements.
- 6.30—The Children's Session: Stories by "Little Miss Brisbane."
- 7—From the Council of Agriculture: Market News; Lectures: "Some Impressions of California," Mr. J. W. Howe, Horticulturist, Queensland Agricultural High School and College.
- 7.45—From the Studio; Stock Reports; Announcements; Weather Information.

NIGHT SESSION.

- 7.45—Lecture Session: A Travelogue Talk by Mr. C. V. Woodland.
8—Studio Concert.
9—Metropolitan Weather Forecast: Studio concert, continued.
10—From the Studio: "The Daily Mail" News; Announcements; close down.

5 CL

MORNING SESSION.

- 11.30—G.P.O. Chimes.
11.31—Stock Duo Art number.
11.40—"Advertiser" News Service.
11.55—Vocalion Number.
12—G.P.O. Chimes.
12.1—"Advertiser" News Service.
12.16—Featuring a Stock Duo Art number.
12.30—5CL Studio Orchestra.
1.55—Ward & Co.'s Stock Exchange Intelligence: Official Weather Synopsis and Station Announcements.
2—G.P.O. Chimes.

AFTERNOON SESSION.

- 3—G.P.O. Chimes.
3.1—Relay from "Maple Leaf" Cafe—Orchestra Numbers.
4.55—From the Studio—Stock-Duo Art numbers.
4—G.P.O. Chimes.
4.1—Relay from Arcadia Cafe—Orchestra and vocal numbers.
4.55—Stock Exchange Reports: General Information and Station Announcements.
5—G.P.O. Chimes.

EVENING SESSION.

- 6.30—G.P.O. Chimes.
6.31—Fictitious Stories.
7.30—Market Reports.
7.40—Boy Scouts' Concert.
8—G.P.O. Chimes.
8.1—Programme of Instrumental and Vocal numbers, from the Studio, arranged by Dixie Pirotta.
9—G.P.O. Chimes.
9.1—Weather Reports.
9.2—Concert Continued.
10.16—"Advertiser" News Service.
10.25—Concert continued.
10.55—Station Announcements.
11—G.P.O. Chimes; National Anthem.

7 ZL

MORNING SESSION.

- 11—G.P.O. Clock Chimes; the "Mercury" News; Stock Market; Shipping; Commercial intelligence; Weather information; and Sporting Anticipations; Saloonic Selections
12—G.P.O. Clock Chimes; Close Down.

AFTERNOON SESSION.

- 3—G.P.O. Clock Chimes; Musical Items from the Studio; Story from Illustrated Tasmanian Mail.
3.30—Hobart Stock Exchange Quotations.
3.55—Weather Information.
4—G.P.O. Clock Chimes; Close Down.

EVENING SESSION.

- 7—Children's Corner, "Big Brother" chats to his pals.
7.15—Story from Illustrated Tasmanian Mail
7.30—Talk on "Gilding" by "A Gulder".

NIGHT SESSION.

- 8—G.P.O. Clock Chimes; the "Mercury" Special Tasmanian News Service; Railway Auction Produce Sales; Weather Information and Sporting Results.
8.1—Hobart Stock Exchange Quotations.
8.10—Auction and Stock Market Reports from Roberts and Co. Ltd., Murray St., Hobart.
8.15—Physical Culture talk by Mr. George Collis.
8.30—Concert from the Studio: Duet, Mrs. S. H. Cox, soprano, Mrs. Dyer, contralto; Mr. E. Stranger, tenor; quartette, Mrs. S. H. Fox, Mrs. Dyer, E. Stranger, N.

Brownell, bass; Mrs. Dyer, contralto; male quartet, E. Stranger, G. Hingham, H. Walter, N. Brownell; Mrs. S. H. Cox, soprano; Josef, E. Stranger, and N. Brownell; solo, F. N. Brownell; solo, G. Burrows, baritone; pianist, Miss Valmay Cox.
9.15—Tasmanian District Weather Reports.
9.50—"Mercury" Special Interstate News Service; Weather Synopsis; Station Announcements. National Anthem.

- 12.20—Miss Eva Webb-Jones, soprano, "One Fine Day" (Puccini).
12.25—The Oak Hall Trio.
12.30—Music from the Studio.
12.40—Miss Edna Hudson, soprano; "Come, for it's June" (Forster).
12.45—Stock Exchange—Third Call.
12.55—Close down.

EARLY EVENING SESSION.

- 5.45—The Chimes of 2FC and announcements.
5.50—The "Hello Man" talks to the Children.
6.30—"The Little Black Princess," a serial story for the older children.
6.45—Broadcast from the Hotel Australia, Orchestral Items, under the direction of Miss A. J. Egan.
7.10—From the Studio: "Evening News" late news service and Weather Information.
7.30—Dineley's Market Reports (Wool, Wheat, Stock), Fruit and Vegetable Market.
7.40—A Talk by Mr. W. F. Jackson on "Ancient Cities of Provence".

NIGHT SESSION.

- 7.55—Announcements.
8—"Big Ben"; Broadcast from the King's Cross Theatre, items by the Orchestra, under the baton of Mr. Ernest J. Roberts.
8.20—From the Studio: Miss Joyce Frew, blind violinist, associated with Mr. Gordon Lavers, pianist.
8.30—2FC Vocal Quartette conducted by Mr. William Bourne: (a) Quartette, "O Banak Madak (Lorena)"; (b) Quartette, "The Owl and the Pussy Cat" (de Koven).
8.40—Clewarty and Lorraine, novelty instrumentalists; Duet, Soprano and Saxophone, "Miscreant" (Verdi); comic humour; duet, Banjos, "The Pipers are Calling"—some more humour.
8.50—2FC vocal quartette: (a) "The Dear Little Shamrock (Irish Traditional)"; (b) "There are Women" (Oakley).
9—Miss Joyce Frew, blind violinist and Mr. Gordon Lavers.
9.10—Mr. Jack Lumsdaine in songs at the piano.
9.20—2FC Vocal Quartette: (a) Bass Solo, "Up from Somerset" (by request), Mr. W. Bourne; (b) Quartette, "Flow Gently Diver" (Parry).
9.30—Miss Joyce Frew and Mr. Gordon Lavers.
9.40—Stewart and Lorraine, novelty instrumentalists, Duet, banjos, "Stars and Stripes" (Souza); duet, banjos, "Annie Laurie" (Lady John Scott).
9.50—Broadcast from the Wentworth Hotel; Items by the Wentworth New Symphonic Dance Orchestra.
10—From the King's Cross Picture Theatre; Items by the Orchestra under the baton of Mr. Ernest J. Roberts.
10.15—Music from the Studio.
10.45—Dance Music from the Wentworth Hotel.
11—"Big Ben"; Announcements.
11.1—Items by the Wentworth Dance Orchestra.
11.14—Music from the Studio.
11.15—Wentworth Orchestra.
12—National Anthem; close down.

2 BL

EARLY MORNING SESSION.

- 7.10—G.P.O. Clock and Chimes.
7.15—Musical Programme from Studio.
7.16—Physical Training and Health Exercises
7.25—Health Hints.
7.30—Physical Training and Health Exercises
7.40—G.P.O. Clock and Chimes.
7.45—Weather Forecast.
7.48—Sporting Information.
7.50—Broadcasters' Special News Service.
8—G.P.O. Clock and Chimes; Close Down.

MORNING SESSION.

- 10—G.P.O. Clock and Chimes.
10.1—Weather Report and Forecast.

Thursday, Dec. 9

2 FC

EARLY MORNING SESSION.

- 7—"Big Ben" and Announcements.
7.5—Music from the Studio.
7.10—Official Weather Forecast: Rainfall; Temperatures; Astronomical Memoranda; Shipping Intelligence; Commercial News; Mail Services.
7.25—Investment Market; Mining Share Market; Metal Quotations.
7.35—Wool Sales; Breakfast Markets; Interstate Markets; Produce Markets.
7.45—"Spring Morning Herald" News Service.
8—"Big Ben"; a "Cheerio" Talk by Mr. J. K. Powell.
8.15—Close down.

MORNING SESSION.

- 9.10—The Chimes of 2FC.
9.20—Music from the Studio.
9.30—Marching Music for the School children.
9.40—Music from the Studio.
9.45—Talk by 2FC Racing Commissioner.
10—"Big Ben" and Announcements.
10.5—Late "Sydney Morning Herald" News Service.
10.16—Music from the Studio.
11.15—A Morning Reading.
11—"Big Ben"; Australian Press Association and Reporter's Club.
11.10—Music from the Studio.
11.15—A Dickens Reading, by Mr. Curbrance.
11.30—Marching Music for School Children.
11.35—Close down.

MIDDAY SESSION.

- 12—The Chimes of Big Ben; and Announcements.
12.5—Stock Exchange, First Call.
12.10—Music from the Studio.
12.30—Marching Music for the School Children.
12.40—Music from the Studio.
12.45—From Farmer's Oak Hall: The Oak Hall Trio (Leader, Mr. Horace Kantz).
12.50—"Early Wireless News".
1—"The Chimes of Big Ben"; Weather Intelligence.
1.3—"Evening News" Mid-day News Service. Recounting Distributing Society's Report.
1.30—From Farmer's Oak Hall—The Oak Hall Trio.
1.35—Stock Exchange—Second Call.
1.40—Marching Music for the School children.
1.45—Music from the Studio.
1.45—A Talk by 2FC Racing Commissioner.
1.50—From Farmer's Oak Hall—The Oak Hall Trio.
E—"Big Ben"; close down.

AFTERNOON SESSION.

- 2.30—The Chimes of 2FC and Announcements. A Vocal Recital from the Studio.
2.30—Marching Music for the school children.
2.40—From Farmer's Oak Hall: Miss Eva Webb-Jones, soprano, "Silent Moon" (Williams).
2.45—From Farmer's Tea Rooms, the Oak Hall Trio.
2.55—Music from the Studio.
4—Miss Edna Hudson, soprano, "Smile at Spring" (Fletcher).
4.5—The Oak Hall Trio.
4.15—Music from the Studio.

DE FOREST

The Quality Valve



13/6 each

Filament, 3 Volts, .06 Amp.
 Detector, 16 to 45 Volts.
 Amplifier, 45 Volts to 150 Volts.
 Fits Standard American Socket.

De Forest Valves
 were the first made.

Lee De Forest invented
 the valve, so you
 can rest assured that
 De Forest Valves are
 the best.

DON'T BE MISLED.

DE FOREST is the
 "QUALITY TUBE,"
 and is correct in de-
 sign and manufac-
 ture.



12/- each

Filament, 5 Volts, 4 Amp.
 Detector, 12 to 22½ Volts.
 Amplifier, 45 to 180 Volts.
 Fits Standard American Socket.

DE FOREST VALVES FOR DEPENDABILITY

FACTORY REPRESENTATIVES:

INTERNATIONAL RADIO COMPANY, LIMITED

200 CASTLEREAGH ST., SYDNEY, N.S.W. ALSO AT 91-93 COURTENAY PLACE, WELLINGTON, N.Z.

- 10.3.—Broadcasters' News Service direct from Rugby.
 10.6.—Daily Telegraph News Service.
 10.13.—Musical Programme from Studio.
 10.18.—Daily Telegraph News Service.
 10.30.—Ten Minutes' Talk supplied by the R.N.M.A.
 11.—G.P.O. Clock and Chimes.
 11.1.—Musical Programme from the Studio.
 11.15.—Vegetable Market Report.
 11.35.—Fruit Market Report.
 11.41.—Other Market Reports.
 11.24.—London Metal Quotations.
 11.28.—Hints in call by Wireless.
 11.31.—Weather Report and Forecast.
 11.33.—Shipping Information.
 11.37.—Information re Interstate and Overseas Mails.
 11.40.—Women's Section; Social Notes by Mrs. Jordan.
 11.50.—Mrs. Jordan replies to Correspondents.
 12.—G.P.O. Clock and Chimes.
 12.1.—Talk on "The Holiday Outlook" by Mrs. Jordan.
 12.30.—Sydney Stock Exchange Calls.
 12.35.—News from the Sun.
 12.40.—Hillier's Instrumental Quartette, direction Cyril Castling.
 1.00.—G.P.O. Clock and Chimes.
 1.01.—Weather Report and Forecast.
 1.05.—Sydney Stock Exchange Calls.
 1.05.—Track Gallops and Sporting Information.
 1.08.—"Sun" Newspapers' News Service.
 2.—G.P.O. Clock and Chimes; Close Down.

AFTERNOON SESSION.

- Racing Information broadcast by courtesy of the Sun.
 3.—G.P.O. Clock and Chimes.
 5.1.—Weather Report and Forecast by courtesy of Govt. Meteorologist.
 5.3.—Social Notes from the Sun.
 5.10.—"Sun" Newspaper's News Service.
 5.15.—David Jones' Tea Room Trio, Pianist Miss Caspers, violinist, Mr. Ahlsson, cellist, Mr. Cleaver.
 5.30.—G.P.O. Clock and Chimes.
 5.31.—Country Women's Section.
 5.45.—Music from the Studio.
 4.—G.P.O. Clock and Chimes; David Jones' Tea Room Trio.
 4.15.—Social Story.
 4.30.—Musical programme from the studio.
 4.45.—Producers' Distributing Society's Vegetable and Fruit Markets.
 4.48.—Shipping Information when available.
 4.52.—Day's Racing Resume on Race Days.
 4.55.—News from the Sun.
 4.58.—Resume of Night's Programme.
 5.—G.P.O. Clock and Chimes; Close down.

EARLY EVENING SESSION.

- 5.45.—G.P.O. Clock and Chimes.
 5.46.—Uncle George and the Kiddies.
 6.5.—Uncle George and Auki (the Solomon Island boy) entertaining the kiddies.
 6.40.—Pavilion Dinner Orchestra, under the direction of Mr. Lee Morrison.
 Special Country Session.
 7.—G.P.O. Clock and Chimes.
 7.1.—Australian Mercantile Land and Finance Coy. Report.
 7.5.—Weather Report and Forecast, by courtesy of Mr. C. J. Marus, Govt. Meteorologist.
 7.9.—Stock Exchange Reports.
 7.14.—Producers' Distributing Society's Fruit and Vegetable Report.
 7.19.—Fruit and Vegetable Report (Sun).
 7.22.—Grain and Poultry Report (Sun).
 7.30.—Daily Produce Report (Sun).
 7.35.—Country News from the Sun.

NIGHT SESSION.

- 8.—G.P.O. Clock and Chimes; Broadcasters' Trustees' Choir.
 8.5.—The Ambassadors' Instrumental Salon Quartet, under the direction of Mr. Claude McElvyn.
 9.30.—Mr. Roland Frster will talk on "Le-

gends in Song by famous Composers," with vocal illustrations.

- 9.—G.P.O. Clock and Chimes.
 9.1.—The Orpheum Amateur Orchestral Society
 9.11.—Resume of following day's programme.
 Weather Report and Forecast by courtesy of Mr. C. J. Marus, Govt. Meteorologist.
 9.15.—Miss Myrtle Hobbs, lyric soprano.
 9.22.—The Orpheum Amateur Orchestral Society.
 9.42.—Miss Alice Procter, contralto.
 9.47.—Interval.
 9.52.—Mr. Bert Warner.
 10.—G.P.O. Clock and Chimes.
 10.1.—Miss Myrtle Hobbs.
 10.35.—Miss Alice Procter and the Ambassadors' Dance Band broadcast from the Ballroom of the Ambassadors. During the intervals between dances, News Reports by courtesy of News Newspapers will be broadcast.
 12.—G.P.O. Clock and Chimes; National Anthem.

3 LO

MID-DAY SESSION.

- 12 noon.—Time Signal; British Official Wireless News from Rugby; Reuters and the Australian Press Association Cables; "Argus" and "Herald" News Services; Shipping Intelligence.
 12.45.—Stock Exchange Information.
 12.50.—Meteorological information; Weather Forecast for Victoria, Tasmania, South Australia, and New South Wales; Ocean Forecast; River Reports.
 1.—Time Signal.
 1.1.—Studio Orchestra.
 1.10.—Vera Spaul, soloist.
 1.17.—An original sketch, Les Miller, Yettie Landau, Frank Postson.
 1.24.—Walker Smith, cornet.
 1.40.—Studio Orchestra.
 1.50.—Vera Spaul.
 1.55.—Studio Orchestra.
 2.—Close down.

AFTERNOON SESSION.

- 2.30.—Official Opening of New Headquarters and Sister Girls' Home for Friendless Girls; selections by Miss Hill's orchestra; arrival of His Excellency the State Governor, Lord Somers; hymns, orchestra selections and speeches.
 4.—Marshall and Graham, duets.
 4.1.—"Mary Gumleaf" Poems.
 4.25.—Marshall and Graham, duets.
 4.34.—"ELO Girl" Competition.
 4.38.—"ELO Girl" Competition.
 4.45.—Evening song from St. Paul's Cathedral.
 5.30.—Close down.

EVENING SESSION.

- 5.45.—Children's Hour: Answers to letters and birthday greetings.
 6.—Vera Spaul, children's songs.
 6.7.—"Mary Gumleaf" will recite.
 6.11.—Story for the littlest ones.
 6.14.—Harold Collier, mouth-organ selections.
 6.20.—Vera Spaul, children's songs.
 6.27.—"Mary Gumleaf" for the boys and girls.
 6.40.—"Argus" and "Herald" News Services; Reuters and the Australian Press Association Cables; Shipping Movements; Overseas Shipping; Weather Synopsis.
 6.52.—Stock Exchange information.
 6.57.—Fish Market reports by J. R. Borrett Ltd.
 7.—River Reports.
 7.5.—Market Reports by the Victorian Producers Co-operative Co. Ltd.; Haymarket Sheep Sales; Poultry, grain, chaff, hay, straw, jute, dairy produce, potatoes and onions; Market prices of oranges and lemons by the Victorian Central Citrus Association.
 7.15.—Orange and Lemons, by the Victorian Central Citrus Association.

NIGHT SESSION.

- 7.20.—Under the auspices of the Associated Amateur Sports Committee of Victoria, Mr. A. L. Dobbin, "Acquaintance."
 7.40.—Mr. J. Howlett Ross, "Famous Australians, Richard John Seddon."
 8.—ELO Melody Masters.
 8.10.—Mr. A. W. Jackson, talk, "Golf."
 8.25.—ELO Melody Masters.
 8.35.—Vera Spaul, entertainer.
 8.40.—ELO Melody Masters.
 8.50.—Frank Graham, bass.
 8.54.—ELO Melody Masters.
 9.40.—Ivan Marshall, tenor.
 9.8.—ELO Melody Masters.
 9.18.—Thelma Ready, banjo selections.
 9.22.—ELO Melody Masters.
 9.32.—Pat McLean, entertainer.
 9.36.—ELO Melody Masters.
 9.46.—Vera Spaul.
 9.50.—"Argus" News Service; Meteorological information; British Official Wireless News; ELO Girl Competition announcements.
 10.5.—ELO Melody Masters.
 10.15.—Frank Graham, bass.
 10.19.—ELO Melody Masters.
 10.20.—Ivan Marshall, tenor.
 10.38.—ELO Melody Masters.
 10.43.—Thelma Ready, banjo.
 10.48.—ELO Melody Masters.
 10.58.—Pat McLean, entertainer.
 11.2.—Our Great Thought for To-night is—"The business of youth is to conquer difficulties; age avoids them; eliminate worry, cultivate courage, and thereby lengthen life."
 11.4.—ELO Melody Masters.
 11.40.—God Save the King.

4 QG

MIDDAY SESSION.

- 12.35.—Time in.
 12.58.—Time Signal.
 1.—Market Reports. Weather information. "The Daily Mail" and "The Daily Standard" news.
 1.20.—From Hotel Carlton; Lunch Music from the Lounge, Hotel Carlton, played by Hotel Carlton Symphony Orchestra.
 2.—Close down.

AFTERNOON SESSION.

- 2.30.—A programme of Music from the Studio.
 4.10.—Lecturette: "Baby Welfare," by Nurse E. Davis.
 4.15.—"The Telegraph" news.
 4.30.—Close down.

EARLY EVENING SESSION.

- 6.—"Daily Standard" News; Weather information; Announcements.
 6.50.—The Children's Section. Stories by Sambo and Pete.
 7.—From the Council of Agriculture, Studio; Market Reports; Lecture, "Immigration from a farmer's viewpoint," Mr. R. J. Webster, Council of Agriculture.
 7.50.—From the Studio; Stock Reports; Announcements.

NIGHT SESSION.

- 7.45.—Lecturette: "A Talk on Books," Mr. W. A. Braden.
 8.—Numbers by St. James' Choir.
 8.—Metropolitan Weather Forecast; Concert continued.
 10.—From the Studio; "The Daily Mail" news Announcements; close down.

5 CL

MORNING SESSION.

- 11.30.—G.P.O. Chimes.
 11.31.—Fishing, a Steek Duo Art number.
 11.40.—"Advertiser" News Service.
 11.65.—Vocalion Number.
 12.—G.P.O. Chimes.
 12.1.—"Advertiser" News Service.

- 12.16—Featuring a Stock Duo Art number.
 12.30—SCL Studio Orchestra.
 1.45—Ward & Co's. Stock Exchange Intelligence; Official Weather Synopsis and Station Announcements.
 2—G.P.O. Chimes.

AFTERNOON SESSION.

- 3—G.P.O. Chimes.
 3.1—Relay from "Maple Leaf" Cafe—Orchestral Numbers.
 3.45—From the Studio—Stock-Duo Art numbers.
 4—G.P.O. Chimes.
 4.1—Relay from Acadia Cafe—Orchestral numbers.
 4.35—Stock Exchange Reports; general information and Station Announcements.
 5—G.P.O. Chimes.

EVENING SESSION.

- 6.30—G.P.O. Chimes.
 6.41—Bedtime Stories.
 7.15—Health talk, arranged by Mr. Whittenbury.
 7.36—Market Reports.
 7.40—Poetry Talk arranged by Mr. Whittenbury.
 8—G.P.O. Chimes; Studio Concert.
 9—G.P.O. Chimes.
 9.1—Weather Reports.
 9.3—Studio Concert continued.
 10—G.P.O. Chimes.
 10.1—Studio Concert, continued.
 10.15—"Advertiser" News Service.
 10.25—Studio Concert continued.
 10.35—Station Announcements.
 11—G.P.O. Chimes; National Anthem; and close down.

7 Z L

MORNING SESSION.

- 11—G.P.O. Clock Chimes; The "Mercury" News; Stock Market; Shipping; Commercial Intelligence; Weather Information; "Salonika" Selections.
 12—G.P.O. Clock Chimes; close down.

AFTERNOON SESSION.

- 3—G.P.O. Clock Chimes; Musical Items from the Studio.
 3.30—Hobart Stock Exchange Quotations.
 3.55—Weather information.
 4—G.P.O. Clock Chimes; close down.

EVENING SESSION.

- 7—Children's Corner. "Big Brother" chats to his pals.
 7.15—The Adventures of George the Book-shelf Cat by "Aunt Stella."

NIGHT SESSION.

- 8—G.P.O. Clock Chimes; The "Mercury" Special Tasmanian News Service; Railway Action Produce Sales; Weather information.
 8.5—Hobart Stock Exchange Quotations.
 9.10—Popular Wireless Talk by Mr. Sidney Laws.
 9.30—Concert from the Studio: Mrs. E. W. Bailey, I.A.B., contralto; Miss Dorothy Newton, contralto; Miss Beryl Sciteline, soprano; Miss Edie Lamplin, soprano; Mr. George Muir, tenor; Mr. J. R. McCann, pianist.
 9.35—Tasmanian District Weather Reports.
 9.50—The "Mercury" Special Interstate news Service; Weather Synopsis; Station Announcements; close down.

WANTED.—All kinds secondhand Wireless Sets, Parts, Sponkers, etc. Best prices given. JACK RAPKEN, 16 George Street West, MA 1195.



YOUNG AUSTRALIA

A score of years back, city dwellers and those back of beyond knew little more of each other than people on separate continents. At the summons of the Great War, Australia discovered its country sons and the country sons discovered the world. The boys of farm and orchard and station stepped into the shell-light of Europe and a civilisation in arms.

Each great-hearted Australian city opened its arms to every lad in khaki and a link of eternal friendship was forged. The youth of all Australia became a glorious family, welcomed by a united purpose.

Peace brought a gradual reversion to old conditions, but now the few square miles around his isolated home no longer satisfied the boy of war-broadened vision.

For a time unrest threatened to have disastrous results on many homes. Parents despaired of their boys ever settling down to an ordinary everyday existence, and minor tragedies seemed likely to follow the great tragedy!

Radio came as a new star of hope! It became possible to live miles from civilisation and yet be as closely in touch with current events as the man who read his paper at breakfast each morning.

From the city broadcasting stations each evening, messages are sent to one vast community possessing a united interest in radio. This has linked suburban drawing room and isolated homestead, and put them on an equal footing.

In the country, the radio set is the magnet uniting a score of interests and binding home life anew. Miss reading your daily newspaper for a week and you will have some idea of what it formerly meant to get news days after it had been forgotten in the cities.

Needless to say, every wise man in the long distances jealously takes precautions against even temporarily losing the benefits of the wireless—which has become a daily joy. He cannot afford to risk music using an inferior make of battery.

That is why the only choice is invariably Burgess, the world's best and most enduring battery—half the cost because double the life.

Careful experiment and years of research in their radio laboratories

have resulted in making Burgess the dry battery supreme.

That is why they are used by the American Navy and by all to whom reliability is essential.

Explorers throughout the world have given their lives into the safe-keeping of Burgess. You may place your trust to-day in the same perfect battery.*

THE FIRST WEEK in December presents several features of special interest to 3LO, Melbourne. On Sunday, Dec. 5, the Heidelberg Musical Society, under the baton of Mr. Burgin, will give a sacred concert. On that date also Mr. Harold Rodgers will play several request numbers on pianoforte and organ as a farewell performance prior to his departure for America. On the next night the University Symphony Orchestra is to be broadcast, and on the Wednesday there will be a University Conservatorium concert at the Auditorium. During the lunch hour of Wednesday, also, from 1.15 to 1.45, Mr. Sutton Crowe and his students will give a lunch-hour concert.

GEORGE FIELD

RADIO AND ELECTRICAL SUPPLIER.

Head Office and Showrooms:
 205 Hunter St. NEWCASTLE.
 (Between Scots and Winsie).

"CROIX" the famous French Audio Frequency Transformer, 5-1 ratio —0.6. Best quality coil plugs, 5d. Franco plugs and sockets, with the de luxe spring contacts, 5d. pair. Hytron Valves, 20/1A, 9/9 types. Improved non-ferrous, with beaded glass filament supports, 4/6 each.
 Alox phone plugs, 1/5. Black celluloid strip, 2d. ft. Midget Ar-raters, 1/4. Bezels, 1in. and 1 1/2 in.—5d. and 8d. English American adapters, 3/6. Airtone Kent 2 stage audio units, £2/10.—Peerless metal frame rheostats, with anti-capacity shield, 3/6. Grid and phone condensers, 1/2. Best bakelite, in stock sizes, 3/4. Special sizes out to order, 3/4. square inch.

Country Dealers supplied.

Write for Documents.

Same day Service at best city prices. All Standard Radio lines at best "weekly" prices.

King Newcastle 1185 for prompt delivery.

THE LARGEST AND OLDEST RADIO HOUSE OF THE NORTH

PHILIPS HIGH TENSION SUPPLY UNIT

Separate terminals for detector and Low Frequency circuits, with a Rheostat on each circuit.

A Real "B" Battery Eliminator

THIS unit will eliminate "B" battery worries entirely. No more faulty reception — no more disappointment or spoilt programmes. Philips Unit gives an ample supply of High Tension Current direct from your A.C. house lighting circuit at an infinitesimal cost. PHILIPS is

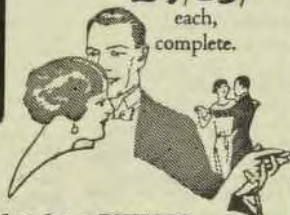
"The Lifetime Unit"

Ask your dealer for a demonstration.

**Obtainable at all
Radio Dealers.**

£9/15/-

each,
complete.



Let your next Valve be a PHILIPS



PHILIPS

LAMPS AND RADIO



The Significance of Church Broadcasting

(Continued from Page 6.)

tumble of the world outside where neither the rough nor the tumble are ever wanting. Under the influence of all this one's bumps of combativeness, reason and courage positively protrude. Fourth, it increases the sense of responsibility and a sense of responsibility is to a man what ballast is to a ship. To realise that he is faced with the possibility of influencing either for good or ill large numbers of people pulls up with a round turn any man who might be tempted to carelessness. To the member of the congregation from which a service is being broadcast these comes a sense of goodwill towards the unseen host of listeners-in. The people outside are enjoying their service and rejoicing in that which gladdens their hearts. Brotherly kindness is the result.

The significance of church broadcasting to the far off listener-in manifests itself in the removal of a sense of isolation. The great world of the city is brought into the four walls of their room. They share with the most fortunately placed in the land their richest privilege. They feel that they are one with suburbanites and city dwellers. To feel that you "do not belong" is one of life's bitterest woes. Radio is its sworn foe.

The best results can be achieved from the broadcasting of church services only by an earnest application of those governing principles which investigation and experiences have established.

The sermon should be brief. Listening-in is more tiring than simply listening. The man who is effective for a certain time in an ordinarily-preached sermon, if he be wise, will reduce his time 25 or 50 per cent. Sentences must be short and crisp. The theme should be practical rather than theoretical. The Anglo-Saxon type of English should be the one used. Provision must be made to meet the broad general needs of the most varied collection of listeners. Brevity and clarity are the watch-

Guaranteed Workmanship & Clarity of Reproduction



The 'D.J. STANDARD 4'

£25

Absolutely complete No extras to buy

This powerful and highly selective Set is simplified to the greatest possible extent, there are no moving coils to change or get out of order—only two dials, so simple that anyone can regulate the tuning. Once tuned in the "D.J. Standard-4" remains stable. There is no difficulty in picking up whichever station you want—all inter-State Stations at Loud Speaker Strength (except Perth.)

Here is what you
get for your £25

4 B 406 Phillip Valves, 4-volt 33-amp. Peto-Radford Accumulator, 2 large capacity Volton "B" Batteries, 1 Trimm Entertainer Speaker, 1 pair Trimm Dependable Phones, 2 Phone Plugs, 100 feet of Aerial Wire, 30 feet of Insulated Lead-in Wire, 4 Insulators, 6 feet Flex Wire for connecting Batteries, 1 Lighting Arrester. The whole enclosed in handsome cabinet of polished maple.

Buy it on Deferred Payments

You can now have the pleasure of securing the "D.J. Standard-4" delivered into your own home on the deposit of £2/10/-; balance to be paid at the rate of 9/6 per week, to be completed within 12 months.

DAVID JONES'



The R. D. A. III.

R. D. A. Receivers are supplied absolutely complete in all details.

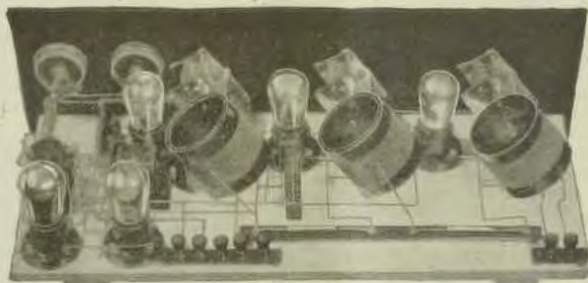


FROM 15/- DEPOSIT

THERE is no longer any reason why the splendid entertainment provided by our Broadcasting Stations need be denied to anybody.

An R. D. A. Receiver which is a guaranteed product and which embodies every modern factor essential to perfect radio reproduction, may be had for a very small deposit—the balance to be paid on our well-known easy payment system.

An R. D. A. Receiver is not only a highly efficient Broadcast Receiver, but as will be seen from the illustration on this page, it is an article of furniture that enhances the beauty of the home.



The R. D. A. Standard Neutrodyne

CALL, TELEPHONE OR WRITE

Open Friday Nights

RADIO DISTRIBUTORS

29 Royal Arcade
(Near Palace Theatre)

MA 1790 MA 1744

10a Victoria Arcade
(Opp. Hotel Australia).

words. Finally, the sermon must "get somewhere."

The Scripture lesson should be chosen with care. The Bible has passages which almost seem as though they were written for church broadcasting. Twenty verses is a fair maximum unless two lessons from the Old and New Testaments be combined when the number may be slightly increased. Explanatory references, speaking generally, should be cut out.

The hymns should be mainly composed of the old dignified favorites, so that wherever desired listeners-in may join in the singing.

The organ solos should contain a very distinct melody, running through a succession of harmonious chords do not go over satisfactorily. They tend to become a tonal blur. The stops which are the radio organists' best friends are such as resemble the note of the piccolo, oboe, etc. Upon these he should ring the changes with a good deal of freedom.

The anthem chosen for the broadcast service should be the most attractive one in the choir's repertoire, and if it contains several solo parts all the better. The conductor of a choir which broadcasts should be a man of sufficient courage to say no to any particular member of the choir whose desire to get on the air is not approximated by a corresponding capacity for radio musicianship.

Finally, the principle governing all church transmissions is "Only the very best possible is permissible." This should dominate all the radio arrangements. Anything which will just do positively will not do.

A RADIO ENTHUSIAST at Queanbeyan writes to a Sydney wireless firm emphasising the importance of the broadcasting of the wool sale prices from Sydney. He states that he knows of a case where a travelling "wool jobber" was defeated in a deal by a grazier as the latter, having regularly received the wool prices by radio, refused to sell to the jobber, and decided to send his clip to the catalogue as usual.

FARMER'S

High-Grade Radio Accessories

Keenly Priced and of Proved Reliability

All Wireless Sets and Accessories are obtainable at Farmer's on the ground floor, Market Street—adjacent Men's Mercy Section. Only the finest and best-known makes are stocked, so that all parts purchased may be relied upon to give the utmost in service and satisfaction. Moreover, on certain lines prices have recently been reduced, so that values are now keener than ever.



"Sensory" Base Sockets
Genuine Bakelite

"Sensory," Standard American Base sockets are made from genuine bakelite throughout. Price 3/-

"Benjamin" Sockets
Assembled and Unassembled

Both UX and UV 201A Valves, may be used in Benjamin Sockets, which are obtainable either assembled or unassembled. Assembled. Price 5/-
Unassembled. Price 3/6



"Mars" Aerial Wire

"Mars" Aerial Wire, "Mars" Aerial, 84 strand, super aerial cable, has the lowest ohmic resistance yet obtained. 100 feet lengths. Price 12/6

"Burgess" Batteries

45 volt Burgess "B" Batteries, the "B" battery which ensures long life and faultless service. Price ... 28/-

"Jefferson" Transformers

Jefferson 41 Transformers are now obtainable at greatly reduced prices. Previously 25/-. Reduced Price 18/6

"Craftsman" Reliable Condensers

Of finest workmanship throughout. "Craftsman" condensers may be relied upon to give the best possible results under all conditions. .0005 m.f., Price 19/-

FARMER'S, SYDNEY

BOX 497 AA, G.P.O.

RADIO SUPPLIES, GROUND FLOOR

FACTS

ABOUT

Impedance of Audio Frequency Transformers

THE FAMOUS



BRITISH MADE

TRANSFORMER

TYPE AF 3

Has the following Impedances:

AT 100 PERIODS - - - 50,000 OHMS.

AT 500 PERIODS - - 410,000 OHMS.

No better Transformer is available at any price

Dealers please communicate with:

A. BEAL PRITCHETT (Aust.) LTD., Sydney and Melbourne.

WEDNA LTD., Adelaide.

EDGAR V. HUDSON, Brisbane.

- (a) Amplification with any valve and transformer depends greatly on the transformer impedance; the higher the transformer impedance the better the reproduction, particularly of the lower notes.

HENCE IT IS UNNECESSARY TO VARY THE IMPEDANCE OF THE TRANSFORMER TO MATCH THAT OF THE VALVE USED; ON THE CONTRARY, THE HIGHEST POSSIBLE TRANSFORMER IMPEDANCE SHOULD BE USED AT EVERY STAGE.

- (b) IMPEDANCE DEPENDS ON FREQUENCY, AND TO STATE TRANSFORMER IMPEDANCE WITHOUT STATING THE FREQUENCY AT WHICH IT IS MEASURED CONVEYS NOTHING.

A good transformer has a high impedance even at low frequencies to reproduce low notes satisfactorily. A transformer may have a high impedance at a comparatively high frequency, say, 500, and yet be a bad transformer because the whole range of male and female speaking voices, as well as most of the fundamental musical notes are at frequencies below 500.



C.T.P. 285

*Half the cost—
because double the life*

Burgess Batteries Meet Every Need

Your wireless deserves the best. How many exquisite sets are spoiled to listeners-in by the foolish economy of a bad battery! Only a Burgess can give just that clear strength and purity which win the praise of your guests. Long life adds to efficiency. Daring adventurers have taken the Burgess Battery above the clouds, beneath the sea, among the ice-floes of the Arctic and into the blazing heat of New Guinea jungles. Each time the Burgess stood the test triumphantly,—and it will do the same for you.

Buy right and you must buy Burgess!

The Burgess Line takes care of every Radio Battery demand. Burgess "A's" are especially designed for radio filament lighting, and have remarkably long life. Burgess "B's" meet every need—from the smallest size for portable sets up to over-size—for especially heavy current drains—horizontal type or vertical type—whichever is preferred. Burgess "C's" for dependable "grid bias duty." With Burgess Radio Batteries you know that you get quality and service, the two essentials.

"Ask any Radio Engineer"

Obtainable Only from High-class Dealers.

WHOLESALE:

**New System Telephones
Pty. Ltd.**

280 Castlereagh Street,
Sydney.

27 Queen's Bridge Street,
Melbourne.

Charles Street,
Adelaide.



S-B

Radio's Greatest Enemy is Interference

(Continued from Page 10.)

because the crystal set gives to the 'phones only what it picks up from the aerial, while a valve set amplifies or boosts up the amount of energy picked up by aerial system.

Blaming Static.

There have been times when most of us have found atmospheric, or static, or X's, as they are variously called, to be good friends. When the set does not work well on the evening that we invited friends to listen-in, it was customary to blame the failure on the static. Sometimes we didn't know and were quite honest about it. But times have changed. We know more about the set these days, and people know the familiar effects of atmospherics better. There are, however, cases discovered by the traders every day, where the noises attributed to atmospherics are really caused by faults in the set or batteries.

A battery (B battery) that is nearly run down will cause noises in the receiver not unlike those produced by distant atmospherics or static discharges. A battery having a voltage of 22½ volts will develop those noises if the voltage falls below about 17 volts. When it is discharged to that extent it is time to get a new one. And that proves the necessity for having a small voltmeter, so that one can tell readily how the batteries are.

THE EXTRAORDINARY ONE VALVER.

Mr. A. Allen, of West End, South Brisbane, writes: "I have built the Extraordinary One-Valve receiver of 'W.W.' 22/10/26. I can get the local station (4QG) on the loud speaker."

Mr. W. Jordan, of Ipswich, Q.: "I am writing to tell you of the great success I have had with the Extraordinary One-Valve receiver. I only finished it half an hour ago, and as soon as I put on the batteries it came 2HL clear and strong. Then I tuned in 3LO, 4QG, and 2GB."

Hosts of other appreciative letters have been received by us.

G.G.H. Majestic Reproducer

With this high-grade loud speaker you can make wireless more enjoyable.

It ensures clear, distinct tone free from harshness. Complete with non-resonant, unbreakable Projector Horn 85/-

85/-

Obtainable from radio dealers and electrical stores.

W. G. WATSON & CO. LTD.

279 CLARENCE STREET, SYDNEY.

29 Hunter St., Newcastle 200 Queen St., Melbourne

And all States.

Keep your Radio Batteries
charged with the

Ultra Battery Charger

Efficient and dependable, the ULTRA charger will charge radio and car batteries of all sizes, at very low cost.

Fully enclosed in metal case—quiet—shockproof—fire-proof—automatic in operation.

Ask for full particulars of
of this handy Charger

The Best Crystal! The Best Results!!
Now The Best Price!!!

REDUCED TO

1/6



REDUCED TO

1/6

Thousands of Authentic
Testimonials prove its
EFFICIENCY

LOUD SPEAKER can be operated with
a Neutron Crystal on your crystal set

Australian Distributors:
LOUIS COEN PTY. LTD.,
260 Flinders Lane, Melbourne.

ON SALE at 1/6
EVERYWHERE

Carried in stock and distributed in
New South Wales by

**MANUFACTURERS PRODUCTS
Pty. Limited,**
Challis House, Sydney.

Radio for Farmers

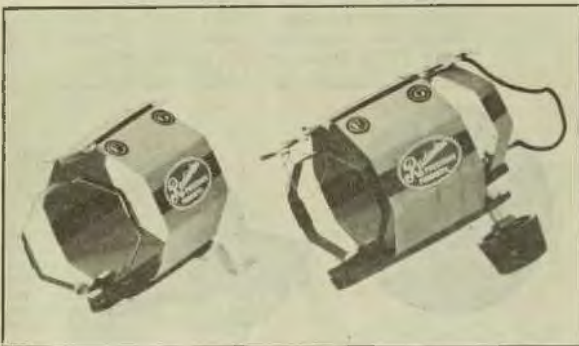
ALTHOUGH constant evidence is forthcoming as to the value of a radio receiving set to a farmer or grazier, no definite effort has yet been made in Australia to collect exact information regarding the cash saving which the man on the land may hope for by investing in a radio set. In the United States, however, a census has just been taken in which 44,550 farmers replied to a series of questions. Forty-six per cent. of those replying gave instances of cash savings having been effected by the use of radio on the farms. Most of the replies stated that the information most sought by farmers was market reports, as these helped them to sell their produce to the best advantage. By this means they were enabled to hurry their produce to market when there was a possibility of a fall in price, or to hold it if the market was over stocked or if there was a possibility of an increased price.

Some who replied to the questions stated that the weather reports by radio had saved the farmers hundreds of thousands of dollars during the past year. The National Farm Radio Council has held "radio mass meetings" to discuss matters of general interest. Addresses were given at headquarters of the council; these were broadcast, and farmers who owned receiving sets gathered their neighbours to listen in their own homes. In some instances as many as 250,000 farmers attended "meetings" held in this way.

RADIO AT COROWA RACES.

For the benefit of those who attended the last COROWA races, a radio receiving set fitted with a loud speaker was installed at the front of the grandstand, and during the afternoon descriptions of the racing in Melbourne and Sydney was received. This is probably the first time that a wireless set has been in operation on a southern district race course, and judging from the success of this innovation, it will not be the last.

Announcing the 'New Radiokes' Bayer Four T.R.F. Coil Kit



This Kit has been selected by the technical staff of "Wireless Weekly" for the construction of the famous "Bayer Four" Receiver, described in this issue. Remember that it was only chosen as a result of its supreme quality—that essential which makes all the difference to Radio reception.

Limitations removed—new possibilities, new pleasures made available for a larger circle of Radio enthusiasts by this marvellous coil kit—and the price is only . . . 25/-.

At all good Radio Dealers, or direct from—

Metropolitan Electric Company, Limited

27-29 King Street . . . SYDNEY.

— Make this a —

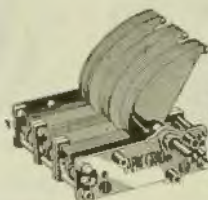
"Radiokes" Christmas

It PAYS to use Pilot Parts

Because Pilot parts are so carefully made and so beautifully finished that they assure perfection in performance and appearance. Because the noiseless, perfect control of Pilot Parts has never been surpassed. Because Pilot Parts mean genuine satisfaction.



Here is a new and improved vernier dial (ratio 10-1) which makes fine tuning not only possible but positive! Indicates both degrees and kilocycles. A fine dial in genuine bakelite, with friction control, without back-lash and only 7/6



STRAIGHT LINE FREQUENCY BRASS PLATE.

A triple condenser mounted for one dial control. Built with precision for precision work.

| | |
|---|---------|
| No. 8118, 13 plate | £0 14 0 |
| No. 8117, 17 plate | 0 16 9 |
| No. 8123, 23 plate | 0 17 3 |
| No. 8117-2, 17 plate double condenser | 1 14 6 |
| No. 8117-3, 17 plate triple condenser | 2 1 3 |

PILOT CONDENSERS

An all-aluminium instrument with the rotor shaft and all metal parts except the stator electrically integral with the end plates, thus eliminating body capacity entirely.

Straight Line Wavelength.

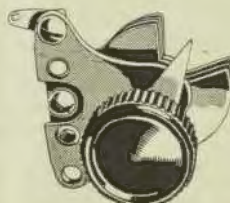
| | |
|----------------------------|---------|
| No. 5113, 13 plate | £0 11 3 |
| No. 5117, 17 plate 0 12 0 | |
| No. 5123, 23 plate 0 13 6 | |

Straight Line Frequency, Aluminium Plate.

| | |
|----------------------------|---------|
| No. 7113, 13 plate | £0 12 0 |
| No. 7117, 17 plate | 0 13 6 |
| No. 7123, 23 plate | 0 14 3 |



| | |
|---------------------------|--------|
| .0001 | £0 3 0 |
| .0002 | 0 3 0 |
| .0006 | 0 3 9 |
| .0006 | 0 2 9 |
| .00025 | 0 2 9 |
| .00025 with clips | 0 2 9 |



| | |
|---|-----|
| No. M.7. Midget condenser, 7 plate | 5/9 |
| No. M.7. Midget condenser, 13 plate | 7/- |



JACKS.

| | |
|--|--------|
| Pilot Single Circuit Jack, No. 1161 | £0 2 8 |
| Pilot Double Circuit Jack, No. 1162 | 0 2 6 |
| Pilot Single Filament Control Jack, No. 1163 | 0 2 9 |
| Pilot Double Filament Control Jack, No. 1164 | 0 2 9 |

United Distributors Limited

WHOLESALE ONLY

72 Clarence Street, Sydney

343 Queen St., BRISBANE.
27 Chesser St., ADELAIDE.

26 Queen St., PERTH.

Cr. Jervois Quay & Harris St., WELLINGTON, N.Z.

66 Charles St., LAUNCESTON, Tas.

864 Bourke St., MELBOURNE.

Marconi Looks Back

The famous promotor of radio broadcasting writes of his early difficulties.

SENATORE GUGLIELMO MARCONI, in an article, "Looking Back Over Thirty Years of Radio," in the "Radio Broadcast," says of his first experiments with radio telegraphy:

"It was stated that radio telegraphy would never be in a position to compete with other rapid means of communication over long distances, such as that carried on by cables.

"But even in the face of such observations often made officially in the parliaments of great nations, I was never discouraged. We Bolognese often smile in the face of the most difficult situations.

"In fact, by means of the use of thermionic valves — a brilliant conception of Fleming, perfected by De Forest, Langmuir, and Armstrong in America, by Meissner in Germany, and by Round and Franklin in England—and by means of the use of balanced tuned circuits, of electric filters, of power amplifiers, and finally of directional radiators, I succeeded in obtaining results such as to ensure a regular radio telegraphic service by day and night between Europe and America; thus also in 1918, I could for the first time in history, communicate from England to Australia, i.e., almost as far as the antipodes, over a distance of about 20,000 kilometres (12,500 miles).

"To-day there are thousands of ships equipped with radio telegraphy for the safety of human life at sea, and to maintain alive the daily activity of the countless persons who cross the oceans; to-day radio communications between Europe and America, the Far East and South America handle a huge amount of traffic to the advantage of the growing demands of civilisation; to-day millions of radio telephonic receivers scattered in the most distant countries carry on continuous communication with the greatest centres radiating news of everything of

EDWARD ARNOLD LTD.

Oxford & Crown Streets

FOR RADIO ACCESSORIES



VALVES.

- U.X. 199 Radiotron Valves .. 13/0
(as illustrated)
- U.X. 201A Radiotron Valves .. 12/-
- Philips B.406. .. 13/6
- Star 201A .. . 7/6

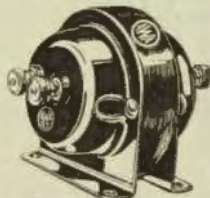


- De Jur Rheo (as illustrated) .. 3/9
- Emmo Rheo. .. 2/6

VALVE SOCKETS.



- Benjamin Spring Sockets .. . 5/-
- Emmo Sockets .. . 4/6
- Metal Shell Sockets .. 1/6



- A.W.A. Transformers, audio frequency .. 25/-
- Muter Transformers, audio frequency .. 17/6
- Signal Transformers, audio frequency .. 21/-

Splendid Value in Radio Sets

5 VALVE NEUTRODYNE, complete in all details, including Swan Neck De Luxe Amplion (wooden flare), double capacity "B" Batteries, Accumulator and Aerial. In floor cabinet 4 ft. 2 in. high, of polished Maple, Rosewood or Fumed Oak . . . £50
With guarantee.

5 VALVE NEUTRODYNE in table cabinet. Complete in all details as above .. . £37/10/-

3 VALVE SET, complete in every detail, including Amplion Junior loud speaker, double capacity Batteries and Accumulator, 201A Valves and Aerial Wire .. . £23/10/-

SETS REWIRED TO ANY CIRCUIT AT MINIMUM COST

Exide

WIRELESS BATTERIES

STANDARD EQUIPPED IN ALL THE MARCONI'S SYSTEMS
THROUGHOUT THE WORLD

Made by the oldest and largest Battery Makers in the World
The Chloride Electrical Storage Co. Ltd., England.

Exide "A" Batteries in 2 Volt Units

| Type. | Capacity. | Price each Cell fully charged. |
|----------------|---------------------------------------|--------------------------------------|
| | | £ s. d. |
| C.Z.2. | 40 amp. Hours intermittent | 1 1 0 |
| C.Z.3. | 60 amp. Hours intermittent | 1 5 0 |
| C.Z.4. | 80 amp. Hours intermittent | 1 9 6 |
| C.Z.5. | 100 amp. Hours intermittent | 1 14 0 |
| C.Z.6. | 120 amp. Hours intermittent | 1 19 0 |

Exide "A" Batteries in 2 Volt Units

Suitable for Dull Emitter Valves

| Type | Capacity | Price each Cell fully charged. |
|----------------|--------------------------------------|--------------------------------------|
| | | £ s. d. |
| D.T.G. | 20 amp. Hours intermittent | 0 8 5 |
| D.F.G. | 45 amp. Hours intermittent | 0 16 0 |

Exide "B" Batteries

| Type. | Capacity. | Price for bat. fully charged. |
|--------------|---|-------------------------------------|
| | | £ s. d. |
| W.T. | 30 volts, 2,500 milliamp. Hours | 1 10 0 |
| W.H. | 24 volts, 5,000 milliamp. Hours | 2 15 0 |

All Batteries when discharged can be recharged.

If these cells are not fully discharged and left idle, they will stand
6 months without sulphating.

N.S.W. Distributors and Exide Service Station:

GIBSON BATTLE & CO. LTD.

Tel.:
M 3080

HUNT STREET, SYDNEY
(Off Wentworth Avenue)

Tel.:
City 2174

interest to mankind; to-day, by means of circular radio telephonic diffusion (so-called "broadcasting"), public opinion can be kept calm during any popular disturbance which interferes with the peace-making work of the press, as was proved on the occasion of the recent general strike in England; to-day many hundreds of thousands of people find occupation, study and work in the new industry created by radio telegraphy; to-day aerial navigation is possible and safe up to the farthest bounds by means of radio communication, as has been recently demonstrated by the great triumph of Italian boldness and technical training obtained in the glorious "Norge" expedition.

"The field of radio transmissions is continually getting wider, thus the radio transmission of photographs to a distance is already an accomplished fact, and even now the practical solution of the great problem of television is seen to be possible in the near future."

MISSIONARIES LISTEN-IN.

The London Missionary Society's steamer, "John Williams," carries a four-valve set built by the Chief Engineer, Mr. Thomas Young. In a letter received by 2FC last mail he states that the ship's company listened to the Australian stations throughout the whole of the present trip. Mr. Young says he has mislaid the slip of paper on which he recorded the programmes of the various stations, and he cannot remember whether it was 2FC or 2BL from which he heard Charlie Kelleway talking about cricket. As a matter of fact it was 2BL, but listeners on the Missionary steamer are not particular which station they listen to provided the programme is good. Mr. Young writes in very complimentary terms of the singing of Mr. Alfred O'Shea and a two-act play from 2FC. "I have been doing exceptionally well the last few nights," he says. "About 7 p.m. I got the broadcasting station at Los Angeles; at 8 p.m. I got Auckland and Christchurch, and at 11 p.m. I got Sydney, Melbourne, and Brisbane. Mr. Young states that the "John Williams" was heading for Gilbert Islands from Fiji.

The New IGRANIC

SUPER HETERODYNE

*The Most Perfect Set
Yet Produced*



*There is no finer performance than
Super-Heterodyne performance and no
finer Super-Heterodyne than Igranic*

IGRANIC has always set an exceedingly high standard in all its products, but the latest product of this famous British Factory has created a tremendous interest that is world-wide.

I have recently completed one of your "Igranic" Super-Heterodyne Kits and wish to inform you that I am exceedingly pleased with it in every way.

I have not heard any set to give such volume on the same number of valves and I was able to tune-in all the Australian Stations on the loop with considerable strength. The New Zealand station 1YA was very nearly as loud as Melbourne.

The selectivity is all that could be desired and no trouble was experienced from interference between 2BL and 3LO.

The original of this letter from a leading Sydney expert may be seen on request.

The advantages possessed by a well-designed Super-Heterodyne Radio Receiver are Range, Volume, Sensitivity, Selectivity, Stability, Purity and Ease of Operation. The Igranic Super-Heterodyne Receiver offers all these. For instance, it is capable of receiving from all interstate stations (with the possible exception of Perth), and from Auckland, 1YA, on a frame or indoor aerial at full loud speaker strength.

It is exceedingly selective, no trouble being experienced in tuning-out any station not required. 2BL, 2FC and 3LO might be a thousand or only ten metres apart for all it matters to the Igranic Super-Heterodyne. It is pleasingly free from all extraneous noises, and the purity of tone and absence of distortion are a revelation even to the most exacting critic.

Price (including everything) from £75, according to cabinet work.

TERMS MAY BE ARRANGED

Ask for demonstration either at our Showroom
or in your own home. Absolutely no obligation.

Colville Moore Wireless Supplies Ltd.

10 ROWE STREET

(Near Hotel Australia)

SYDNEY

All Readers' Queries Answered Here

In conjunction with Farmer's Broadcasting Service the Technical Editor of "Wireless Weekly" will answer all listeners' queries arising from the wavelength change. Answers will appear in these columns and will be broadcast from 2FC each Thursday night.

W. G. (Birmingham)—

Q. 1: I would like to build a four-valve receiver, and am undecided whether to build the Browning-Drake or the Marco Four. Please recommend the better for my purpose?

A. 1: I regret I cannot recommend one above the other. Both are particularly good receivers, the more popular, perhaps, being the Browning-Drake.

Q. 2: I would prefer one with variable condenser in either circuit.

A. 2: I would prefer you to obtain a .0005 mfd. condenser and set up the .001.

T. P. S. (Barnwood)—

Q. 1: I am desirous of constructing the Harkness Reflex receiver, and would like you to answer me these questions:

Q. 1: Would Gredas formers fit into the diameter be suitable for winding the coils?

A. 1: Yes. Should both trapezoid and outside fit.

Q. 2: What is the correct A and B battery voltages?

A. 2: This depends on the valves used. If dual emitters, the A battery should be four volts. Read the valve maker's instructions. The B battery may be between 45 and 90 volts according to the volume desired. Many thanks for your appreciative remarks. I hope to continue in your good favour.

C. A. S. (Northwood)—

Q. 1: Will you please tell me why I must have a separate B battery for an audio stage in the Extraordinary One Valve?

A. 1: Without a separate B battery for an audio stage the set howls and squeals thereby being unsuitable. We note your splendid results with the one valve.

G. H. (Bristol)—

Q. 1: I would like to refer my Reinartz three-valve. Would you advise this?

A. 1: No, don't try it.

M. V. (Hurstville)—

Q. 1: Would the Philips Charger be suitable for charging the accumulator B battery of "W.W.", 15/11/26?

A. 1: No. Construct the rectifier as described.

W. C. (Liverpool)—

Q. 1: I built myself the Crystal Receiver of W.W. 8/10/26, and got excellent results. I also built one for a friend at Cooney, but can only hear 20L. Can you tell me how to overcome this?

A. 1: Build the Handi Crystal Receiver in "W.W." 12/11/26, using both .0005 variable condensers and watch the coupling turns.

Q. 2: Is a valve receiver more selective than a crystal receiver?

A. 2: It is easier to make a valve receiver selective.

P. A. P. (Moisma)—

Q. 1: I am contemplating building the Accumulator B battery described in "W.W." Would my Valley charger which charges B batteries up to 98 volts, be suitable for recharging?

A. 1: Yes.

T. H. G. (Bilbain)—

Q. 1: Should I get intermediate reception on the two-valve Reinartz of "W.W." 15/10/26?

A. 1: I can only tell you that the model I built gave fair intermediate reception on phones. Quite a lot depends on handling the receiver.

M. F. G. (Geneff, S.A.)—

Q. 1: I intend to build the Extraordinary One Valve. What valve did you use?

A. 1: Concor Point One.

Q. 2: If I used a S.I.F. condenser 0005 mfd., would it make any difference to the tuning?

A. 2: It would be an advantage to use an S.I.F. condenser.

Q. 3: Would enamelled wire suit for coil windings instead of D.C.C. wire?

A. 3: I'd prefer you to use D.C.C. wire, but enamelled will do.

Q. 4: I intend adding two stages of audio to this. Would it prove satisfactory?

A. 4: No.

F. J. K. (Aldfield)—

Q. 1: I have built a Browning-Drake receiver, and have some difficulty in neutralising it. I use B406 valves throughout. Can you help?

A. 1: You will overcome your difficulty by providing a separate tapping for the plate supply of the R.F. valve. Try 45 volts. Perhaps you can use a DV190 valve in the R.F. stage (this would be better).

R. C. C. (Indooroopilly, Q.)—

Q. 1: Please tell me the diameter of the former in the "W.W." Reinartz of 15/10/26, also give the ratio of transformer?

A. 1: The former three inches in diameter, grid leak, 2 meg. with .0005 condenser. Transformer ratio, 3 to 1.

J. P. D. W. (North Sydney)—

Q. 1: Will the rectifier described in "W.W." 10/11/26, be suitable for charging a 45 volt Duth's accumulator?

A. 1: Yes, quite the thing. Glad to hear of your good results. Six to it.

J. H. (Brownswood)—

Q. 1: I have been told that the Browning-Drake receiver must have all the valves matched. Is this so?

A. 1: No. It is often advisable to employ a True Bias Power plug Valve in the rectifier stage when all valve valves are used. If four valve valves are installed a DV190 in the R.F. stage will help in neutralising.

Q. 2: Would a two plate condenser do for neutralising?

A. 2: Yes, provided its capacity is not too great.

G. W. C. (Leura)—

Q. 1: I shall be glad to know the gauge of wire recommended for the collapsible roof described in "Wireless Weekly," 23/4/26?

A. 1: Marx' aerial wire, obtainable from any of the advertisers in this paper.

S. B. (Bicester)—

Q. 1: Can I receive loud speaker results on the local broadcast wavelengths on a two valve dual-emitter set?

A. 1: Yes, quite nicely.

Q. 2: Can you recommend a two-valve circuit with dual-emitters to achieve the above results?

A. 2: Build the Reinartz in "Wireless Weekly," at 15/10/26. Thanks for your good wishes.

W. H. (Liswich)—

Q. 1: Can I use 2½ inch bakelite tubing for the Harkness Reflex?

A. 1: Yes, but employ two .0005 variable condensers. The primary may be wound alongside the secondary as suggested.

J. R. P. (Barnwood)—

Q. 1: Although my experience extends over only a few weeks, I was able to build the Handi Crystal Receiver from your excellent article in the "Wireless Weekly" of the 12th November, and after a week's trial I am pleased to say that your words of praise for this receiver are fully justified. In using

two sets of headphones, I find the signal strength of 20L and 2KY weak, although 2FC and 2HL are very satisfactory. Can I improve them?

A. 1: I am pleased to hear of your good results. To improve 20L and 2KY use a smaller inductively coil in the primary, and put your condenser in series. I would rather use you with a valve receiver for Morse code work.

Old Number (Macclesfield)—

Q. 1: Would the chemical rectifier cut up more current than a battery charger?

A. 1: No.

Q. 2: I have a four valve set, using D.V. 3 valves. Would the battery last out longer than the time stated in "Wireless Weekly"?

A. 2: As mentioned in the article, this battery improves with use and will last longer than the one night. I have just issued a letter from a reader telling us that his battery lasts well over a fortnight with the use charge. I would advise you to get a better type of meter.

J.C. (Kilsnoy)—

Q. 1: I intend making up the two-valve Reinartz. Will it be possible from us here, and will it get intermediate stations on encephalons?

A. 1: This receiver should be quite suitable for your purpose; therefore I recommend it.

B. T. (North Iuka)—

Q. 1: I would like a wireless set interferer with a telephone if they are both connected to the same earth wire?

A. 1: No.

Q. 2: Is an "A" battery of 4½ volts (dry cell) too much for a two-valve set using Philips A306 valves?

A. 2: No, quite suitable.

Q. 3: Is a "C" battery any improvement in a three-valve set?

A. 3: Yes. A "C" battery is an improvement inasmuch as it saves your "B" battery current and also increases the volume on the receiver, as well as sweetening the tone to a marked extent. Connect as follows: In a three-valve set such as you have join the terminals marked F on each transformer and take a lead from this to the minus terminal of the "C" battery. The positive terminal of the "C" battery is connected to the minus terminal of the "A" battery. Four and a half volts will be found ample with 80 volts "B" battery.

J. B. (Stoker's Sliding)—

Q. 1: Would Ford coils do instead of the "B" batteries for reception?

A. 1: I don't advise this at all, as the reception would not please you in any way.

S. C. (Merrymount, Q.)—

Q. 1: Would you please let me know how the aerial of three-quarter inch copper pipe is attached to the set. vide "Wireless Weekly," 29/10/26?

A. 1: Use a lead of heavy flexible wire and run through the lead-in tube in the ordinary manner.

D. T. M. (Moss Vale)—

Q. 1: What coils should I use for 3AR and 5CL on the three-coil one-valve receiver?

A. 1: For 5CL, use the same coils as for 4G6, and for 3AR, use primary 50, secondary 75, reaction 75.

J. R. (Coff's Harbour)—

I have a Little Rabbit plant which works in conjunction with a 32 volt Willard battery. Q. 1: Could I use 2 cells of this battery as an "A" battery?

Putting
QUALITY
into
RADIO



JEFFERSON
Super - Sensitive
Amplifying
TRANSFORMERS



Fox & MacGillycuddy Limited
Daily Telegraph Buildings, Sydney

BRISBANE AGENTS: WIRELESS HOUSE, ADELAIDE STREET, BRISBANE.

It's NOT Static!

WHY blame static for those annoying crackles which come from a poor battery? And why continue buying dry batteries when you can save time and money by installing the finest rechargeable "B" battery in the world at a reasonable price? Answer both questions to-day with a Philco Battery!

PHILCO
 DYNAMIC RADIO
 BATTERIES

These Aristocrats of Radio will serve you perfectly for three or four months, and then can be easily recharged for a few shillings. If you have your own charger, the cost will be only 5d. a time.

The new Eighty-Three X Philco "B" Battery gives trouble-free service for years. It is specially designed for Super-Hets, and other sets, having four or more valves. Purity and Strength combine with Long Life in a Philco!

Obtainable only from High-Class Dealers, or Wholesale from

New System Telephones
 Pty. Ltd.

280 Castlereagh St., Sydney.
 27 Queen's Bridge St., Melbourne.
 Charles St., Adelaide

Finest
 B
 Battery



In
 the
 World

A: You could do so, but you would be better off with a separate set with "A" battery, and a small charging board. See your local electrician regarding this charging board, and ask him to make it suitable for the purpose.

T. S. (Aberlure):—

Q: I have built my regenerative from various condenser parts, and a primary winding disc turned from 3/4 inch ebonite, but am now at a loss as how to go about winding aerial coupling and grid coils. Is it necessary to employ these coils or can I work with regenerators only?

A: It is necessary to employ the aerial coupling and grid coils, or if desired, grid coil only, without employing loose coupling on the aerial circuit. This may be wound in ordinary solenoid fashion, similar to the secondary of the regenerative.

Lesra (Hondt):—

Q: I have tried all different types of crystal receivers, but find that selectivity is very difficult in this neighborhood. Can you recommend me a circuit of a receiver which will suit my purpose?

A: Build the Hamit Crystal set described in "Wireless Weekly" of the 12/11/26.

L. H. (Maryborough, Q.):—

Q: I have a Tungar "A" and "B" battery charger and wish to make "B" battery output function as a "B" battery eliminator. Could you furnish me with necessary circuit, and what extra condensers, etc., are required?

A: I am afraid this is not practicable, therefore don't try.

S. C. C. (Lithgow):—

Q: I have bought all necessary parts to make an ordinary single valve (W.W. 22/10/26) and would like to know the correct voltage to give valve (Common Point One) if dry cells would be satisfactory, and if so, would I need one or two cells?

A: The valve you have chosen is quite suitable and two dry cells connected in series will do quite well for an "A" battery. Use a 30 ohm rheostat, but do not turn it full on.

BRIEF REPLIES.

C. McP. (Mascot): Look for this shortly in W.W.

H. B. (Barkerville): See W.W. 29/10/26 for the Old Reliable. Break off at the primary of the sound transformer.

S. L. B. (Blebyville): Thanks. Your experiences are interesting. Glad to hear from you.

R. G. H. (Epping): Build the Brownings-Drake using an indoor aerial.

M. M. (Marly): The alternative scheme is quite usual.

L. W. (Marrickville): I have answered this question over and over again in these columns since the Harkness Relay was published. The 2000 condensers will suit.

A. E. (Petersham): The particulars are too meagre for anyone to judge. Have you built the receiver correctly? Is your aerial too long, etc? Tell me some more and I'll help you.

C. R. (Allora): Many thanks for your letter. The Extraordinary One Valve is certainly splendid!

F. T. (Campbell): The One Valve Reflex of W.W. 23/7/26 will suit you.

R. J. H. (Telokelley): It appears that your kit is defective. Are you sure that the layout of your parts is all right? The circuit is quite O.K. See W.W. 1/10/26.

G. R. (Lane Cove): The valves are quite suitable.

F. E. M. (Burswood): See W.W. 12/12/26.

C. P. (Granville): I am conducting tests with the half aerial. You will be advised at some later date.

A. E. S. (Newley): Test your fixed condensers. One is broken down.

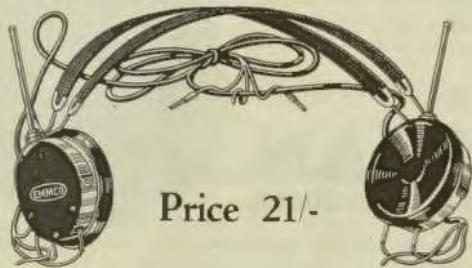
Troubled (Punchbowl): Interview your radio dealer.



LISTEN IN COMFORT

THE EMMCO PILLOW PHONE supplies the need of all those who desire to listen-in in comfort. Simply place the Pillow Phone, fitted with its Emcco Unit, in the place of your favourite cushion, attach the leads to your receiver, and enjoy the broadcasting while you read or rest. The sweetness of tone and the volume will surprise you.

THE EMMCO PILLOW PHONE is supplied without cover for 27/6, but covers in exquisite designs and material are obtainable from dealers at prices ranging from 2/6 to 21/-.



Price 21/-

AT ALL
DEALERS

Other features are—rugged construction, yet rich appearance, light yet strong headband—sliding adjustment enabling them to be fitted comfortably to the head. Finished in either black or maroon.

EMMCO HEADPHONES

combine the two essentials demanded by the discriminating buyer — low price combined with absolute efficiency. Their strongest feature is their capability of reproducing music and speech without the slightest trace of the rattling and distortion so often met with in headphones.

— MANUFACTURED BY —

Electricity Meter Mfg. Company, Limited
Sydney

Changes in the Regulation of British Broadcasting

THE British Broadcasting Company will, next year, be replaced by the British Broadcasting Commission. Suggestions have been made for a system of inter-Empire broadcasting with the Daventry station in England as its starting point. The first relay station is projected for Moncton, New Brunswick, a distance of 2,440 miles. From this point, the programmes will be distributed via land lines to Canadian broadcasting stations throughout the Dominion. From Vancouver, a distance of 2,300 miles of wire line, the programmes would again take the other route to Australia, a distance of 5,000 miles. This offers the greatest distance barrier, but, by the use of high power and high frequencies, it is feasible, at least during favourable seasons.

An alternative route would be through a relay station at the Fanning Islands, 3,885 miles from Vancouver, and 3,710 miles from Sydney, Australia. Sydney would be the distributing centre for the Australian continent. At Perth, a radio link

would be established with New Zealand and Ceylon, and, from the latter point, to Cape Town and India. The jump from Cape Town to Malta would complete the system, involving a total of eight radio relays.

Stupendous as the plan is in its conception, its estimated cost less than a million. Owing to time differences, it would be of practical value only on special occasions of tremendous importance, once the novelty of inter-Empire programmes had worn off. As a feat of radio technique, it would be a wonderful demonstration of radio's possibilities. As for its sociological and political aspects, in uniting the Empire, the plan represents an entirely new development in the application of radio communication.

Politics by Radio

The high powered radiocasting station 2KY operating from the Sydney Trades Hall is having a marked influence on political and industrial affairs. The recent A.L.P. conference congratulated the manage-

ment of the Trades Hall broadcast station on the success of its activities, and the State Labor Government is being urged to proceed with its plans for the establishing of relay broadcasting stations in various country centres.

A considerable number of trade union offices are now equipped with radio receiving sets, and sets have also been installed in a number of factories where workers gather in the lunch hour to hear talks on politics and political economy as expounded through the Trades Hall station.

A movement has now been initiated to instal receiving equipment in the branches of the A.L.P. Warringah Branch at Dee Why is among the first to take this course. Members of the League are building a set themselves, having purchased the parts. The intention is that members will make the headquarters of the League a rallying centre where they can congregate weekly and listen to lectures, political and social news, and entertainments from the Trades Hall station—and doubtless other stations as well.

NO
MORE
DISTORTED
MUSIC

Even the poorest Receiver with its harsh reproduction can be converted into a mellow-toned musical instrument with the new

MACLURCAN

TONE PURIFIER AND STATIC REDUCER

(Patent app. 28132)

AN
EMMCO
PRODUCT

NOW READY
FOR SALE

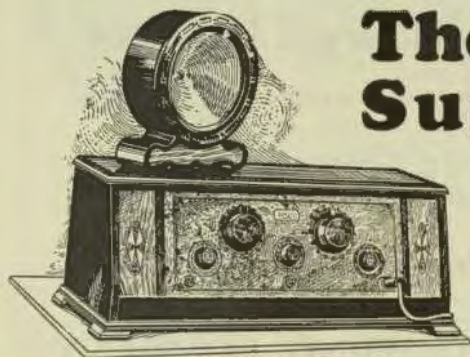
Price, 21/-

WITH A MONEY
BACK GUARANTEE

Particulars from
CHAS. D. MACLURCAN
PRATTEN BUILDING, JAMIESON STREET, SYDNEY
Manufactured by Electricity Meter Manufacturing Co. Ltd., Sydney



*America's Latest 6-Valve Receiver—and undoubtedly
the finest proposition in the Radio world to-day*



The "Eclipse Super - Six"

Here is the most exclusive, the most powerful and selective of all Sets, a Super Six-valve, within reach of the man of moderate means.

*at the unequalled price of £18/18/-
without accessories*

*or complete with first
quality accessories . £37/10/-*

THE COMPLETE SET INCLUDES — Latest Magnavox Cone Speaker
Clyde Guaranteed Accumulator 6 201A Valves (Radiotron)
3 Large Capacity Winchester B Batteries Aerial Equipment.
Complete with cheaper quality accessories . . . £30

Cash or Terms

To those who are desirous of possessing a Set embodying only the most advanced attainments in Radio, the "ECLIPSE" can be bought with the absolute assurance that it will give the finest possible results in Broadcast receiving.

3 Salient Points of the "Eclipse"

1. The latest method of amplification used ensures the most wonderful tonal quality, as well as a maximum of volume.
2. Simplified tuning—Two dials only used.
3. Exclusive and distinctive cabinet design.

Hear the "ECLIPSE" demonstrated in our Audition Room or in your own home, and be convinced of the superlative qualities of this remarkably low-priced Receiver.

Work your Set direct off the Electric Light

PHILIPS "B" BATTERY ELIMINATOR.

Plugs into your house electric light, or power socket and supplies "B" battery current. Price

£9/15/-

PHILIPS ACCUMULATOR CHARGERS.

Charges your accumulator from the house lighting current. No. 327, 1.3 amp. Charger.

Price 16/-/-
No. 338, 6 amp. Charger. Price 28/10/-

CASH OR TERMS

Mick Simmons Ltd.

"The World's Greatest Sports Store"

Headquarters: 720G HAYMARKET, SYDNEY
And at BRISBANE

BRITISH MADE**CLARKE'S
ATLAS****BRITISH MADE****High Tension Battery Eliminator**WITH
VARIABLE HIGH TENSION VOLTAGES and GRID BIAS TAPPINGS
MODEL AC2**For Alternating Current Only**THE FINEST ELIMINATOR ON THE MARKET. ELIMINATES "B" AND "C" BATTERIES
For value and efficiency. Price Complete £14 each.**Eminently Suitable for Multi-Valve Sets**

DEALERS! Ample stocks now available. Get into touch with us to-day.

THE GENERAL TRADING COMPANY**"Wingello House," Angel Place (Near Martin Place), SYDNEY**

Telephones: BW 6938, or B 4917

SOLE AUSTRALIAN DISTRIBUTORS

Subscription Form

The demand for copies of "Wireless Weekly" has so far exceeded the supply from the printing presses, despite increased output each week, that many listeners-in have complained that news-dealers were sold out before they could obtain their copy. In order to insure delivery, fill in this subscription form and forward to the Editor, "Wireless Weekly," 51 Castlereagh Street, Sydney.

Please forward "Wireless Weekly" for a period of

for which I enclose for (add exchange to country cheques).

Name

Address

Subscription Rates: 12 months (52 issues), 13/- post free; 6 months (26 issues), 6/6 post free.



Valves with the Wonderful P.M. Filament

THE wonderful P.M. Filament offers you three times more for your money. It is so tough that even after 1,000 hours' life it can be tied in knots and cannot be broken except by the very roughest handling—result, safety against accidents.

There is more than strength in the P.M. Filament. It has up to 3 times greater length and up to 5½ times greater emission than an ordinary filament. This is where the P.M. Filament gives you real value.

Another big point, the P.M. Filament requires only one-tenth ampere, giving 7 times the life to each of your accumulator charges. For great economy, great life and great results secure the valves with

the WONDERFUL P.M. FILAMENT

OBTAINABLE FROM EVERY RADIO DEALER IN AUSTRALIA

For 4-volt accumulator or 3 dry cells

THE P.M.3. (General Purpose) 0.1 amp. 13/6
THE P.M.4 (Power) 0.1 amp. 13/6

For 6-volt accumulator or 4 dry cells

THE P.M.5 (General Purpose) 0.1 amp. 13/6
THE P.M.6 (Power) 0.1 amp. 13/6

For 2-volt accumulator

THE P.M.1 H.F. 0.1 amp. 13/6
THE P.M.1 L.F. 0.1 amp. 13/6
THE P.M.2 (Power) 0.15 amp. 13/6

All Mullard Valves are made at the Mullard Works, Baltham, London, England

Mullard

THE MASTER VALVE

(ARKS.7.)

Columbia Dry Cell

Ignitor No. 6 for "A" Radio Battery.



DESIGNED especially for use in connection with dry cell vacuum tubes. Lasts much longer and gives more power for this purpose than any other dry battery.

Factory Representatives: ELLIS & COMPANY (AUSTR.), Ltd., 316 Kent Street, Sydney, N.S.W.

Use only

Columbia Radio Batteries

Made by the manufacturers of the Famous Columbia Dry Cell

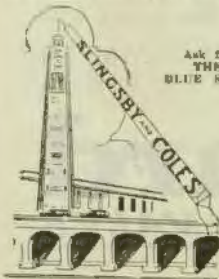
14

SLINGSBY & COLES Limited

Under Central Station.
482 PITT STREET.

Ask for THE BLUE SPOT.

A revolution in Hand Phones—the lightest, most sensitive, and accurate ever sold in Australia, 35/- per pair.



Ask for
THE
BLUE SPOT.

MULTIDYNE COIL.

For 3-Coil Sets—No changing Coils for various Wave Lengths.

Manufacturers Products Pty. Ltd. (M.P.)

(H. J. HAPGOOD)

Challis House, Martin Place
SYDNEY

Tel: HW 1324

Agents for all styles of Radio Products.
Including Clyde Batteries.

Elec. Meter Mfg. Co. "Emma"

Refracto Condensers, Leaks and
Fixed Rheos.

Aircraft Rhcos. Pots. Special Coils
and Loops.

Neutron Crystals, Brunel Phones.
Prompt Shipments from Sydney.

We represent 34 Foreign Radio
Manufacturers

Write for Indent List.

Surplus Stocks sold Interstate.



Registered Trade Mark.

Published by Arthur William Worr, of "Falkstone," Lavender Bay, for the Proprietors, Wireless Newspapers Limited, 51 Castlereagh St., Sydney; and printed by Publicity Press Limited, 11-79 Regent St., Sydney.

The Editor will be glad to consider Technical and Typical Articles of interest to Australian Experimenters. All Manuscripts and Illustrations are sent at the author's risk, and although the greatest care will be taken to return unsuitable matter (if accompanied by stamps), the Editor cannot accept responsibility for its safe return.

Subscription rates—Twelve months (12 issues), 12/- post free. Six months (6 issues), 6/6 post free. Single copies 3d each, or post free 4d. Subscriptions should be addressed to Wireless Newspapers Ltd., 51 Castlereagh Street, Sydney.

Advertising:—Our advertising representative keeps in close touch with advertisers, and he is ready at all times to supply information concerning advertising.

Agents in Great Britain.—The Colonial Technical Press Ltd., Dudley House, Southampton Street, Strand, W.C. 2.

"Wireless Weekly" is fully protected by copyright, and nothing that appears in it may be reprinted, wholly or in part, without special permission. The use of our articles or quotations from them for any purpose whatsoever is never permitted without our written authority.



Genuine

RADIOTRONS

bear the above seal



RADIOTRON UX 199

Equally serviceable as a detector or as a high efficiency radio or audio frequency amplifier. Extremely economical in operation. Adaptable to dry battery operated sets.

Filament voltage 3. Current .06 amps. **Price 19/6**

RADIOTRON UX 201A

The standard all round flexible storage battery valve—good in any detector or amplifier circuit—sure to give the best results at the lowest operating cost.

Filament voltage 5. Current .25 amps. **Price 12/-**

RADIOTRON UX 120

New dry cell Radiotron for use in the last stage of audio amplification only. Exceedingly high filament emission. Volume equal to that of two UX199's.

Filament voltage 3. Current .125 amps. **Price 17/6**

RADIOTRON UX 112

A new power valve similar to the familiar UX201A, but several times as powerful. Designed for use as last valve in accumulator operated sets, when it will deliver far more energy than the average loud speaker requires. Two of these valves will give exceptional results. Filament voltage 5. Current 5 amps.

AT ALL DEALERS Price 22/50



Amalgamated  Wireless
Australasia Ltd.

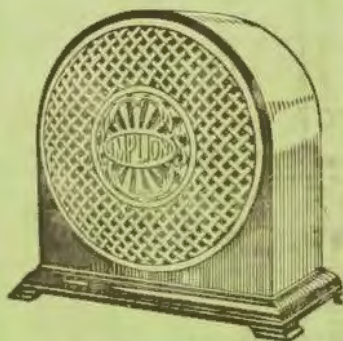
97 Clarence St., Sydney

167-9 Queen St., Melbourne

King and King Chambers, Queen St., Brisbane

Radiotron

You hear ALL the tones with a



An all-British and Australian product.

In two sizes and five
distinctive finishes.

Obtainable from Radio dealers and
manufacturers all over
Australia.

Radiolux AMPLION

The Natural Tone Loud Speaker

A good speaker is the only kind worth having. A poor one will ruin otherwise good reception.

A good speaker reproduces *faithfully* every tone of speech . . . every note and change in tempo of music, broadcast.

The RADIOLUX AMPLION is the world-wide standard of good loud speaker reproduction. You can hear *all* the high and low tones . . . every note — with a Radiolux — clear, full, and above all, *natural*.

Ask your dealer for a demonstration.

Sole distributors for A/stra:

(Wholesale only)

Amalgamated Wireless
Australasia Ltd.

37 Clarence Street . . . SYDNEY.

Advertisement of
AMPLION (Australasia) LTD.,
54 Margaret St., Sydney