

WIRELESS WEEKLY

Broadcast Programmes a Week in Advance

VOLUME 11

MITCHELL LIBRARY
6 JAN 1928
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Registered at the G.P.O., Sydney, for
transmission by post as a Newspaper.

NUMBER 11



Friday, January 6, 1928

Price Threepence

we may call it, plays an important part in determining the nature of the service given to the listeners—in since the ground rises steadily to the west, north and east of Melbourne, causing a natural increase in field strength over that normally expected. From the observations already taken, it appears that it is not merely the height of the hill that determines the increase in field strength, but also its outlook in the direction from which the wireless signals are coming. Thus at Studley Park, at the top of a steep slope facing in the direction of Braybrook, the field strength is proportionately 25 per cent. stronger than it is at the top of Queen's College tower, 100 feet high, standing on ground higher itself than Studley Park.

Further work on these points is proceeding.

SEVENTY-FIVE PEOPLE participated in a telephony talk between New York and London in the early hours of a recent November morning. The demonstration of the Transatlantic service was made in connection with the visit to New York of the delegates to the Washington International Conference. Each conversation was necessarily brief, but every word was heard clearly on both sides of the Atlantic.

SENSITIVE SYNTHETIC CRYSTALS.

Super-sensitive crystal at 2/6 per gross! Here's how. Get some pure lead (Pb.), not solder or lead alloy. Also some flowers of sulphur—ordinary powdered sulphur. Cut the lead in small pieces and mix with the sulphur in the ratio of seven parts by weight of lead to one part of sulphur. Place the mixture in a crucible, a tin cup, or some convenient container other than glass or porcelain. Heat over a Bunsen burner or over red coals in a stove. In a very short time the mixture will begin to glow and the lead and sulphur will fuse together. At this point, remove the mixture from the heat and place the container in a basin of cold water to cool.

CAUTION: Do not let any water get on the crystal, as it will ruin them. If you have had things just right, you will have a lump of material that is super-sensitive over its entire surface. If the lump is crumbly, you have "cooked" it too long, and if it is streaked with lead, you did not cook it long enough, or else you used too much lead. Your crystal will then be sensitive only in spots and not over the entire surface as it should. Use a very light contact. Some home-made crystals are as good or better than the best natural crystal ever used. Fine for reflex, too!

The above materials may be purchased at any chemists.

Why Resistances Vary with Temperature?

MANY fans cannot understand why a certain length of wire possessing a known value of resistance will show a variation while current is flowing through it.

To comprehend this phenomena, certain actions must be visualized by the interested fan. First, the formation of molecules results in the wire possessing a certain value of resistance per inch, foot or mile of wire, whichever dimensions suits the fan. If the molecular structure of the wire is altered, the resistance for that inch, foot or mile of wire is changed. The more the structure is varied, the greater the change in resistance. When current is caused to pass through wire the action of the current is to heat the wire, the heat generated being dependant upon the amount of current flow. The action of the current not only heats the wire, but in

heating it changes its molecular formation, with the result that the resistance changes.

It must be understood, however, that the molecular structure is not always altered by the heat generated in the wire. That is the elements comprising the wire may have such molecular formation that within certain limits of heat, these formations will not change appreciably, with the result that the resistance of the wire does not change with increase in temperature. Such a wire is said to possess negligible temperature coefficient and the resistance remains practically constant over at certain range of applied watts. Such resistances are best suited in battery eliminators and electrified receivers where constant resistance is necessary under various loads.



The "mixing panel" through which New York gets its Broadway theatrical production. This apparatus is moved into the basement of the theatre from which the play is to be broadcast, and by the ingenious use of switches and numerous microphones the voices of the performers are always heard clearly and never appear to retreat from or come too close to the microphone. In the intervals between the lines an observer describes what is happening.

A Year's Advance in Radio

REMARKABLE progress has been made in the field of Radio since last year, but there have been no radical changes in the fundamental principles.

"The advances of the last year have not been marked by any fundamental changes in principle, but rather in refinement of design and in improvement of efficiency," stated a well-known radio engineer. "Not only in receiver design has this been true, but in transmitter design also. The quality of music broadcast to-day is of a finer purity and remarkable naturalness compared with that of a year ago. Radio receivers to-day are much more satisfying instruments than ever before because of their refinement of design, efficiency of operation and beauty of appearance. All of these factors are contributing towards making Radio a more wonderful means of entertainment than ever before.

Why Receivers are Better.

"In my estimation, 1927-1928 will be a boon year for the radio industry. Better broadcasting serves to bring the efforts of radio artists into the home with all the naturalness and beauty that makes music alluring.

"There is one big reason why receivers to-day are better than ever before," he continued. "The public has demanded certain things which manufacturers who intend to remain in the industry have to supply. There are certain definite trends in radio receiver design that are directly responsible for the much-improved instrument of to-day, and these trends also are the result of public demand. Although it is the engineering department of a firm that designs, develops, and perfects a radio receiver, it is really the radio public that determines the lines along which these engineering departments must work.

"Take, for instance, the problem of radio receiver current supply; the current for the first receiver was taken from batteries. However, the public soon manifested dislike of the necessity for changing batteries periodically, and accordingly, manufacturers, after experimentation and research, developed the socket-power unit and trickle-charge storage battery. These units satisfied a real need, and worked satisfactorily.

"However, the public was not completely satisfied, and during the last year showed a distinct preference for a receiver that used no batteries or other devices requiring frequent attention.

Every year seems to bring at least one outstanding development in radio receiving instruments. In 1925, we remember single control; in 1926, the cone loud speaker; in 1927, there was, of course, the battery eliminators — what does 1928 hold?

Problems Encountered.

"In the incorporation of full alternating current operation, however, great difficulty has been encountered in producing this convenience without impairing quality of reproduction. A.C. operation is a convenience to which listeners have looked forward, but they are not going to be satisfied if it is not accomplished by compromise with tone quality, selectivity, or any other of the desirable features of a radio set. The production of A.C. operation is especially difficult because of the necessity for eliminating the 60 cycle 'hum' which we all know so well.

"The receiver that will take the public fancy, however, is one in which tone quality and other desirable qualities are improved and made better with the addition of A.C. operation—not one in which other qualities are sacrificed for the convenience of an electrical operation.

Improvements.

An official of a large radio company, one of those old timers who sailed the sea as a wireless man long before the days of broadcasting, when approached for his views on the subject, said: "There is a great improvement all round. I like the looks of the alternating current sets that can be attached to the light socket. I note considerable refinement in the construction of the sets, although in general outward appearance there is not a great deal of difference in the sets on the Sydney market a year ago. A man who bought a set last year need not worry that his set looks obsolete this season. The only factor that may lead him to purchase a new set, is the fact that he wants to do away with the batteries and use the lighting current. I am glad to see that in developing the electrical receivers the designers have not made them big and clumsy. Compactness and simplicity of operation are what the public want, and they can get them in the new apparatus. I was surprised to see how compact some of the electrical sets are. I was afraid that in putting the power supply units

inside the cabinet, the manufacturers would make the cabinets too large. The man who can build a neat, compact set equipped with alternating current valves, and a single tuning control has a gold mine if he promotes it properly. At the recent Radio World Fair in America, which I visited while in that country recently, I saw no changes that I would call revolutionary, but there are many fine improvements that make radio sets more decorative and tonal quality sweeter."

Current Supply Units.

"Did you see anything new in the current supply devices?"

"There are many reliable devices of this type. The radio set owner who is now using batteries can easily convert his receiver to an electrically operated circuit. There are a host of 'A-B-C' eliminators which dispense with batteries.

"We must not, when considering these advances, forget the combination 'B' battery eliminators and power amplifiers.

"They plug in after the first audio stage, and make the circuit an electrical one of excellent tonal quality. There are two large valves in these instruments, one acting as a rectifier, and the other as a power valve; therefore, the last audio valve, which is usually the power valve in the receiver, is not needed."

"What did you see new in the loud-speaker line?"

"I saw plenty of cones, some with decorated faces, and others with a plain disc. Of course, you cannot tell much about loudspeakers unless you actually hear them. The same is true of any piece of radio apparatus. The best thing to do is to pick out a set that appeals to the eye, and let the ear be the final judge. It is the ear that is really going to have to put up with the set, so why not let it sit on the judgment throne?"

"In buying the speaker, the tonal quality is the main factor to be considered. Tonal quality and selectivity must be of high quality in the receiving set, while the decorative effect is third as far as the majority of men are concerned. But women generally buy a set for its looks.

"In acquiring a current supply device, be sure that there is no alternating hum from the current lines, and be doubly certain that the instrument will stand up in service and not burn out a resistance or condenser after it has been in service for a month or two. This is not only true to current supply apparatus, but in the alternating current sets. My advice is to

watch for a hum, and be sure that the circuit is well built with quality parts, otherwise it is very likely to need the frequent service of a radio doctor.

"Returning to loudspeakers, I might say that on view were a good many of the cone type of reproducer, which by now have had enough service to prove their capability. A well built cone can be depended upon to give excellent reproduction. I have nothing against the cone as it is developed to-day. Then there are the long air chamber horns, many of which are built in individual cabinets or consoles. The air chambers are about six or seven feet long, and are mighty fine to listen to.

"The balsa wood reproducer can be made quite decorative, either as a picture to be hung on a wall or as a floor screen. They are rectangular in shape, and because of the flat surface, can be decorated more easily than the cone. The balsa wood is found in the tropical jungles, and so far as is known, is the lightest wood that grows. When used as the sounding board or diaphragm of a loudspeaker, it is said to reproduce the low notes with entire fidelity. The natural period of vibration is negligible, because balsa wood has no period of vibration of its own. The electrical driving unit is of the balanced armature, non-adjustable type, designed to operate satisfactorily on high voltages."

"Anyway," he concluded, "if you get one of those electrical sets, don't buy it just because it looks nice, but let your ear be the judge."

Why Valves Become Paralysed

PRESENT-DAY valves, for the most part, have so-called thoriated tungsten filaments, the action of which, even at this late date, is not fully appreciated by the average listener.

The electronic emission of the thoriated tungsten filament, according to S. Ruttenberg, Chief Engineer of the Radiall Company, depends upon the presence of a layer of thorium atoms on the outer surface of the filament. It will be noted that, unlike the oxide-coated filament found in some valves, the thoriated tungsten filament is not merely thorium-coated, but it is permeated throughout its entire mass with the rare element thorium. During the normal operation of such a filament, the thorium on the outer surface is gradually evaporated, reducing the emission, rendering the valve short-lived. However, while the heat of the filament serves to evaporate the thorium particles on the surface, it is also boiling fresh thorium particles out of the mass and up to the surface. Thus the surface is being continually re-

plenished. Just so long as the filament voltage is not increased beyond 10 per cent. above the rated value, this evaporation and replenishing process continues at an equilibrium rate, so that a constant layer of thorium is maintained on the surface.

When subjected to an over-voltage on the filament, however, the evaporation becomes excessive, so that the valves accordingly become more or less paralysed. Operating these valves at sub-normal voltages is also liable to paralyse them slowly, as the filament temperature is so low that the process of boiling out the thorium from the interior of the filament becomes abnormally retarded. Hence it is important that the thoriated tungsten filament valves be operated strictly at their rated voltage, by means of hand rheostats with an accurate voltmeter, or, better still and simpler, by means of amperites, the self-adjusting rheostats.

Amateur Abbreviations

A complete dictionary of the abbreviations used by amateur transmitters over the air

READERS who are interested in low-wave work are often mystified by the various abbreviations adopted by amateurs. For instance, few are aware that 99 means "keep out," 88 means "love and kisses"; cud means "could" and so on. In view of this fact, we publish a most up-to-date list of all the abbreviations at present in use.

"Q" SIGNALS.

- QRA: What is your address?
- QRB: What is your distance?
- QRH: What is your wavelength in metres?
- QRK: How are my signals?
- QRM: Are you being interfered with?
- QRN: Are atmospherics strong?
- QRQ: Shall I send faster?
- QRS: Shall I send slower?
- QRT: Shall I stop sending?
- QRV: I am ready, start now.
- QRX: Shall I stand by?
- QRZ: Are my signals weak?
- QSA: Are my signals strong?
- QSC: Is my sending bad?
- QSL: Will you acknowledge?
- QSO: Are you in communication with any one?
- QSS: Are my signals fading?
- QSSS: Are my signals swinging?
- QST: Have you received the general call?
- QSY: Shall I send on a wavelength of — metres?
- QSZ: Do you wish me to send each word twice?

AUDIBILITY SIGNALS.

- R1: Faint signals, just audible, not readable.
- R2: Weak signals, barely readable.
- R3: Weak signals, but readable.
- R4: Fair signals, easily readable.
- R5: Moderately strong signals.
- R6: Strong signals.
- R7: Good strong signals, readable through interference.
- R8: Very strong signals, heard several feet from 'phones.
- R9: Extremely strong signals.

AMATEUR ABBREVIATIONS.

- ABL: Able.
- ABT: About.
- AER: Aerial.
- AGN: Again.
- AHD: Ahead.
- AMP: Ampere.
- AMT: Amount.
- ANI: Any.
- AUD: Audible, Audibility.
- B4: Before.
- BI: By.
- BK: Back, Break.
- BLV: Believe.
- BD: Bad.
- BN: Been.
- BTR: Better.
- C: See.
- CANS: 'Phones.
- CKS: Chokes.
- CN: Can.
- COND: Condenser.
- CP: Counterpoise.
- CPSE: Counterpoise.
- CRD: Card.
- CUD: Could.
- CD: Could.
- CUL: See you later.
- CUM: Come.
- DA: Day.
- DN: Done, down.
- DNT: Do not.
- DX: Distance.
- ERE: Here.
- EM: Them.
- ES: And.
- EVBDI: Everybody.
- EZ: Easy.
- FB: Fine business.
- FM: From.
- FONES: Telephones.
- FR: For.
- FREQ: Frequency.
- GUD: Good.
- HA: Hurry Answer.
- HAM: Amateur.
- HD: Had Head.
- HI: Laughter, High.
- HR: Hear, Here.
- HRD: Heard.
- HV: Have.
- HVY: Heavy.
- GA: Go Ahead.
- GB: Good-bye.
- GE: Good Evening.
- GEN: Generator.
- GES: Guess.
- GG: Going.
- GM: Good Morning.
- GN: Gone, Good-Night.
- GND: Ground.
- HW: How.
- INPT: Input.
- KNW: Know.
- LITE: Light.
- LTR: Later, Letter.
- LW: Low.
- MA: Milliameter.
- MANI: Many.
- MI: My.
- MILS: Milliamperes.
- MIM: Exclamation.
- MITY: Mighty.
- MK: Make.
- MSG: Message.
- MTR: Meter.
- ND: Nothing doing.
- NG: No good.
- NIL: Nothing.
- NITE: Night.
- NM: No more.
- NT: Not.
- NW: Now.
- OB: Old boy.
- OM: Old man.
- OPR: Operator.
- OSC: Oscillate.
- OW: Old woman.
- PSE: Please.
- PUR: Poor.
- PWR: Power.
- R: All right, Are.
- RCD: Received.
- RES: Resistance.
- RITE: Right, Write.
- RPT: Repeat, Report.
- RUF: Rough.
- SA: Say.
- SED: Said.
- SEZ: Says.
- SHUD: Should.
- SIGS: Signals.
- SITE: Sight.
- SORRI: Sorry.
- SRI: Sorry.
- SUM: Some.
- TKS: Thanks.
- TNX: Thanks.
- TNG: Thing.
- TMW: To-morrow.
- TRI: Try.
- TRUB: Trouble.
- TS: This.
- T: The.
- TT: That.
- U: You.
- UR: Your.
- URS: Yours
- V: Volt.
- VY: Very.
- WD: Would, Word.
- WDS: Words.
- WHN: When.
- WEN: When.
- WID: With.
- WK: Weak, Work.
- WL: Will.
- WO: Who.
- WT: What, Wait.
- WUD: Would.
- WX: Weather.
- XMTR: Transmitter.
- XCUSE: Excuse.
- XPLAN: Explain.
- XTRA: Extra.
- YL: Young Lady.
- YR: Your.
- 73: Best Regards.
- 88: Love and Kisses.
- 99: Keep out.
- 2: Two, To, Too.
- 2DA: To-day.
- 4: Four, For.
- 8: Eight, Ate.



Miss Goodie Reeve, who has been engaged by 2FC for a series of talks "Behind the Scenes at Hollywood." She has just returned from America.

It's All in the Air

Coming Features in the Broadcasting Programs

GREAT REVUE! On Saturday evening, January 7th, 3LO Melbourne will broadcast the Di Gatano Revue to be transmitted from the Tivoli Theatre.

THE RACE MEETING at Gawler on Saturday afternoon, January 21st, will be described by Mr. Treloar for listeners. Interstate sporting results will be broadcast at intervals from the studio.

TENNIS: Mr. Alf Dunlop will describe for broadcasting by 3LO Melbourne the Davis Cup trial matches to be played at the Kooyong Courts on Friday and Saturday, January 6th and 7th.

AMONG OTHER additions to the programmes of 4QG in the New Year is the Wednesday dance programmes. Excepting where it is not possible to do otherwise, each Wednesday evening will be set aside for dance music, interspersed, of course, with vocal numbers to relieve the monotony. Evenings given over almost entirely to dance music should prove beneficial to many who wish to have evenings in their own homes.

SHIPWRECKS IN AUSTRALIAN WATERS: Mr. W. A. Shum, a well known Melbourne journalist, who writes under the name of W. A. Somerset, begins on Monday evening, January 2nd, a series of talks at 3LO Melbourne on "Shipwrecks in Australian waters." The subject is a fascinating one, and he has, alas, a wealth of material to choose from; for the history of navigation in Australian waters is punctuated with thrilling incidents and appalling disasters. It does not follow that all the stories will be of a tragic nature, and if one may judge by the articles that have appeared from his pen, sadness will not be the dominant note of these talks. Monday night's talk at 9.4 will be of an introductory character, and on Tuesday and Wednesday stories of some of the more famous coastal wrecks will be told. One of the later talks will be devoted to the part that wireless has played in shipwrecks.

EDGAR WARWICK, the well-known English actor, returns to Sydney after a 14-months run with the "Ghost Train," and has prepared for 2FC a fresh series of short and thrilling broadcasting sketches, commencing on 14th January.

MARIE LAWTON, the delightful soprano-harpist, has a fortnight to spare before returning home to England, and will make a series of appearances at 2FC. That station has also taken the opportunity of booking **HUBERT CARTER**, the New Zealand tenor, before he returns to London.

OLYMPIC SPORTS: 2FC has secured the exclusive right to broadcast the forthcoming trial games for the Olympic Sports. On Tuesday, 3rd January, a studio talk will be given by Dick Eve; one on the following night by Mr. Allison; a talk on swimming by Reg. Duff, on Thursday, 5th; and one on boxing and cycling on Friday, 6th, will precede the actual descriptions of the games themselves. On Saturday, 7th, descriptions of the various fixtures will be given from the Manly Oval, and the Sports Ground. From the Sports Ground again on Tuesday, 10th; the Manly Baths on Wednesday, 11th; and the boxing from the Stadium on Thursday, 12th January. The concluding description will be given from the Manly Baths on Saturday, 14th.

GRAHAM KENT is commencing another series of Bridge talks on Friday, 6th January, and going right through for a period of twelve weeks every Friday night.

ON THE EVENING OF January 19th, 5CL have engaged the services of a male voice choir to render items from the studio. Transmission of this type are extremely popular with listeners, and a good programme will follow.

RUS GARLING will be heard on the air in a new role, appearing once a week under the heading of "Mirth and Melody," keeping up his reputation of originality. He has prepared a lot of fresh stuff which will be given in an atmosphere of melody supplied by Mr. Ewart Chapple.

WITH THE passing of the Old Year, 3AR Melbourne is to lose the services of one of its pioneer and most valued helpers in the person of Miss Ruth Phillips, who has been associated with that Station since its inception in 1923; and to whose energy and ability much of that Station's present success is due.

H. W. VARNA has more excellent plays to give through 2FC. Henry Arthur Jones' comedy, "The Liars"—has been set down for the 11th; the romantic play, "The Royal Divorce," for the 25th January—the "Scarlet Pimpernel" for the 8th February, and the "Prisoner of Zenda" for the 22nd February.

THE DONIAN MALE QUARTETTE, composed of Messrs. Alan Mitchell, 1st Tenor, William Phillips, 2nd Tenor, Raynor, 1st Bass, and William Meurison, 2nd Bass, appearing on January 12, at 3AR Melbourne, as the name suggests, hail from Essendon, where the fresh breezes are evidently conducive to good voice production.

MISS CLARE DAVIS, who is to commence a series of engagements with 3AR Melbourne on Monday night, 9th January, has achieved much success both in Melbourne and the country centres. At her first appearance on the concert platform, Dr. Price was particularly pleased with her voice and musical ability; and in her association with the Oriana Madrigal Society, she roused very favorable comment by the critic of "Musical News." Miss Davis won among other prizes the contralto solo at the South Street Competitions, and was runner-up in the Grand Championship.

TASMANIAN ENTERTAINERS: Tasmanian Listeners will be glad to know that the names of Mr. and Mrs. Leo Fisher are included in the Programmes from Studio 3LO Melbourne, and, in spite of the "Summer Static" that often debars Tasmanian Listeners from enjoying a wireless programme to the full—it is hoped that these popular entertainers will be heard in the Sister State. Mr. and Mrs. Fisher have come to 3LO with an excellent repertoire of songs and duets—and, having sung their way through Tasmania—and made themselves very popular throughout the length and breadth of the "apple island"—it is fully expected that they will create a distinctly good impression from the Studio.

CAVENANNETT'S Havana Syncopators are back again at 5CL. They have recently returned from a tour throughout the Commonwealth, and will be heard again from 5CL on Monday, January 16th.

EUGENE SCARPE'S HAWAIIAN Entertainers, who are now being heard from 5CL, have had a varied experience. Before appearing at 5CL they have only once before been broadcast. They appeared at WJAZ, a famous American Broadcasting Station. They have appeared at the principal theatres in England, France, America and India, and have recently returned from a tour in the Philippine Islands. This talented combination of performers appeared in the "Tangerine" Company at the Princes Theatre, in Melbourne.

HORACE CALVERT is a young Tenor, who is meeting with much success in broadcasting, being sincere in all his work, and choosing his songs with a pleasing variety. He is to be heard at 3AR Melbourne on 10th January.

BELLRINGERS AT 3LO: Straight from the triumphs of an extended tour through India and the Far East, come the Lynch Bell Ringers to Studio 3LO, where they delight listeners on an array of instruments—all of the "Bell Family," and which transmit with wonderful clarity. To mention but a few of their items, they contribute to the programme as Glassophonists, Marimbaists, Aluminium Organists, and Hand Bell Ringers. In addition to this, their company includes Vocalists, who sing to a "Bell" accompaniment, and Humorists, who, having a world wide reputation, can safely be left in charge of the mirth provoking side of the entertainment.

NORMAN FARMER (Flautist), appearing at 3AR on 12th January, who will give some selections on his flute, has received many compliments from notable singers, such as Madame Heseleva, for the excellent manner in which he executes difficult obligatos. As the flute is an excellent instrument for broadcasting, Mr. Farmer may be expected to give listeners much pleasure.

FAVORITE ARTISTS: It is interesting to note that during the coming week many favorite vocalists and instrumentalists are included in the varied programmes at 3LO Melbourne. These include Edouard Lambert, Victoria Wilson, Captain Guy Moore, Bernard Thomas, Frances Lea, Lillian Scott, Bobby Pearce, Veronica Cox, Vaude and Verne, Jessie Irwin, The Premier Four, Madame Ethel Ashton, Pat McLean, Louie Hilburn, Bob Molyneaux, Alma Horlock, John D. Fraser, Dorathea Macmaster, Jack O'Hagan, Nellie Judges, Madame Ashley, John D. Fitzer, Elsie Bradshaw, J. Howard King, Jean Hambleton, Alice Mallon, Freda Northcote, French Bros., J. Alexander Browne, Madame Ella Kingston, and last but not least, The Studio Quartette—truly a remarkable galaxy of talent.



Uncle George Saunders, late of 2BL, now of 2GB.

THE SENTIMENTAL BLOKE: After playing throughout Australia the original "Bloke" in C. J. Dennis' play, Steve in Gum Tree Gully, Joe Wilson in "While the Billy Boils," and a host of other roles in similar successful productions, Walter Cornock is commencing a season of broadcasting from 3LO Melbourne on Monday, January 9th. No comedian in Australia is more versatile than Walter Cornock. He has played all kinds of parts in every Theatre in Australia and New Zealand, and can look back on 10 years experience in stock with a different role every week—truly a remarkable achievement. Listeners are assured, therefore, of an extensive repertoire from Mr. Cornock, together with much that is entirely original and novel.

5CL ANNOUNCE an alteration in the arrangements of afternoon programmes during week days. In future the relaying of Orchestral selections will cease, and musical items will be rendered from the studio. The afternoon programmes will consist of items rendered by vocalists and instrumentalists. A number of interesting talks have also been arranged.

2BL Has Versatile Staff

NEVER was there a greater exemplification of the statement that "A man plays many parts during his life," and this is particularly applicable to the success of a broadcasting station, which is entirely dependent upon the versatility of its staff.

The Acting Manager of 2BL, Mr. H. G. Horner, an accountant by profession, made his debut on the microphone on Saturday night last and did not experience the usual "mike" fright. He possesses an excellent radio voice. Since Mr. Horner has taken over the management of 2BL there has been a marked improvement in programme presentation.

Mr. G. Vern Barnett, the musical director, is regarded as one of Australia's most brilliant pianists, and accompanists. He has earned the appreciation of the listening public by his artistic arrangement of 2BL's Studio programmes. Mr. Barnett is a raconteur of no mean ability, and when occasion arises, announces from the Studio.

"Uncle Jack" Cannot, so well known throughout Australia as a high-class comedian, is dearly loved by many thousands of tiny tots whom he entertains nightly from 2BL during the bedtime stories.

Mr. J. Knight Barnett, who is now the Secretary of Broadcasters (Sydney) Limited, is also conductor of 2BL's Orchestra. A pianist of outstanding ability, and now an announcer possessing a radio voice of unusual quality.

"Uncle Bass" (Mr. Basil Kirke), who has won his way into the hearts of thousands of the Australian children, displays a remarkable knowledge of all sport, and paints word pictures of sporting events in such a vivid manner that listeners require little imagination to believe they are present at the particular sporting event he may be describing. "Uncle Bass's" lectures, particularly those appertaining to the South Seas, and the people of Eastern Countries, has become quite a feature of Australian broadcasting.

The effect of the talks of the radio Uncles to children prove most beneficial in moulding the young minds in the right direction. An appreciative listener writes to "Uncle Bass" saying: "You expressed your faith in the future control of Australia by the children of to-day, who will be the men of to-morrow. I think your faith

The activities, ability and enthusiasm of the recently appointed staff at 2BL has been reflected in the programmes of that station

will be justified and your dream realised, and no small degree of credit will have to be given to you, and men like yourself who by the aid of wireless and of love of their country and a sincere desire to develop that flame of goodness which sometimes burns low, but never quite flickers out, are doing a great national work."

WRESTLING BROADCASTS.

THE day following a broadcast wrestling match is always a busy one for the correspondence clerks at 2BL.

Judging by the letters received, this class of entertainment is highly appreciated, and the writers are full of praise for Mr. Walter Withrow, of the Withrow Institute of Physical Culture, who describes these wrestling matches.

Mr. Withrow is an ex-member of the Canadian North-West Mounted Police.

Practically every letter requests that these broadcasts from the Stadium be continued, and in that respect 2BL has now obtained exclusive rights to broadcast the wrestling and boxing matches from this hall.

Are Your Remarks Here?

Many of the letters contained interesting and humorous remarks, some of which are reproduced below.

W.W.S.: "One of my friends informed me this morning that his wife became so excited last night, that she put the Boston Crab on him while asleep, and wouldn't let go till he promised to instal a wireless set in their home."

G.C.W.: "I enjoyed it immensely, but the ladies thought it was cruel."

F.G.W.: "It is delightful to get a thrill and a shiver down one's spine whilst darning socks or mending pants."

H.J.: "Say, give us more of it."

R.L.C.: "Anyone who doesn't enjoy it ought to see a brain specialist."

F.T.: "Herewith three penny stamps to 'cap' yourself one."

W.J.C.: "No doubt these broadcasts won't please everyone, but, anyway, it would be sheer suicide and folly to try."

T.R.L.: "Like Oliver Twist—I want more."

A.K.S.: "It was a fair 'wow.'"

B.F.W.: "I hope I've made myself clear without appearing a fool."

A doctor, who has written on his business paper, says: "Splendid—most entertaining!" At the sides and bottom of the note paper in big black print appear the words: "Please, bring this form on your return."

Mr. Ben. Ash, secretary of the Illawarra Cottage Hospital Appeal Fund, forwarded a subscription leaflet, minimum value 2/, and says the broadcasts are most entertaining.

One reader, C.T.N., waxes eloquent in his letter, and gives a history on wrestling and boxing back into the middle ages.

Perhaps the briefest letter of all, was that received from F.W., whose complete letter read:—

"Broadcasting or Wrestling Match—Goodoh! Announcer's description also—Ditto."

A listener from Wellington requested that some announcements appear in "Wireless Weekly" and further remarks: "'Wireless Weekly' is our only reliable medium of knowing what is on."

These letters of appreciation, and otherwise (though the latter are few), are always welcomed by 2BL, as it helps them to arrange their programmes to the general satisfaction of their unseen audience.

ONE OF THE most successful and realistic "interludes" ever staged at 4QG was put on the air one night recently under the title, "All Aboard." The "effects" were exceptionally well carried out and many listeners, no doubt, closed their eyes and thought they were being taken on a pleasure trip to Sydney. The trams in Queen Street, the motor cars, the crowd talking at the wharf, the ship's bells, the creak of the gangway, the revelry in the music room after dinner, and the landing in Sydney, all had their place in the playlet. The only effect missing was the roll of the ship as she entered the broad Pacific from the calm of Moreton Bay.

The Last Empire Broadcast

More Co-Operation Needed in Empire Broadcasting

THE management of 2FC on Monday stated that they had received innumerable telephone messages from listeners in different parts of New South Wales, expressing surprise and regret at the poor programme supplied by the B.B.C. for relaying in Australia on Christmas morning.

"This was remarked upon all the more," the official statement of 2FC continued, "in view of the long period of successful tests that had preceded the Christmas broadcast. These tests showed clearly that the best time for reception of a London programme in Sydney was from 10.30 to 11.30 at night. This hour proved excellent for the reception of the British broadcast. Despite these tests the Christmas programme was sent from Chelmsford at an hour which was known to be bad for reception in Sydney. Why this was done is a mystery to us at this end.

"Further, the programme was one quite unworthy of a special effort to transmit from London to Australia during the Christmas season. All that was sent was four short orchestral items, and two songs. It was anticipated that there would have been Christmas greetings from leading British statesmen, or from the directors of the B.B.C. to Australian listeners, but not a single greeting was sent. In fact, 2LO, London, closed down on the short-wave broadcast without announcing that the programme was finished.

"This was in striking contrast" the statement concluded, "to the programme transmitted by the pioneers of the Empire broadcasting through 2FC for reception in Britain. Here again the management of 2FC are at a loss to understand the reason why the B.B.C. should have chosen an hour unsuitable for the transmission of a Sydney programme for reception in Britain. Tests have proved that this time (3 to 5.30 a.m. Sydney time) was unsuitable, at this season, for the reception in Britain of Sydney transmissions. However, rather than disappoint British listeners, 2FC, and those co-operating with this station, decided that there should be a special programme transmitted during the hour chosen by the B.B.C. If the London body controlling the B.B.C. is in earnest in desiring to encourage reciprocal Empire programmes, it will have to show better spirit of co-operation in future based upon the actual reports of tests by the engineers at Sydney."

3LO STAFF PARTY: "Bigger, brighter and better than ever," was the unanimous verdict passed on the New Year's Party given by Studio 3LO to members of the Staff, and their friends. This year, by common consent, it took the form of Fancy Dress Revels, and the fun raged fast and furious. Among the galaxy of Pierrots, Pierettes, Columbines, and Toreadors, were one or two distinctly original costumes, which showed great ingenuity and patience on the part of the Home Dressmaker—for it is this sort of costume that it is impossible to hire. It was refreshing to see all the clever folk of the Studio—especially those who are habitually wrestling with the intricacies of short wave lengths and "relays"—disporting themselves in Carnival costumes—and flying balloons as though care and trouble had never crossed their "airy" pathway, and when all voices were raised in harmony (more or less) when it came to singing of Auld Lang Syne—no more cheery voice could be heard than that of the very energetic Skipper of 3LO—Major Conder.



Miss Eva Casimir, a pupil of Clement Hosking, appearing at 2GB. She is a mezzo-soprano.

DON WILDSMITH, known in vaudeville as the Singing Vagabond, has been engaged to sing at 5CL for a further season. During his travels he has appeared at most of the principal halls in the United States. He has also toured Europe with signal success. In his vaudeville act he appears as an Australian Swagman, and has many Australian compositions in his repertoire. He will be heard over 5CL on January 16th.

"A TICKET FROM TATTS": There was great excitement at Studio 3LO a few Saturdays ago. It all happened like this. During the afternoon, a visitor from Sydney—a lady with her son and two daughters—called at the Studio and enquired, "If the results of the Sydney racing handicap were yet to hand." As it happened, they had not come through, and our Sydney visitor was invited to wait in the Studio until they were transmitted. When they did—and it was discovered that the third horse in the race, coincided with the number of her "Ticket from Tatt's" entitling her to a nice little cheque for £1,000—it will be quite understood that she was "thrilled"—and showed it. In fact, her enthusiasm was quite contagious—everybody in the Studio was surprised and delighted—but none more so than the happy Sydney quartette.

RUPERT HAZELL: Among the many good stories that Rupert Hazell—the versatile entertainer, who is shortly to broadcast from Studio 3LO Melbourne—has in his wallet, is one which concerns his early days, when he played the juvenile lead in musical comedy. During the rehearsals of a particular play, the author was always "in front" and kept a keen eye on the artists, especially the comedy man, who seemed a little inclined to take liberties. He was a young artist with a great sense of humor, and thought his somewhat "unfunny" lines would be improved by a little graceful "gagging" on his part. This did not suit the author in the least, who rose in his stall, and proceeded to give the young artist a good "dressing down." "Mr. X." he said testily, "I must ask you not to improve on my dialogue—just speak the written word and wait for the laugh which will follow." "That may be alright for you," was the muttered reply, "but my last train goes at midnight."

Making Wireless Worth While

ALTHOUGH Wireless is already a household word in millions of nappy homes, it is not astonishing, when one realises how big the world is getting in point of population, to find that there are still more millions who languish in Wirelessness and know not even 3LO Melbourne.

The dealers of Melbourne and the country towns of Victoria, however, are ever hot upon the trail of prospective customers, and it is highly satisfactory to note the great improvements made this Xmas season in the way of letting the public know how convenient Wireless can be made either for cottage or mansion. Very attractive window displays were observable at all the dealers, but the most noticeable improvement over previous years was the excellent behaviour and adjustment of the loud speakers. Most dealers arrange to have a loudspeaker over the doorway of the establishment, and too frequently in past years these have been the most deplorable exponents of Wireless incompetency that it was possible to meet. It was only to be expected that when such awful combinations of misplaced sound were hurled at passers-by that they should wag their heads disparagingly and remark: "Oh! it's only the Wireless!" and pass by on the other side.

To-day, however, all this is changed and the alleged noisiness of a loudspeaker is merely proof of decadence in the dealer. The more reputable firms have learnt to restrain the youthful enthusiasms of inexperienced salesmen who in days of yore could not forbear from tinkering with apparatus that they knew nothing about. The consequence is that Wireless has come more thoroughly into its own even as a street musician, and you have only to stand outside a good Wireless Shop to have your ears titivated very pleasantly whenever 3LO Melbourne is discoursing melodious music.

In one much frequented Melbourne street there is a bevy of Wireless dealers well within cooee of each other, and you cannot get out of hearing of one before the others too take up the tale and can be heard quite distinctly. In past years the horrid result used to be an excoriation of the aural diaphragm. This Xmas, however, there was actual pleasure to be derived from taking up a strategic position where all three loudspeakers were to be heard at once, and with equal volume, and it was quite a revelation in good musical reproduction to notice how accurately in unison and uniform in tone the

trio were. It was, in fact, somewhat weird when any speaker or singer was under transmission, and the three identical voices came from different quarters simultaneously.

THE PIED PIPERS: Sunday evening would not be Sunday evening at 3LO without "The Pied Pipers," who are regularly in the Children's Hour programmes. This popular combination is conducted by William G. James and includes Madame Saffo Arnav, J. Alexander Browne, Gertrude Hutton, Horace White and Donald McBeath.



Miss Dorothy Cavanagh, directress of programmes for 3LO., who is responsible for much of the popularity of that station.

West Australia Wants 3LO

FOLLOWING the application by 3LO Melbourne for broadcasting Licences for West Australia, South Australia and Tasmania many hundreds of letters have been received from listeners in the Western State approving of the policy of extension launched by 3LO. Mr. C. A. Bolton, of Airdale, via Busselton, writes as follows:—

"Some time ago 6WF briefly announced that 3LO had applied to erect an 'A' Station in W.A., but the application had been refused. Why? We over here cannot understand the action of the Postmaster in his refusal. Another 'A' station is badly needed. We are not dissatisfied with the programmes from our local station, 6WF, in fact, the great feature of that station lately has been the extraordinary improvement in the programmes, but variety is the essence of radio entertainment, and it is more variety we need.

"Another big factor is that in terms of radio W.A. means distance—and distance means bigger and more expensive sets, which not everyone can afford. We derive hours of pleasure listening to our local, but I have yet to meet the wireless enthusiast who does not want to listen to more than one Station, especially stations like 3LO, who have greater opportunities of putting on variety programmes than has our local in Perth.

Amongst other listeners round here I sincerely trust that you have not taken refusal as final, but that you will keep applying until it is granted.

"I am now working a 3 valve Reinartz which I have built, and on this set 3LO comes in with unfailing regularity and its customary volume after 8 p.m. Perth time.

"May I wish 3LO all the best for Xmas and the New Year, and also the prospective 3LO in W.A.

"If this letter will further your application in any way, you are quite at liberty to use it."

BRASS BANDS: During the coming week no less than six Brass Bands are to broadcast from the Studio of 3LO Melbourne. They are: Collingwood Citizens, South Melbourne, Coburg City, Metropolitan Fire Brigade, St. Kilda, and Malvern Tramways. Band music is always popular with listeners, and 3LO has equipped a special Studio for its effective broadcasting.

Good Radio Predicted for 1928-1933

Scientist believes reception will be excellent. Discusses so-called magnetic storms and sun spot cycles. Words of cheer to radio fans may help tide over the poor reception we are at present experiencing.

FROM 1928 to 1933, radio reception conditions will improve, according to the sun spot interference theory. A well-known scientist states, "We must be patient for a short while now, and await better conditions rather than strive for distance at the expense of batteries and loss of sleep. There seems to be some effect of sun spots on radio reception."

Sun spots throw out enormous eruptions of electrons and other electrical particles, some of which reach the earth's atmosphere. When these sun spots are particularly intense, radio reception is apt to be disturbed. The sun spot cycle is eleven years; that is, there is a minimum of spots on the sun for a time, after which they gradually increase to a maximum, and return to a minimum—the whole period occupying a cycle of eleven years.

The last sun spot minimum was in 1922, and it would be inferred, therefore, that reception in 1922 would be progressively worse to 1928, and that in succeeding years, reception should improve and be at its best in 1933.

It will be interesting to see whether this occurs, and whether observations on sun spots will show a closer correlation with radio reception conditions.

There is no definite relation between radio transmission effects and the aurora, or magnetic storms, the scientist points out, admitting, however that these phenomena do affect wire telegraph services (not wireless telegraphy) frequently paralysing it entirely. The only effect on radio waves, is that in some instances it has been known to either diminish or increase the intensity of the received waves, thus causing fading of signals.

Strange as it may seem, and contrary to general belief, weather, in general, has very little effect on radio reception; the principal causes of these vagaries lie in the upper reaches of the air, whereas the weather is manufactured or changed in the lower levels of the atmosphere—below the clouds. Static, on the other hand, he advises, consists of waves which are identical in character with wireless waves, though they are caused by natural electrical discharges in the air. Lightning is another form of such discharge. Static, as is fairly

well known, occurs most frequently in the torrid zones and storm areas, being worse in summer than in the winter months.

The theory that static represents a system of communication is still upheld by many scientists, who are of the opinion that the Martians are endeavoring to establish communica-

tion with the earth.

However, it is firmly believed that science will eventually overcome static, whether it be called interference or signals, and in the meantime, until 1933 at least, we may look forward to a period of good reception unmarred by the troublesome noises which we are all experiencing of late.

The Best Known Voice in Australia

Maurice Dudley and his work at 3LO, Melbourne

HAVE you ever given a thought to the round of events which make up the daily lives of the men who tell you each night of the movements in share prices, of the height of the rivers, of the news of the day, of the pig and the cattle and the sheep and the fruit markets, and who introduce to you the artists who entertain you from the broadcasting studios? You know their voices almost as well as you know your own, but have you ever thought, as you sit back in your chair with the 'phones on or with the loud speaker going, of what manner of men they are, if they find their work monotonous, or if they have as much interest in their far-flung audience as their audience finds in them?

I found myself wondering if that were so (writes a special correspondent), and last night I went along to the 3LO Studio in Melbourne to see for myself. I went along to see Maurice Dudley, the Prince of Announcers, whose voice is known in almost every corner of the Commonwealth, and, if possible, to have a chat with him about the thousand and one things which were in my mind. I found a beautifully furnished broadcasting hall, with Maurice Dudley seated at his table in front of his microphone. It was at that hour between 7 and 8 p.m., when the lectures are delivered, and the nightly audience which filled the hall had not yet arrived.

In between announcements he told me many things, things which threw a new light on the everyday round of broadcasting, and what he told me

has lent a new interest to those stereotype statements which we have come to know so well. He began to tell me something of what I wanted to know almost before I had asked him.

"It is really remarkable," he said, "how many people ask me if I find my work interesting—why, it's one of the grandest parts I have ever played—and I have more years of stage experience than I care to remember. Ordinarily, the everyday announcements might in themselves eventually become monotonous, but I have come to look beyond the studio walls; I have come to realise what my messages mean to all those hundreds of thousands of people, young, old, and middle aged, who make up my unseen audience.

"I have no idea how far my voice travels, I do not know how many people might hear my voice for the first time, thrilled at having picked up 3LO, or Australia, for the first time; but I do know that to many people throughout Australia my news, my market reports, and my trade announcements sometimes might mean the difference between success and failure. The fluctuations of the pig, cattle and fruit markets, the share reports, and even the river readings, each hold for those vitally interested a tremendous interest.

"How could such a life fail to hold the interest of any man? When you have about half a million people listening to you nearly every night, and when about half of those people seem to look on you as a big brother or an old friend, work like this carries a tremendous responsibility."

Eliminating Interference from Electric Motors

The last of the series of articles on better Radio Reception published by courtesy of the Radio Manufacturers' Association of U.S.A.

The Cure for Noise Makers.

We shall take up the care and cure of noise makers according to their classification at the beginning of this report and so arrive at the long-deferred discussion of

1. Motors: The motor noise is a contact noise—a spark emanation more obnoxious than most spark emanations, because continuous. Its generation may be understood by anyone who understands the working principles of the device. A motor consists of an armature revolving in a magnetic field. The driving current passes first through the armature whence it is used to excite the field magnets, the technique of which need not be gone into here. The point of the matter is that the current has to be conveyed to the windings of a revolving spool and this can be done only by sliding contacts called brushes. The brushes press down against a drum of copper and when both are clean, function without interruption, sparking or noise.

Dirt and corrosion change the whole performance. The contact becomes erratic and is accompanied by sparking, which pits the metal and produces more sources of bad contact.

The first treatment of a noisy motor is to clean it—not a bad idea whether it is noisy or not. Cleanliness saves cost of upkeep and service and is an economical procedure well spoken of even in districts where radio does not amount to much.

Even a sparking commutator might not cause a great deal of trouble if the iron shell of the motor were grounded, but surveys have shown that old motor installations frequently were made on wooden supports and virtually insulated from the ground. Grounding may, therefore, be listed as a second step. With these two manoeuvres completed, one may choke off the last of the interference by connecting a 2 M.F. condenser—tested to stand 1000 volts D.C.—across the brushes. The figure shows the method of connection.

As in all cases where filters are used, the condenser should be placed as near as possible to the point where noise originates. This precaution will

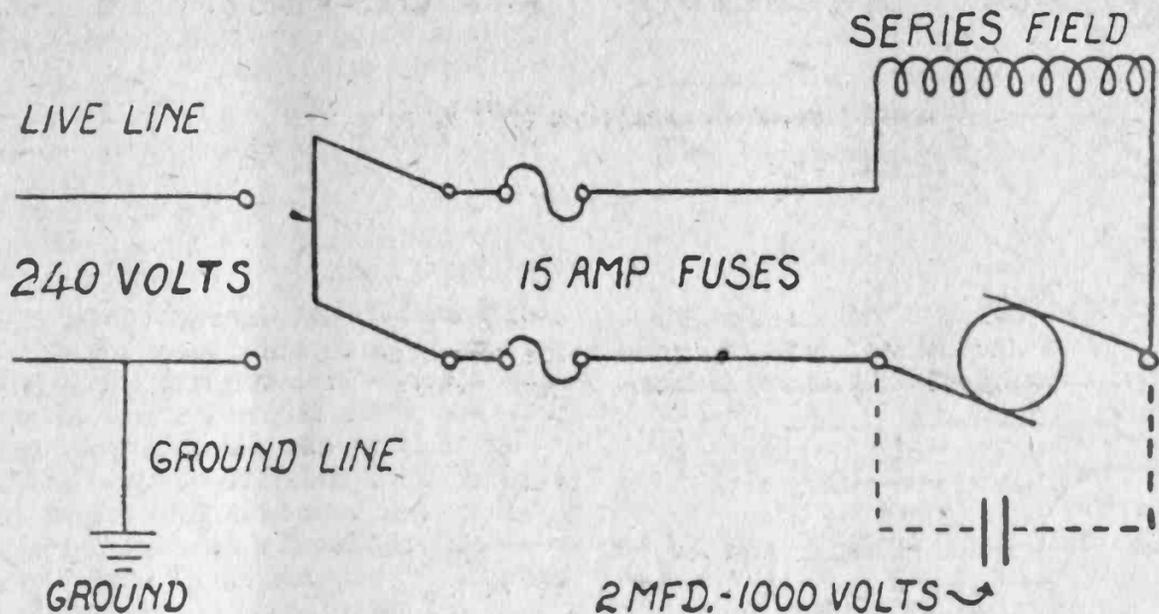


Fig. 1.—Filter arrangement with small motor.

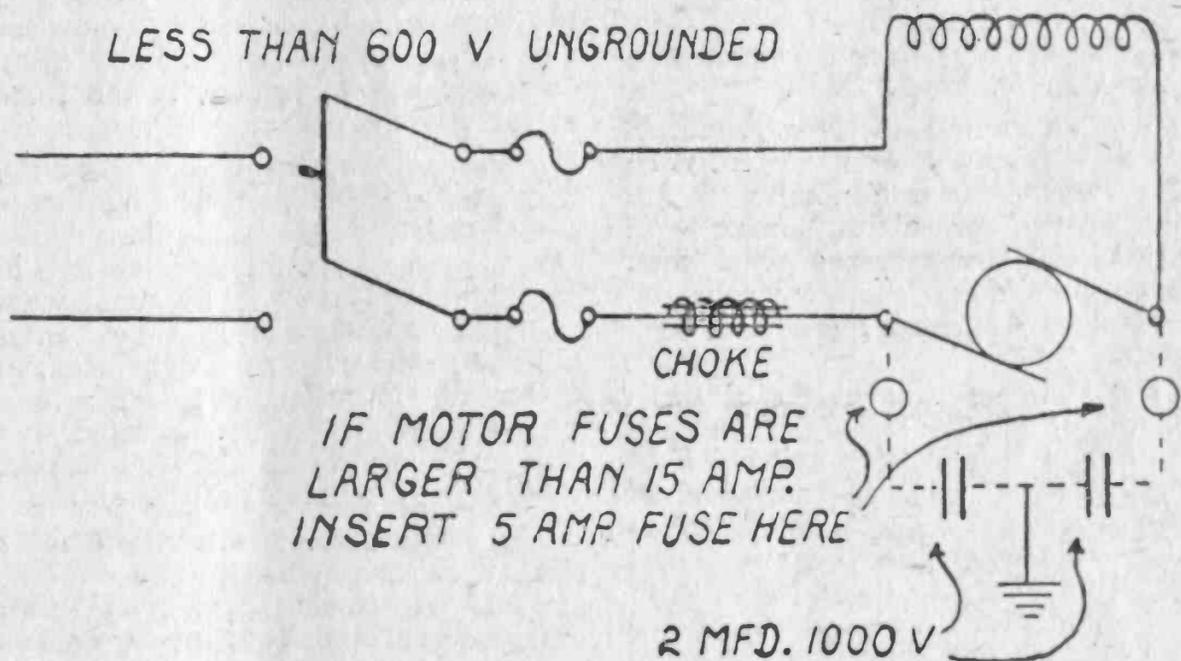


Fig. 2.—Filter arrangement for motor working on ungrounded line of less than 600 volts. Choke is 100 turns of No. 18 DCC wire wound in a single layer on form 3 inches in diameter, 1/8 inch thick and eight inches long. It is wrapped with three turns of empire cloth and then with insulating tape and is furnished with flexible leads.

prevent the broadcasting of interference with condensing leads as antennae.

The design of the filter varies somewhat if the line is less than 600 volts and ungrounded. In that event two condensers grounded at their common lead may be used as shown in Fig. 2.

For very small motors such as those used in soda-mixers, fans, hair driers, vacuum cleaners and the usual portable appliances found in the home, it will generally be found that the connection of a high test condenser of about 1/2 Mfd. across the commutator will end the noise. With such devices the use of a middle-tapped condenser with a ground connection is not practicable.

An efficient motor filter is shown in sketch C of Fig 3 of the National Electric Light Association group. Two

chokes of the type outlined in Fig. 4 are connected into A. C. line, confining the radio frequency currents to the point of their origin.

Condensers specially made for filter purposes are now available in the radio market, as are condenser choke combinations mounted and ready to connect. It should be borne in mind when installing any of these devices that large capacity condensers contain wax and, therefore, should be placed where heat generated by the motor will not affect them.

The rules seem simple—and they are. On reading them for the first time one may be excused for scepticism, for the noises emanating from commutators and such things seem as invincible as they are mysterious. As a matter of fact, it is only the very old motor, long a stranger to care, that will not respond immediately, to shielding and filtering.

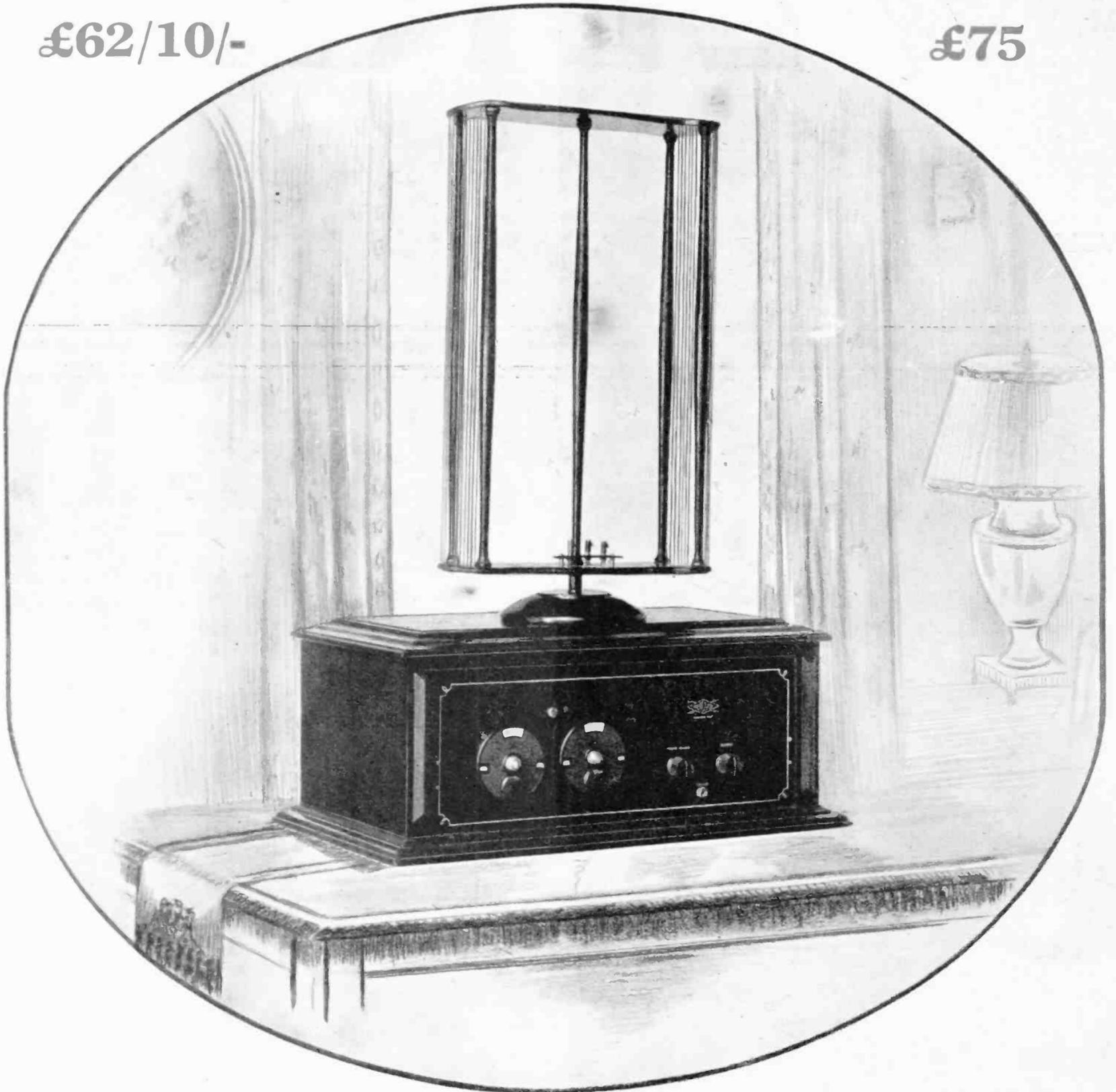
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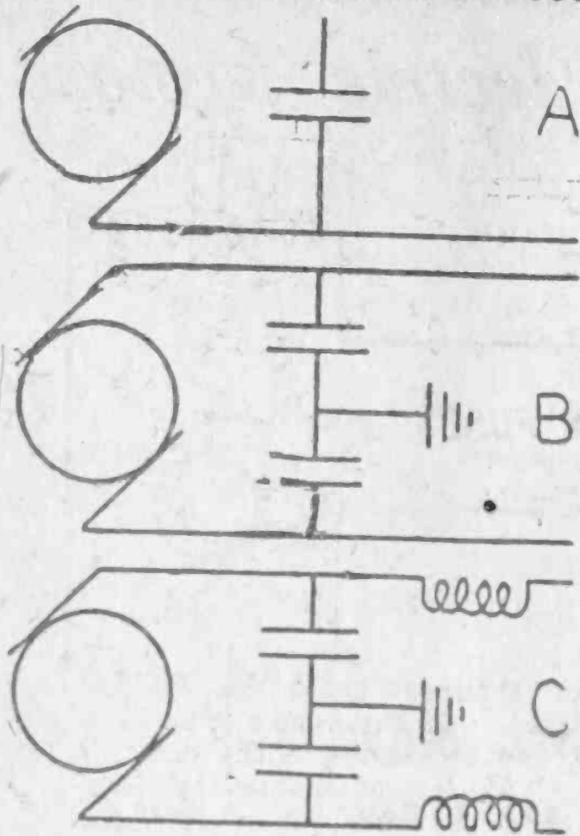


Fig. 3.—Three filter arrangements advised by N.E.L.A.

2. Thermostatic Controls: Something of the treatment indicated in cases of electric pads, humidors, furnace controls, refrigerator controls, etc., has already been mentioned.

These sources of trouble are more difficult to eliminate only because they are more difficult to reach. Fortunately their operation is in most cases of short duration and at periods widely separated. In the event that exceptional circumstances make them exceptionally obnoxious, much of the radio frequency current may be short circuited before it gets out into the lines, by hooking a high test condenser of $\frac{1}{2}$ Mfd., more or less, across the input.

Such an arrangement has the disadvantage of being somewhat removed from the actual seat of the trouble, but test has proved it effective in a large number of cases. The contact points of the thermostat may be reached for filtering in nearly all devices, save the electric heating pad, and the usual difficulty with heating pads lies in the fact that the user is generally ignorant of the fact that he is causing interference. Education in this respect will probably do more to end the interference than a filter.

3. Bad Contacts: The best cure for a bad contact, of course, is to fix it. Loose fuses, loose connections, wobbly light sockets and all of that are a menace to many things aside from radio. They constitute a fire hazard for one thing (or rather the last two items do) and once located they should not be left unattended, even if the annoyance they cause is only sporadic.

Other contact noises, however, may well be considered here, for while they are produced with malice aforethought, their effect on radio reception is quite the same as if they were purely accidental.

Under this head might be considered flasher signs, elevator contactors, vibratory rectifiers, violet-ray machines, X-ray machines, bell ringers and the like. Simple cases, all of them and simply treated.

Sign flashers are of two types, one operated by a rotating element, actuating a series of make and break devices, the other turned on and off by a thermostatic element. The second properly falls under the classification just discussed and falls into the same group for treatment as the other thermostats. The first may have two sources of disturbance, the actuating motor and the contacts.

Contact noises are easily quelled by the connection of a 1 Mfd. condenser across the terminals. The filtering of motor noises, if any, is the same as for other motors.

Sign flashers have been causing trouble since the inception of radio, and formerly were considered a necessary nuisance. Household in neighborhoods affected by them were so loudly unanimous in their complaints that an effort was made to study the situation, but for a long time the only remedy suggested was the shielding of the control device. This remedy was no remedy at all.

The condenser, however, is in most cases a cure, installed in five minutes and effective at once. Here, as in all cases so far discussed, ignorance has been the principal source of interference. Sign flashes are generally used for advertising purposes and no advertiser cares to antagonise an entire neighborhood.

Elevator contactors in some localities have been so persistently active that engineers have abandoned hope of doing anything with them except leaving them to run elevators. However, they may be silenced, no matter how refractory, if properly approached.

The method is the same as for the sign flasher, but owing to the larger currents involved is considerably more expensive. No one can hope to stifle a good, honest elevator contactor by hooking a 1 Mfd. condenser across it. The proper treatment is a big condenser—twenty microfarads or more—and of a type tested to stand the D.C. voltages to which it may be subjected.

The condenser is connected across the contact points and if properly sized will put the device on its electrical rubber heels. Twenty microfarads of condenser represent a considerable outlay of money, especially

where it must be repeated for several contactors, but no more than the building owner stands to lose if it becomes noised about that radio is a mere rumor in the vicinity of his shafts.

The Refractory Vibratory Rectifier.

The most amazing experiment of this group is the throttling of our old and very oral friend, the vibratory rectifier. Once it seemed impossible that this device could ever become housebroken and so strong is that belief to this day, that many communities like Van Wert, Ohio, have passed legislation against it.

However, it takes its medicine without protest and thereafter is no more noticeable in the loud speaker than the time signals from Timbuctoo. The usual stuff—a one-mike condenser connected across the vibratory element.

All such rectifiers consist of a vibrating reed, making and breaking contact with a fixed terminal. One end of the condenser goes to the reed, the other to the fixed terminal. And that's all there is to it other than accepting the thanks of the neighbors.

The violet ray machine has come in for much comment before this. If a one-mike condenser is connected across its vibrator, it may possibly operate without causing riot, mayhem, and murder. However, the best eliminator for such devices is the electric light switch. Caution dictates that they should not be used while radio listeners are straining their ears for the surf on a distant coast.

X-ray machines, according to the best authority, are quiet only when they are used in rooms shielded with metal mesh or lead foil. At any rate, they are quite beyond the ministrations of the average broadcast listener.

Recent experiment with X-ray installation tends to show that standard filter equipment probably will be the solution of the interference problem even here. Shielding of rooms in which such apparatus is used is becoming more and more general for reasons that have nothing at all to do with radio and in numerous instances it has been found that air core

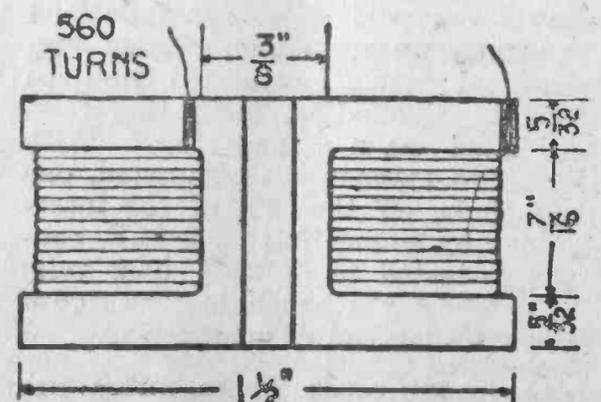


Fig. 4.—The type of choke coil referred to in the article.

chokes—made of a few turns of heavy gauge wire, placed in the feeders near the X-ray machine—and a fairly large condenser across the line as described in the paragraph on motor interference generally will restore the peace and quiet of the community.

The filter circuit for the gagging of bell ringers is shown graphically in Fig. 5. It looks fairly complicated, but the analysis shows it to be merely an old friend, two condensers in series with a ground mid-point and two chokes.

It consists of a middle tapped condenser—or two condensers connected in series and grounded where connected, and two chokes of the type already described. Two such filters are connected into the system. One at the input and one at the output. They are not difficult to make nor to install.

Two such filters are used, one at the input and one at the output of the ringer. Radio men who installed the broadcasting apparatus at the Scopes trial in Dayton, Tenn., reported the successful use of such silencers in a district where telephone exchange activities had made radio reception impossible.

Of similar nature and calling for similar treatment is the telephone ringing magneto, which is still to be found in rural America. Sparking of brush contacts is the cause of rumbling interference which may be stopped by the connection of a filter across the brushes much as in the case of noisy motors.

4. Leaks: In this classification the worries are altogether the property of power companies. Condenser-choke arrangements will not help any if insulators are bad or high tension wires are allowed to scrape against trees.

However, the power companies are always willing to buy new insulators or repair defective apparatus when needed. Power tossed off into the air—to fall, of course, one knows not where—pays no dividends on the common stock.

It may be repeated here that the engineers of such companies are not only willing to end such interference, but grateful for information concerning it.

Manufactured Static.

We might consider a fifth classification—the static engendered by belts and printing presses, although such interference is highly local and of little or no importance, save where receiving sets are operated in industrial districts.

Condensers and chokes are of no use in the solution of such problems, but the actual remedy is even less complicated.

Grounding the frames of machinery is the first step. The second, is to

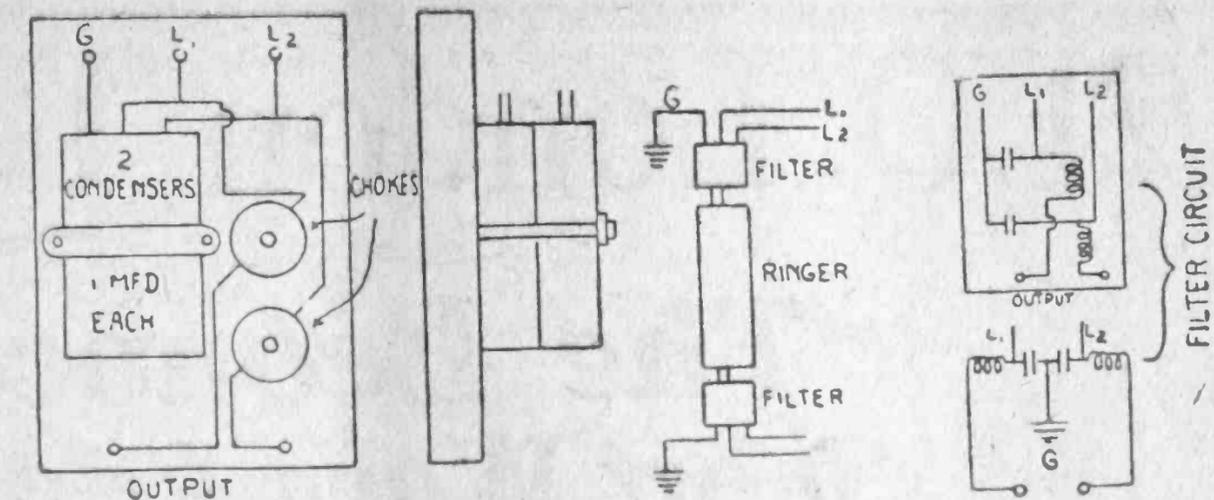


Fig. 5.—Compound filter for use with ringers and similar devices.

provide some form of brush collector that will remove the static charge from belt or paper without sparking. A lead from the collector to the ground is the only requirement.

Some interference in rural districts is beyond classification under any of these subheads, particularly where farm lighting plants are employed.

Investigation has shown that a large portion of this interference arises from poor grounds. In sandy districts, such as those of Northern Queensland, this problem is serious, as the soil is a pretty good insulator. Moistening of the earth about the ground stake has little effect, inasmuch as the wet spot is surrounded by non-conducting silicates.

It is recommended for such localities, that the ground be attached to a pipe, driven down into the soil at the bottom of a well.

Interference from farm lighting equipment is sometimes difficult to trace because of the multiplicity of spark producers that may be found in such an installation.

All of these plants consist of some driving mechanism, a dynamo and storage battery bank, active or floating in the system. The driving mechanism usually is a gasoline motor with spark plugs and a magneto. It probably will have an automatic starting arrangement, subject to the same troubles as an automobile starting device.

Hence the elimination of noise in districts where there are such systems will require a varied course of treatment.

A small condenser—about $\frac{1}{2}$ microfarad, connected across sparking contacts in the ignition system—will end trouble from that cause. It may also be found necessary to shield the magneto—a process which sounds complicated, but really consists of placing a large can about the magneto and grounding the can. Commutator troubles in starting motor and in the dynamo are the usual commutator troubles and may be corrected by the

means outlined under the heading "Motors." If there is a make-and-break contact device in the plant, it, too, will have to be shunted by a condenser of the same size as that prescribed for the ignition system.

Diagnosis of Ills Really Simple.

And that about ends the lesson. We have come a long distance to analyse an irritating situation and to discover that diagnosis of the trouble and the prescribing of a cure might well be considered in a page or two. The space has not been wasted if it enables the reader to seek intelligently for the things that have ruined his radio reception and to institute needed reforms.

Receiving sets have become more sensitive since the early days of radio and with their increasing sensitivity, they have become more and more prone to pick up noises that passed unnoticed in the period of the headphones and crystal detector. There is vital need for some concerted effort to rid the air of needless racket.

Condenser sizes given in this illuminating treatise have been based on the requirements for sixty-cycle power lines. Most of the power systems in the United States are of this type, but not all. In Buffalo, a 25-cycle current is used, in Grand Rapids, thirty cycles, in California, from thirty-three to fifty.

Changes in filters due to differences in current frequency will be slight, if any.

It has been found that a quarter microfarad condenser is almost standard for all filters affecting small motors—of the soda mixer, or electric vibrator, or hair dryer type—as well as for automobile ignition noises and similar disturbances, arising from thermostatic controls and make-and-break contact gadgets.

For large motors a condenser of from two to eight microfarads may be necessary, but such exceptions are mentioned specifically elsewhere in the text.

(Continued on Page 25.)

2LO London DIRECT

— ON —

“The Econocoil” Short Wave Adaptor

WHAT IT IS:—An efficient receiver of the Overseas Short Wave Stations.

WHAT IT DOES:—Plugs into the detector Valve Socket on your 3, 4, 5 or 6 Valve Broadcast Set, by means of an extension plug and cord. NO EXTRA BATTERIES. NO EXTRA VALVES.

LIST OF PARTS REQUIRED.

	£	s.	d.
1 Polished Hard Rubber Panel, 12 x 7 x 3/16	0	4	3
1 PCJJ Short Wave Tuner and Holder	1	5	0
1 Karas Orthometric Lowloss Condenser, .00025	1	12	9
1 Kurz Kasch Dial, Vernier	0	9	6
1 30 ohm Bakelite Super Rheostat	0	2	6
1 Universal Clarostat	0	12	0
1 Radiokes Radio Frequency Choke	0	8	6
1 Wetless Mica Grid Condenser, with Clips, .00025	0	1	9
1 Philmore 3 Megohm Grid Leak	0	1	0
1 Wetless Mica Fixed Condenser, .002	0	1	6
1 Kelford Antivibration UX Socket	0	3	0
1 Plug Adaptor, complete with leads	0	4	6
1 Terminal Board (with Two Terminals)	0	1	6
1 Special Wooden Baseboard	0	1	0
1 Doz. Square Buswire	0	0	10
	£5	8	7

SET OF PARTS

With Clear Wiring Diagram

£5-8-7

NOTE.—The PCJJ Coil Covers Waves between 25 and 56 metres. Should a wider band be desired, the Complete Kit of 3 Coils, with Holder, can be supplied at £2/15/- instead of a Single Coil at 25/-. Wave range of 3 Coils, 15 to 150 metres.

PARTS FOR The 5 Valve Binocular T.R.F. Set

IN THIS ISSUE.

	£	s.	d.
1 Polished Hard Rubber Panel, 21 x 7 x 3/16	0	7	6
1 Binocular Coil Kit	1	7	6
3 Ripault's Lateral Action, .0005 Condensers, complete with Vernier Dials, 19/9	2	19	3
5 Standard Metal Shell Valve Sockets, 1/2	0	5	10
2 Emmco Audio Transformers, 5 and 3½ to 1, 17/6	1	15	0
1 Sangamo Grid Condenser, with Clips	0	3	3
1 2 Megohm Grid Leak	0	1	6
3 Braschstats and Suit Valves, 4/9	0	14	3
1 doz. Square Buswire	0	0	10
2 Lengths Spaghetti, 5d.	0	0	10
1 B.M.S. Single Circuit Jack	0	1	7
1 B.M.S. Battery Switch	0	1	6
1 Philmore Terminal Board (8)	0	2	6

Price of Complete Parts as Listed

£8-1-4

RHEOSTATS TO USE IN LIEU OF BRASCHSTATS, 2/- EACH.

COUNTRY CLIENTS.—Our parts are absolutely guaranteed to give satisfaction. Send your orders to us conditionally that your money is refunded if you are not satisfied with the goods upon receipt of same. Goods must be returned to us within ten days. We Pay Carriage on all Orders of 10/- and over, except on Speakers, Cabinets, Batteries, and Value Payable Post Parcels.

For QUICK SERVICE address Mail Orders to ECONOMIC RADIO STORES, 492 George Street, Sydney.

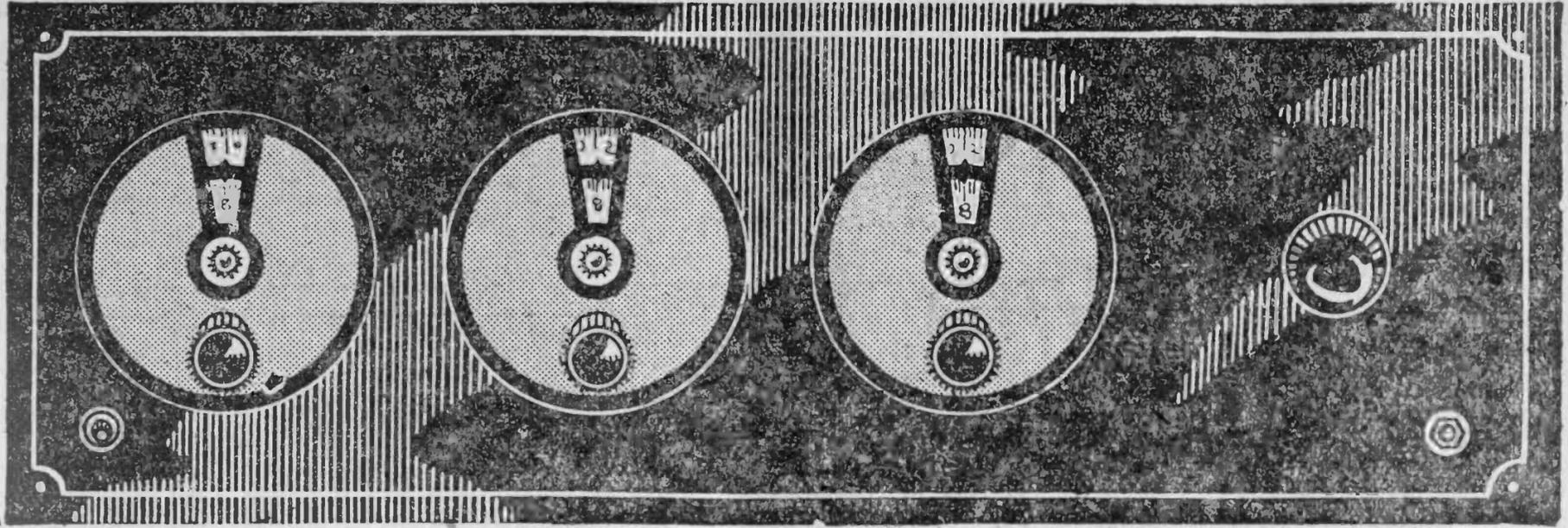
“YOURS FOR LOWER PRICES,”

THE ECONOMIC RADIO STORES

PARRAMATTA:
Cor. Macquarie and Church Sts.
'Phone: UW 9601.

SYDNEY:
25 NEW ROYAL ARCADE,
'Phone: M 6138.

NEWCASTLE:
569 Hunter St. West.
'Phone: New. 1622.



Constructional Details for a Binocular Coil T.R.F. Receiver

DURING the last few weeks it has been our intention to instruct our readers that summer time reception is not nearly within the same class as winter time reception. Summer with its attendant static makes it very difficult to consistently receive those inter-State stations so dear to the heart of the average radio enthusiast. It has also been pointed out that it is a seldom occurrence to expect loud speaker reception from inter-State stations with a three valve receiver, and reasons for this have been given over and over again. Incidentally, too, it has been emphasised that some form or other of radio frequency amplification is desirable in order that inter-State reception is possible.

Now radio frequency amplification brings with it many troubles. Interaction and magnetic coupling play a most important part in the successful use of this form of amplification, because it is a generally accepted factor that the control of radio frequency amplification brings with it many problems. The two problems suggested in the previous sentence are, perhaps, the most important to be overcome, and many and varied are the schemes put forward to lessen the difficulties met with.

Hazeltene's principle of spacing his radio frequency transformers at a certain angle and at a given distance has proved quite effective, so has the idea put forward by the Elstree Laboratories of England in screening the radio frequency transformers, but our American friends have somehow pinned their faith to self neutralisation, using a particular form of coil with which there is associated

no magnetic field or interaction. This system is quite effective.

Coils Used.

These coils are known as binocular coils on account of their resemblance to binocular in appearance, a fact which can be seen on looking at the illustrations. There are many forms

of binocular coils, but those chosen for this receiver have been designed over in America, by Mr. David Grimes, a Radio Engineer of many years experience, and the scheme he puts forth with these coils is commendable. Designed for sub-panel work as they are, an excellent sub-panelled receiver may be built, although there is nothing to hinder the constructor from building his receiver on the usual baseboard principle. For the sake of clearness the diagrams show this receiver being built on the baseboard. The constructor himself, if he so desires, can sub-panel his receiver quite easily, the diagrams indicating a suggested scheme of layout.

Sub-panel or Baseboard.

If sub-panelling is chosen the only alteration to be made lies in the wiring and also in the layout of the audio transformers. There are several types of anti-microphonic sockets which are available for sub-panel work, amongst these being the Benjamin Skeleton Socket, which requires a hole approximately an inch in diameter to allow the top of the socket to protrude above the sub-panel. With each Benjamin socket there is provided a template for determining the positions of the four screws, which fix these sockets to the sub-panel. Some people may prefer to place the audio transformers below the panel. If this is done, then note that there is sufficient room for them to be accommodated so that they do not protrude below the level of the front panel.

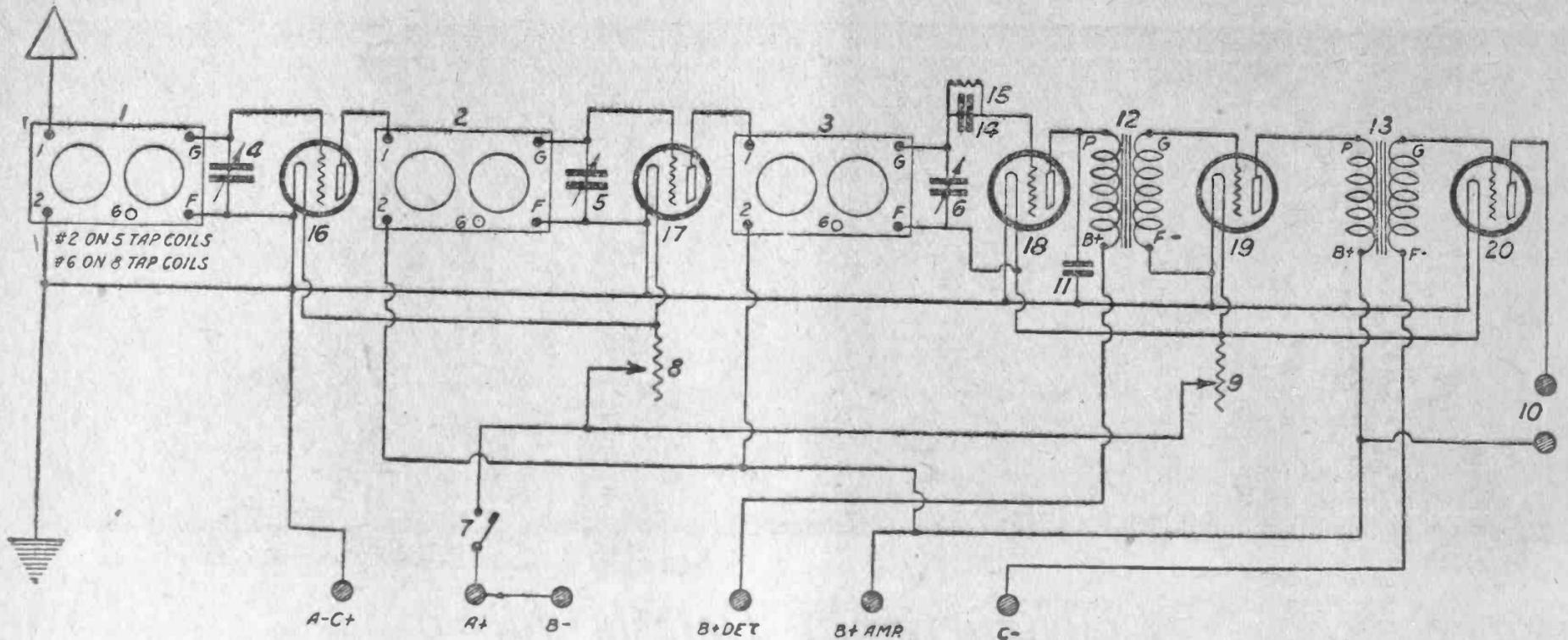
Comprising five valves—two stages of radio frequency amplification, detector, and two stages of audio fre-

PARTS FOR FIVE VALVE T.R.F. BINOCULAR RECEIVER.

Although the parts listed below and mentioned throughout the articles were those actually used by us in the receiver described, it must be pointed out that it is not absolutely essential that they be rigidly adhered to.

Other parts of similar quality and technical values should function quite satisfactorily.

- 1 Dilecto or hard rubber panel, 21 x 7 x 3-16 in.
- 1 Set David Grimes Binocular T.R.F. Coils.
- 3 .0005 Emmco Variable Condensers.
- 3 Pilot Vernier Dials.
- 1 20 ohms. H. & H. Rheostat.
- 1 6 ohms. H. & H. Rheostat.
- 1 S.C. Jack.
- 1 Battery Switch.
- 1 5 to 1 Emmco A.F. Transformer.
- 1 3½ to 1 Emmco A.F. Transformer.
- 1 .00025 mfd. Wetless Condenser, with Clips.
- 1 2 meg. Grid Leak.
- 5 Valve Sockets.
- 1 Terminal Board, with Eight Terminals.
- 1 Baseboard, 20 x 9 x ¾ in. Busbars, Screws, etc.



quency amplification—this receiver is capable of bringing in inter-State stations at a wonderful volume. It is selective to a degree, this feature being a most essential consideration in all receivers to-day. It is very easy of control, very easy to tune, all three tuning dials reading the same for the different stations. There may possibly be a slight variation in one of the dials, but this can be adjusted by fixing the vernier dial to the condenser in such a way that the reading will become the same. This is a very simple matter to adjust.

The Binocular Coils are like any other radio frequency transformer, they have a primary and a secondary, the primary being wound in the middle of each leg of the coils. No neutralisation is necessary in any way, the method in which the coils are wound producing a stabilisation which is particularly effective.

The circuit diagram shown here gives the whole scheme adopted. The secondaries of each of the radio frequency transformers are tuned by a .0005 mfd. variable condenser. Across the primary of the first audio transformer is a .002 fixed condenser, this being a necessary factor, which should not be overlooked. No regeneration whatever is resorted to, but in spite of this wonderful volume may be had.

Construction.

The construction of this receiver is not a matter which will take a considerable length of time. There are no coils to wind and the construction boils down to drilling the front panel and the sub-panel, if one is to be used, then wiring up the different components. The illustrations here will show you just exactly the layout adopted by the writer, this being one to be recommended on account of the remarkable results produced when this layout was followed. The con-

structor can hardly do better than to copy this in its entirety, although if so desired, instead of rheostats, Amperites or Brachstats may be substituted without any loss in the efficiency.

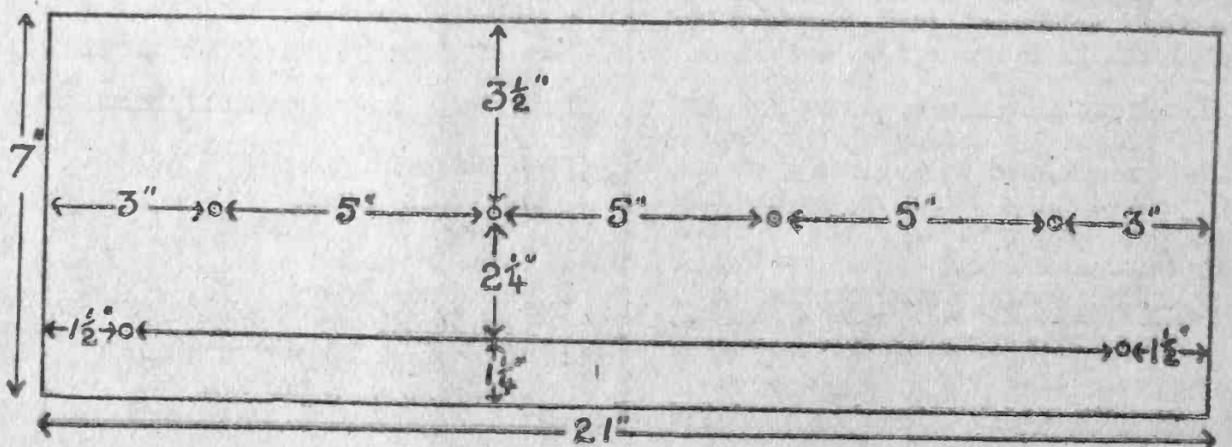
The panel drilling diagram shows just how to lay out the panel. Place the panel on a flat surface and centre punch each position, using the templates supplied with the variable condensers to locate the fixing screws for the variable condensers. After marking out carefully then drill the panel, keeping in mind that old golden rule that a high speed and a light pressure successfully accomplishes the drilling without leaving any rough edges. Make provision for the catch screw for the vernier dials, and also for three or four holes at the bottom of the panel, with which to fix it to the baseboard. If the sub-panel method is to be followed, then these holes may be forgotten about, and in their place substitute the fixing holes for the sub-panel brackets, many different makes of which are to be found in the various shops.

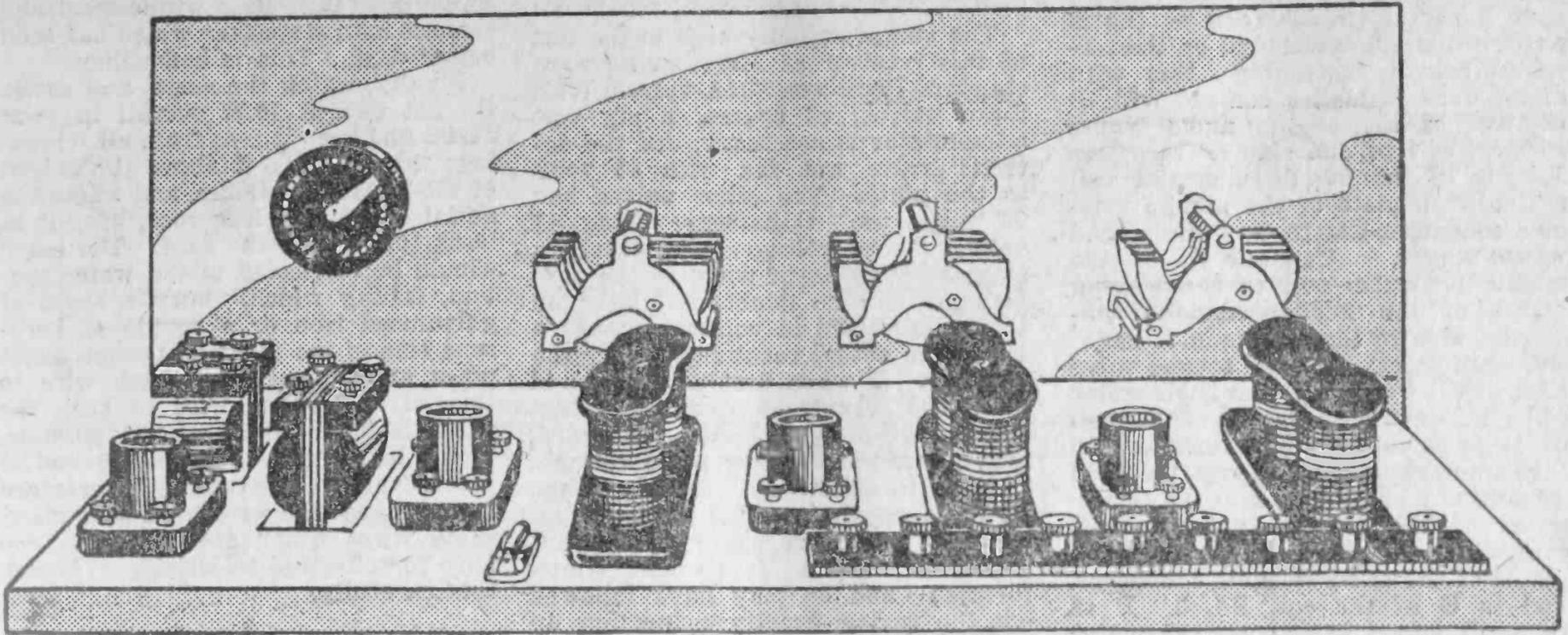
Mount the panel components, starting off with the jack and the battery switch, then the two rheostats, the three variable condensers and the vernier dials. Perhaps it may be found that you have not drilled the fixing screws for the variable con-

densers in the correct position. One may be a fraction out. To remedy this use a small rat-tailed file and bring the whole into its correct position. Be very careful when countersinking one of these "altered position holes," as the rosebit or larger drill used is liable to tear its way right through the panel, rendering this position useless.

Baseboard.

Now attend to the baseboard, or the sub-panel, as the case may be. If a sub-panel is used it is an easy matter to plot the positions for the fixing screws of the binocular coils. With the baseboard system the constructor is advised to mount on the four outside terminals to which connections are made suitable soldering lugs to which the wire is joined. Keep these terminals off the baseboard, using distance pieces or small wooden pillars, screwing a wood screw right through these pillars into the baseboard. It is always wise to smooth the baseboard with sand paper and give it one or two coats of shellac varnish. Do not forget to provide yourself with a sufficiency of small wood screws with which to fix the various components to the baseboard. It generally happens when a set is being constructed during the weekend, when all the shops are closed,





there is a shortage of wood screws; this shortage being very annoying indeed, because the work cannot be proceeded with without them. When everything has been fixed in position and the panel screwed to the base-board then commence the wiring.

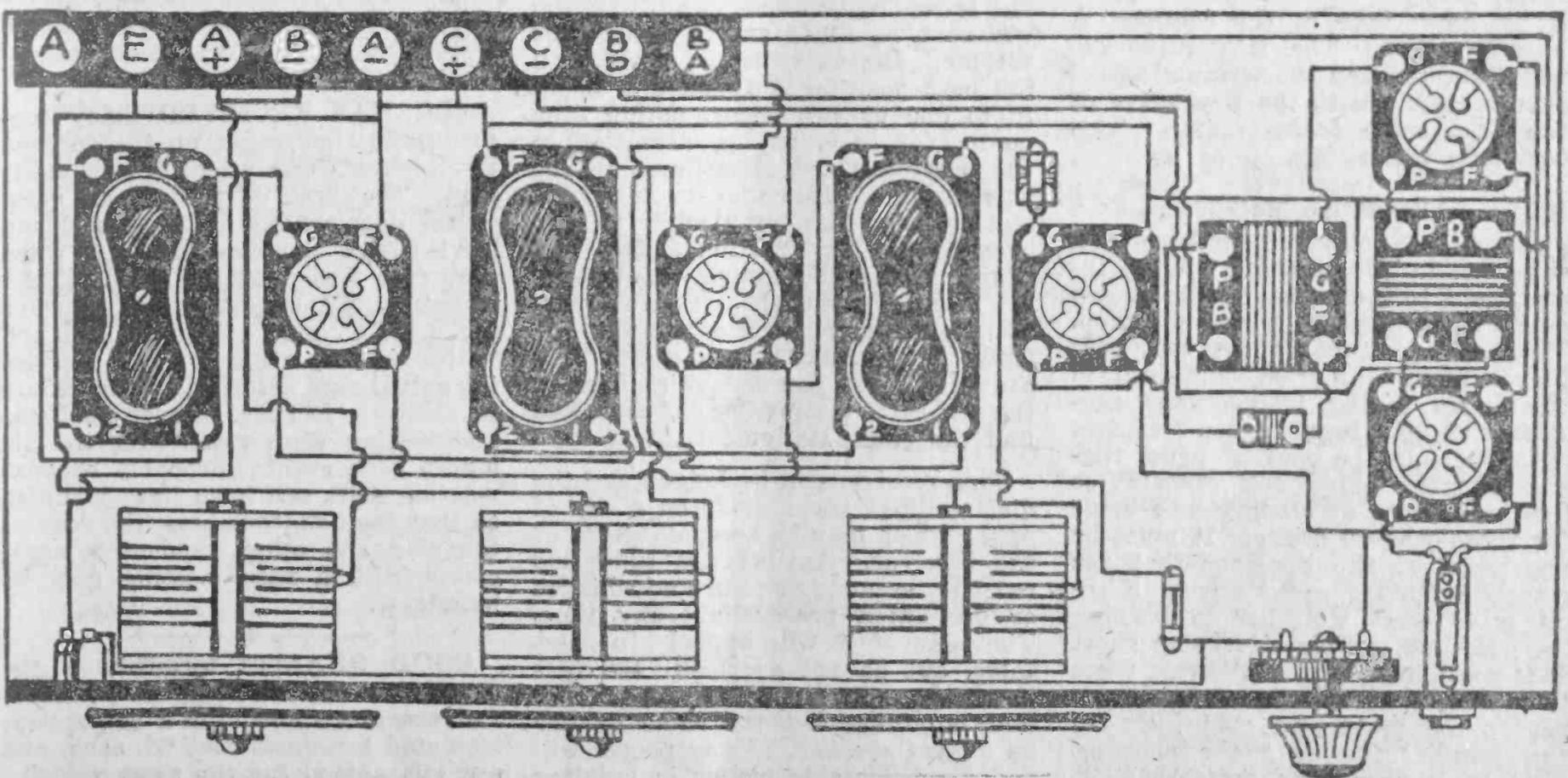
Wiring.

Look at the circuit diagram on the back of panel wiring diagram and study it carefully. Now provide yourself with the usual pliers, soldering iron, solder, etc., not forgetting the busbar. This receiver in particular does lend itself admirably to busbar wiring, although if spaghetti covered point to point wiring is preferred then carry on with this. Of course, if the sub-panel method is

being adopted, then it is always advisable to use the soft wiring. It will be noticed that one rheostat controls the two radio valves and another rheostat for the other three valves, that is the detector and two audios.

Begin the wiring by linking up one side or it should be said one F terminal of each valve socket, continuing this wire or busbar straight to number 2 of the aerial coil, and also to the earth terminal, which should be joined to the A negative and the C positive terminals on the terminal board. The remaining F terminal of the two radio valve sockets should now be joined together, and taken to one side of the first rheostat. The remaining F terminals of the other three valves should now be linked to-

gether and taken to the one side of the other rheostat. The two spare terminals of these rheostats should now be joined together and taken to one connection of the battery switch, the other side of which should be joined to the A positive and the B negative terminal on the terminal board. Now join the aerial terminal to number 1 of the aerial coil. Connect G of this aerial coil to the fixed plates of the first variable condenser, continuing this connection to G of the first valve socket. Join F of this aerial coil to the moving plates of the first condenser, and also to that common busbar which link together one side of all the five valve sockets and finally goes to earth and A negative. P of the first valve socket



joined to 1 of the middle coil. Connect 2 of this middle coil to the B positive amplifier terminal on the terminal board, continuing this wire along until it makes contact with B positive of the second audio transformer, and to one side of the jack. Join G of the middle binocular coil to the fixed plate of the middle variable condenser and to G of the second valve socket. Connect F of the middle binocular coil to the moving plates of the middle variable condenser, also to that common A negative wire. Join P of the second valve socket to 1 of the third binocular coil. Connect 2 of this binocular coil to B positive amplifier terminal on the terminal board. Clamp the grid condenser and grid leak to the G terminal of the detector valve socket, connecting the other side to the fixed plates of the third variable condenser, and to G of the coil No. 3. F of this coil joined to the moving plates of the third variable condenser, and also to that F terminal of the Detector socket which is joined to the other two audio valves through the rheostat, finally to the battery switch. B of the detector valve linked to the P of the first audio transformer. At this stage connect one side of the .002 fixed condenser to P of the audio transformer, the other side of this fixed condenser being joined to the common A negative wire. Now complete the audio wiring. G of the first audio transformer goes to G of the fourth valve socket. P of this socket connects to P of the second audio transformer, G of this second audio transformer linked to G of the last valve socket, the P terminal of this last valve socket being soldered to the remaining side of the jack. F of the second audio transformer take to the C negative terminal on the terminal board. F of the first audio transformer take to the common A negative wire. The B positive detector terminal on the terminal board should be joined to the B positive of the first audio transformer. This completes the wiring.

Alternative Method.

It will be noticed that there is a variation in the previous wiring instructions to the actual wiring shown on the back of panel wiring diagram. This variation lies in the fact that in the circuit diagram, and also in the above wiring instructions, consideration has been taken of two rheostats. In the back of panel wiring diagram only one rheostat is used, this being an alternative scheme for those who so desire. It must be impressed on the beginner that the essential feature about wiring a receiver to work well lies in keeping the grid and the plate leaks as short as is possible and never allowing them to run close together, that is, do not permit the plate and grid leaks to run parallel for even the shortest distance, always keep them at right

angles or far away from each other.

The valves actually used in the test of this receiver at Marrickville were standard Radiotron 201A valves. With these valves, of course, a six volt accumulator is necessary, and the detector valve was fed with 45 volts to the plate. The other valves had 90 volts, the C battery being 4½ volts. These voltages are purely a suggestion to begin with, as the constructor will no doubt find later on that a variation in voltages means a lot to the actual results given by the receiver. If when first of all hooked on to the aerial and earth and tested out a high-pitched squeal is heard, then lower the detector plate voltage. This will effectively remedy this. Again it may be possible the constructor may make use of two different makes of audio frequency transformers and he may have followed out the wiring exactly connecting up to the correct markings on the transformers. All manufacturers do not wind their transformers exactly in the same direction. Some vary a little and it frequently happens that reception is spoiled by a high-pitched whistle which cannot be tuned out under any circumstances. To overcome this difficulty reverse the connections of the primary of one of the audio transformers.

Testing.

There is always considerable interest in trying out a new set first of all. When the battery switch is pressed to the ON position and the speaker is plugged into the jack, then turn the vernier dials controlling the variable condensers. Only two can be turned at a time, we know, but keep these two in unison, giving the third dial a turn around to the same reading occasionally. The local station will soon be heard at an enormous volume. Juggle with the dials until the best position is found and listen in to one or two items, noting the quality of tone, paying attention to the overtones and undertones all the way through. Now find the next local station, hear him for a while. Come back to the first station that you heard, noting the tuning. Now seek the interstate stations. You will find them alright, perhaps a wee bit difficult at first, but later on once they are located you can always go back to the self-same settings of the dials and find the same stations.

This receiver can be logged and the dial readings taken down on a slip of paper which may be kept alongside of the receiver. Anyone can tune this receiver, because there are no whistles or oscillation present at any time. The tone of it will appeal to most folks, but do not overlook the fact that a poor loud speaker will not deliver anything like the same quality as a good speaker. Many people will spend considerable money in building

a real good first-class wireless set and connect it to a speaker which has seen better days. This is bad policy.

Finally, watch the aerial and earth. Do not exceed 70ft. overall in your aerial and keep it free from all screening; that is, keep it above the height of the house if possible, and where the aerial crosses an iron roof, keep it at least 10ft. above the roof. The earth should be connected to the water system, failing which, bury a sheet of galvanised iron or a couple of kerosene tins in the ground at some moist place and connect the earth wire to this. It is always wise to keep the earth lead as short as is possible. These little hints are never out of place, even to the more experienced man, because the writer has seen many earth wires which are altogether too long for effective selectivity. Watch this carefully.

NOT ALL THE LISTENERS during the children's broadcasting sessions are juveniles—not by any means. To judge by the letters which reach the broadcasting stations somewhere near 40 per cent. are parents, a large percentage grandparents, and quite a number great grandparents. Only this week listeners heard a call from Station 2BL to old Mrs. Arnold of Temora. Though eighty-eight years of age, Mrs. Arnold is wonderfully active. She is in Sydney on a holiday, part of which she spent flying around in an aeroplane. It came as a great surprise to Mrs. Arnold when she heard Uncle Jack of 2BL calling her through the loud speaker. It was just a little pleasant surprise arranged by the friend with whom she was staying—and such surprises are very pleasant, as all who have had a call from a broadcasting station can testify.

4QG HAS RECEIVED many congratulatory messages on the decision to broadcast descriptions of race meetings. The first of these took place on the opening day of the Queensland Turf Club's Summer Meeting, when each race was described from barrier to box by Mr. Deady, handicapper for the B.A.T.C. and Tattersall's Club and well-known sporting writer. Besides the actual race description, particulars re starters, jockeys, barrier positions and betting were given over the air before each event. Probably by next meeting 4QG will have lines installed so that the band numbers, the roar of the ring and other incidentals associated with a race meeting may be broadcast.

GOOD QUALITY terminals of the usual size cost in England 9d. each, and are guaranteed for a year. Uninsulated terminals cost 6d. each, and are guaranteed for the same period.

Eliminating Interference from Electric Motors

Continued from Page 19

As a general rule, for the benefit of persons who live in districts where some odd frequency is used in power lines, it should be remembered that the lower the frequency the larger the condenser required. In the case of chokes, low impedance coils are used in filtering high frequencies and high impedance coils for low frequencies.

Recapitulation.

To recapitulate the material which goes to make up this pamphlet, we may point out once more that:

1. Most interference is caused by volunteer sparkers that manufacture high frequency currents.

2. Such interference may usually be ended by the application of a filter, confining the currents thus engendered to the point of origin.

3. A filter may consist of a simple condenser; two condensers in series with a ground lead from the point of their connection; two condensers so connected and used in conjunction with R.F. chokes. Their effectiveness varies in the order named and their usage is pretty well indicated in what has gone before.

If your particular brand of interference does not fall under any of the heads listed in this article, you have discovered something entirely new. You have two courses open to you: 1—Move. 2—Try to get somebody to give you a medal for your discovery.

CAPT. R. B. PLAYFORD, who is at present giving travel talks from 5CL, has had most interesting experiences during his career. During the latter portion he was attached to the 106th Hazara Pioneers, a branch of the Indian Army, and served between 1919 and 1921. During the latter period he was Vice-Consul. Before joining the Imperial Forces he studied internal combustion engines and intended to go in for Patent Law. At the commencement of war he joined up and served successively in France, Salonica, 3rd Afghan War, with the East Persian Cordon, and finally was stationed in Baluchistan.

Whilst with the East Persian Cordon he held an important post. The duty of the Cordon was primarily to prevent Bolshevik agents and propaganda passing.

Capt. Playford has now been resident in South Australia for six months, but says that he liked the life in Persia. He thinks that Persia is a land full of promise, but badly governed, the commercial side of Persia being largely in Russian hands. Capt. Playford was retired from the army owing to injuries sustained during his service.

Microphone Fright

And Other Notes by
BILLY TEA

IT is surprising that people who have spent a lifetime on the stage should suffer with "nerves" when they face the microphone. In fact, it is the experience of broadcasters that many prominent artists are utter disappointments for broadcasting, and simply because they get "mike fright."

Rupert Hazell, who made such a remarkable "hit" at 3LO Melbourne, said that when he faced the little "black perforated contraption" he wanted to say "everybody happy," as he always did, but felt so horribly unhappy himself that he could not get the words out. However, he made up for it as he gained his "air legs," and wound up by being perhaps the greatest radio comedian 3LO has ever had.

Madam Elsa Stralia, who has sung over and over again to Royalty of all nations, showed decided signs of "nerves" in facing the mike, even after she had been broadcasting for months, and Stephanie Deste, who, in a semi-nude make up as "Wanda" in "Rose Marie" faced huge audiences nightly without a sign of nerves, became "mike stricken" until the ordeal of speaking into the little "patch of black infinity" had become familiar.

The late Lee White, who was loved by hundreds of thousands of listeners to 3LO for her charming personality, was strangely nervous when broadcasting, and never really got used to what she always regarded as an ordeal, although it was impossible to detect the slightest sign of nervousness in listening to her remarkable broadcast performances.

One speaker at 3LO Melbourne, who was a prominent orator, became absolutely tongue-tied before the mike, and his talk had to be abandoned, and Mr. Lawson, when Premier of Victoria, experienced a spasm of nervousness the first time he broadcast. The Prime Minister (Mr. Bruce), however, is very placid and calm with "mike," and they are now quite old friends. Mr. Bruce, by the way, is regarded as the best political broadcaster in Australia.

VAUDE AND VERNE: A welcome return visit is being made to Studio 3LO Melbourne by Vaude and Verne, the original entertainers, who, through song and story, have made hundreds of friends over the air. Billed as the "topical entertainers," they most certainly live up to their name, for in all their jokes and patter

(particularly their conundrums) they are up to the last minute—even a second or two ahead of time, and their lively witticisms keep the Studio audience in roars of laughter. This being the case, it is safe to assume that Listeners are having a quiet chuckle at the "other end of the wire." As these clever and versatile entertainers compose the majority of their repertoire, listeners may always rely upon hearing something "distinctly different" when they tune in to Vaude and Verne.

"THE WAY OF A WOMAN": In connection with the recent "Free Trip to Tasmania" competition organised by Studio 3LO Melbourne—one of the most excited people in Victoria on the day the results were broadcast was Mrs. Ben Bottomley—wife of the winner of the "Free Trip." Listening in from Warrnambool—she heard the delightful news, caught the next train to Melbourne, and called at the Studio, to explain that had it not been for her, the Trip to Tasmania would never have come their way. Man like, her husband was not anxious to send—he protested that "he'd never won anything in his life, and that it would be of no use for him to enter," but, as the old proverb says, "Constant dripping wears away the stone"—and by reason of being repeatedly asked, he at last filled in the required particulars, and sent them on. Needless to say, he is not the only man who is glad that he took his wife's advice!

BOY SCOUTS TO HELP BROADCASTING: In connection with the Mordjalloc Carnival, progress reports are to be broadcast by Studio 3LO Melbourne describing the swimming race from Mentone Pier to Mordjalloc. To make these progress reports as thorough as possible, the Boy Scouts have been pressed into service, and they will render good work in the following way. Two of their number will follow the contestants in a motor launch, and a number of others will patrol the beach on cycles. At given periods in the race, the Scouts in the Motor Launch will signal to the Scouts with the bicycles, giving the progress of the race—the cyclists will then make a hasty dash for the nearest telephone, and give full details for broadcasting.

Why Some Receivers Turn Tenors into Basso-Profundos

A Discussion of Some of the Principal Forms of Distortion Occurring in Modern Speakers and Amplifying Systems and Their Remedies

"PLEASE turn down the radio!" Generally this request is made because the sounds, coming from the loud-speaker, have affected somebody's nerves. Yet were this same somebody seated in the studio of the broadcasting station listening to the same orchestra playing the same selection, the chances are he would not only find the music unobjectionable, but contrariwise, a decided aid to relaxation.

The average set owner probably never pauses to analyse why, in one case, the result may be nerve wracking, and, in the other, restful. He may think he has the best radio receiver in the world; he may proudly call the attention of his friends to the "mellowness" of his loud-speaker, and to the extreme depths and power of the lower tones; but, if he cannot find relaxation and a complete sense of realism in the music it produces—if the set must forever be turned down—then, in all probability, there is something seriously wrong with it.

Let us suppose, for example, we are listening to a piano selection and that the volume of sound coming from the loud speaker is approximately that of a piano played in the same room. A piano selection, incidentally, is one of the best means of testing the quality of a receiving set and speaker. If there is an undue and recurring emphasis on certain notes, in either the upper or lower registers, the amplifying system has not a flat frequency response. Assuming the fault is not in the speaker, this peak, or undue amplification of a certain frequency, is generally found in the upper registers in the case of transformer-coupled amplifiers and may be attributed to poor amplifying units. When, however, an impedance or resistance-coupled amplifier is used, this over-emphasis, when present, occurs generally in the base notes, particularly those having a very low frequency, and is usually caused by unwanted regeneration in the audio end of the circuit.

If the tones in the upper register of the piano are pleasing and natural, but the bass notes, even if they do not exaggerate one particular frequency, sound drum-like, or resemble the roll of an organ, serious distortion is present. In the long run, a speaker or amplifying system that favors or over-emphasizes the low tones, is far more nerve wracking, because of an indefinable lack of definition and absence of brilliancy, than is an amplifying system that affords good reproduction over a comparatively limited range in the upper register.

For truthful reproduction, not only must the fundamental tones be present, and they are present in all but the most deficient speakers and amplifiers, but the overtones and harmonics must also be accurately recreated. Harmonics, it may be pointed out, are always in an integral relation to the fundamental tone responsible for them. They may be two, three, four, etc., times the frequency, and are most frequent in the case of stringed instruments. Overtones, on the other hand, are never exact multiples of the fundamental, and occur mostly in the case of percussive instruments, drums, reeds, the human vocal organs, etc.

This over-emphasis of the lower registers, which is one of the most prevalent faults of the present-day receiver, may be due to deficiencies in the speaker itself, or again in the amplifier; and the set owner would do well to borrow a speaker that he knows gives excellent results so that he may localize the trouble. It would also be well to investigate the "B" power supply. Engineers of the Acme Apparatus Company have found, for example, that the existence of an alternating current hum, due to poor filtering effects of the chokes used in the poorer types of "B" power devices, will actually modulate the applied signal—a condition that frequently accounts for very peculiar effects as the frequency of the applied

signal approaches that of the residual A.C.

On the other hand, the "B" power supply may also account for the absence of base notes. When music is played or a person talks or sings, frequencies come into play, varying, let us say, from 27 to 10,000 cycles per second. When notes in the lower registers are to be reproduced, the amount of current necessary is considerably increased over that required by the higher frequencies. Unless sufficient storage of energy is provided in the "B" supply, these notes will not be produced in exact proportion to the high ones, and may not even be heard. To obviate this possibility, a large capacity condenser must be placed across the "B" supply. This condenser must store energy so that any sudden demand for more current for the low notes can be met. If, through a desire to reduce the cost of the manufactured eliminator, condensers of insufficient capacity are used, not only will the bass notes be inadequately reproduced but the tendency toward the "motor-boating," which is a form of low-frequency oscillation, will be increased.

With the development of the cone speaker, particularly the double and single free-edge type, the inherent resonance of the horn of former days is eliminated, but, of course, the speaker cannot offset the faults of the amplifier or "B" supply, or vice versa.

To obtain the very low and very high frequencies, it is desirable that the amplifier utilize not more than one stage of transformer coupling. With a view of obtaining an exceptionally high degree of realism, engineers have developed an audio amplifier that utilizes resistance coupling for the first stage, transformer for the second and resistance again for the third. A feature of the third stage is the utilization of an impedance, rather than a resistance, as the leak, which not only results in improved quality but offsets any tendency to "motor-boating."

The reasons for the employment of an impedance leak are interesting. In an amplifier circuit utilizing a grid leak, a regular detector circuit results, and rectification occurs. To prevent this rectification, which is a prolific source of distortion, Acme engineers have designed a special unit, incorporating the necessary resistance and impedance, which drains the grid of its accumulated charge without affecting signal intensity. Where transformers are employed in the first and second stages of an amplifier, even when the ratios are different, distortion of a blurring nature occurs. This is a transient effect due to the continuous variation in frequencies and can only be entirely eliminated by the use of an impedance or resistance stage after or before the transformer stage.

For the highest quality in reproduction, a power amplifier should, of course, be utilized. A good speaker used with an ordinary amplifier—that is, one in which a tube of the 201-A type is used in the last stage—will generally give sufficient volume to satisfy its user, but it will be found that the reproduction is not, in most cases, faithful. This is due to the fact, assuming, of course, that the amplifier itself is not deficient, that the last tube in amplifier is being overloaded. By overloading is meant that the tube is being used over a greater portion of its characteristic than is permissible for undistorted output. This distortion manifests itself particularly when strong signals are applied, and may be entirely absent when the receiver is operating at half volume. Undistorted amplification means that the voltage to be amplified is delivered by the amplifier tube to the speaker exactly as the amplifier tube received it from the preceding stage. The only change which the tube is permitted to make is to increase the amplitude of the applied voltage. Using ordinary tubes in the last stage, it will be found that as the volume increases the quality of the reproduced signals become noticeably harsh and unpleasant, because of the inability of the ordinary tube to handle large volumes. It is quite possible that, even at the low volumes, distortion is still taking place, possibly due to the improper operation of the tube; but at low intensities it is sufficiently great to be noticed by the average set owner. When using a properly designed power amplifier supplied with the proper high voltage, results are, of course, tremendously improved.

A power amplifier consists essentially of a power tube, especially designed for the purpose, and its accessories. The power tube may be either a UX or a CX 310. These tubes are

designed to operate with a plate potential of 450 volts, and cannot, for this reason, operate properly from the ordinary "B" supply. Transformers capable of delivering this high voltage, have recently been developed by the Acme Apparatus Company and have a number of interesting features. The tertiary windings of the new transformer, known as the BH-1, are so designed that when two rectifier tubes of the UX 216 B type are used with their filaments in parallel, they will obtain the correct voltage without the use of a regulating rheostat in their filament winding. The filter system used with this type of power supply cannot be made up with the ordinary available condenser blocks, since most of these are designed for operation on 400 volts D.C., while the 210 amplifier is designed for 450 volts. It is, therefore, necessary that the condensers be rated for continuous use at not less than 800 volts in order to take care of the increase in voltage if the filament of the 210 tube is turned off. The chokes used in the filter circuit are the standard Acme B-2 filter chokes. Due to the high voltage employed in this type of amplifier, it is desirable to isolate it completely from the remainder having a condenser in each leg, has been developed by the engineers.

In the power amplifier, one of the main reasons for distortion is incorrect "C," or grid bias. Where a "B" power supply is used, it is often difficult to tell whether the correct voltages are being applied. In the case of a milliammeter, reading to fifty mills, it can well be utilized as a means of determining whether distortion is occurring from this cause. The meter should be placed in the plate circuit of the power stage and the needle noted. If it fluctuates more than ten per cent. of the total reading, distortion is serious. When the kick is downward, it generally indicates that too much "C" battery is being applied. When, on the other hand, the kick is upwards, or towards the high readings on the scale, the "C" voltage is not sufficient and more should be added.

* * * * *

A LARGE NUMBER OF LETTERS are received by 2FC daily requesting special songs by their favourite artists, and when possible 2FC are only too pleased to be of service to their listening audience. When requesting items, listeners should make certain to choose a piece suited to the voice of the artist they wish to hear, as, for instance, a basso could hardly make a good job of a piece intended for a soprano!

WHO IS "AUNT FLO"? Many listeners are asking this question. The women write pages of enthusiastic letters to her asking for recipes, etc., and one recently received asked for a mixture that will make her thin. Most of the letters wind up: "By the way, who is she?" Though "Aunt Flo's" talks are really for women, letters are received from men also. A letter from one gentleman suggests that 18 be the marrying age,—girls should wear legs to their dresses,—and wives should receive three-thirds of her husband's earnings, which wouldn't leave much for the man's cigarettes!

IN SOME CASES a receiver of the tuned radio frequency type will cause trouble by oscillating so badly that it is impossible to get decent reception of the broadcast programmes.

In types of sets having the R.F. transformer mounted parallel to the variable condenser, the oscillations may be stopped by means of a simple expedient.

Just move the three coils slightly closer to their respective condensers, and you will be surprised how quickly the unwelcome oscillations will be stopped.

TELEVISION BY GRAMOPHONE:

The prospect of the production at some future time of gramophone records which will give visual reproductions of the persons as well as their audible performances was held out by Mr. J. L. Baird in the course of a demonstration at London, when he exhibited a machine which is almost perfected.

DURING THE PAST year the Radio Poultry Club connected with BCL has made remarkable progress under the guidance of Mr. A. M. Whittenbury, who is president of the Club.

A competition for hens was commenced this year, and next year a Duck egg-laying competition is also to commence in addition to the hen test which will be run at the same time. Last Saturday, the members of the Club visited the site of the competition at Norwood and were delighted with the conditions under which the birds are kept. They also expressed surprise at the fine health of the birds. Visitors are welcome to visit the site of the competition at any time.

The Radio Club expect to make even greater headway next year, and big things are looked forward to by friends and members of the club.

On Mr. Whittenbury's return from Victoria he will no doubt have a lot to tell listeners regarding poultry matters in that State that should be of great interest.

A Dry Cell Audio Stage Valve



With the Output of a Storage Battery Valve
RADIOTRON UX 120

Characteristics:—

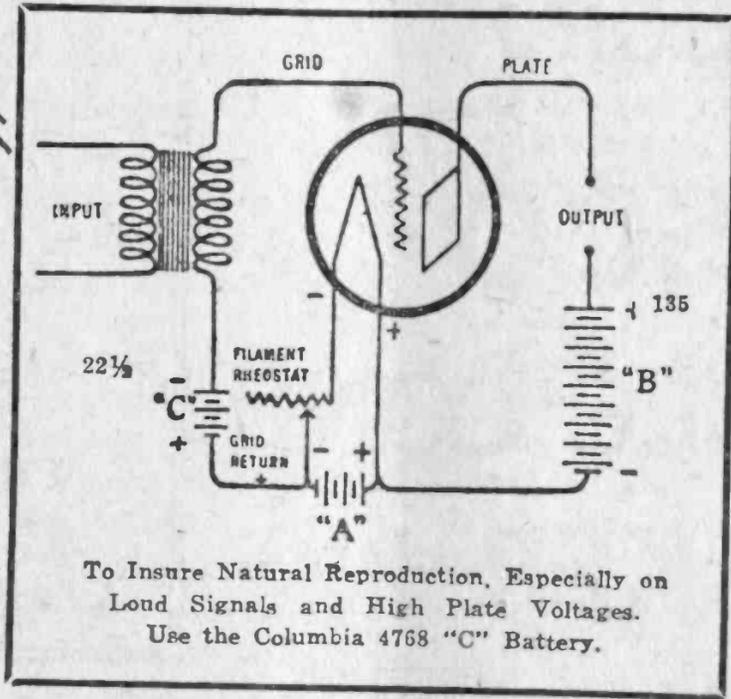
Filament Terminal Volts 3
 Filament Consumption ... 125 amps
 Plate Voltage 135

The new dry cell Radiotron UX120 is for use exclusively in the last stage of audio-amplification.

The Radiotron UX120 was designed to give greater Loudspeaker clarity and volume without distortion.

Price 15/- Each.

Obtainable
at
all Radio
Dealers

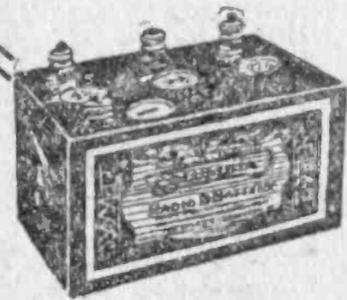


To obtain the full advantage of power valves, a higher plate voltage than is customary should be employed. This in turn calls for greater grid or "C" battery voltage for the correct operation of the valves. It is essential that a grid or "C" battery be used with power valves, otherwise their consumption of plate current is so great as to exhaust the high tension battery rapidly.

Columbia 22 1/2 Volt. Bias Battery No. 4768

This battery can be used as a "C" battery, or as a "B" battery in portable sets. It is especially designed for Bias work in conjunction with power valves UX-120, UX-171, and others. Provided with four screw terminals, giving negative voltage of 4 1/2, 16 1/2, and 22 1/2. of horizontal dimensions, it measures 4 1/8 inches long by 2 3/8 inches wide and 2 1/2 inches high. Weight, 1-lb. 9-oz.

Price 12/6 Each.



No. 4768



Write To-day for FREE Illustrated Booklet

"Choosing and Using the Right RADIO Batteries"

Messrs. Amalgamated Wireless (A'sia) Ltd.
47 York Street, Sydney

Please forward me your Free Illustrated Booklet "Choosing and Using the Right Radio Batteries."

Name _____

Address _____

XMAS "RADIO"

By far the best issue of the new "RADIO" is the Christmas issue containing the following features:

DX, being a humorous treatise on long distance reception, by Charles D. Maclurcan.

STRONG TEA. A short story of Amateur Radio, by Russell Roberts.

HISTORICAL AND MODERN SIGNALLING. By Sidney F. H. Laws, General Manager of 7ZL.

SOUTHWARD HO! Further adventures of Brasso.

FOUR FAMOUS ANNOUNCERS, in caricature and print. Meet Laurence Halbert, Arthur Cochrane, Alfred Andrew, and Maurice Dudley, face to face.

HAS IT EVER OCCURRED TO YOU THAT MEN MONOPOLISE RADIO? A protest against the common belief that women are not interested in radio.

THE STROBODYNE. A new eight valve receiving circuit, embodying the principles of the superheterodyne and the Stroboscope.

THE SIMPLICITY THREE. A receiver made possible by modern apparatus which gives clear volume on the loud speaker, yet remains simple to operate.

THE SAMPSON TWO VALVE RECEIVER. An inexpensive receiver remarkable for its astounding volume. An ideal receiver to build and present as a Christmas gift.

DO YOU KNOW THE BEST SYSTEM OF AUDIO AMPLIFICATION? By R. C. V. Humphery.

THE GO-GETTER SHORT-WAVE RECEIVER, by Don. B. Knock (2NO), **AMATEUR SECTION**. A special enlarged Amateur Section is published, which includes Ham News from all seven districts.

"A DIGEST OF WORLD WIDE RADIO NEWS," "Christmas With Our Contributors," and "Your Choice Among Receivers," are the titles of other general articles.

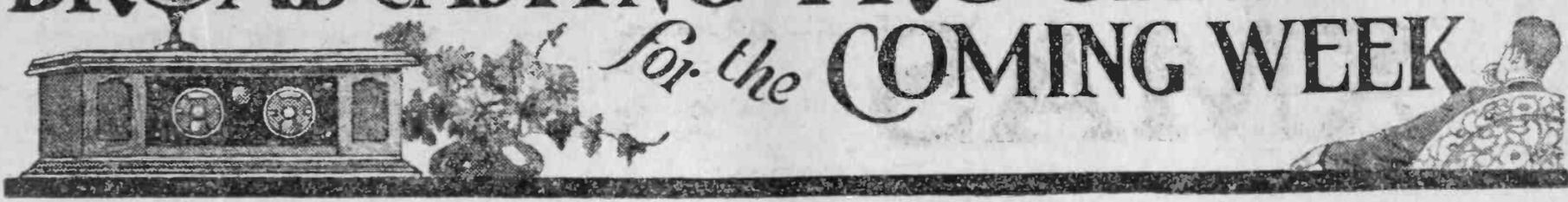
On Sale Now—The

XMAS "RADIO"

One Shilling

BROADCASTING PROGRAMMES

For the **COMING WEEK**



Friday, Jan. 6

2FC, SYDNEY.

Farmer's Broadcasting Service.

Wave Length, 442 Metres.

EARLY MORNING SESSION.

7 a.m. to 8 a.m.

MORNING SESSION.

- 10 a.m.—"Big Ben" and announcements.
- 10.5 a.m.—Studio music.
- 10.15 a.m.—"Sydney Morning Herald" news service.
- 10.30 a.m.—Studio music.
- 10.35 a.m.—A reading.
- 10.45 a.m.—Studio music.
- 11 a.m.—"Big Ben." Studio music.
- 11.5 a.m.—A.P.A. and Reuter's Cable Services.
- 11.10 a.m.—Studio music until 11.30 a.m.
- 11.30 a.m.—From the Sydney Cricket Ground: Description of the play and scores of the cricket match, New South Wales versus South Australia.

MIDDAY SESSION.

- 12 noon—"Big Ben."
- From the Studio: Programme announcements.
- 12.2 p.m.—Stock Exchange, first call.
- 12.3 p.m.—Official weather forecast, rainfall.
- 12.5 p.m.—Studio music.
- 12.10 p.m.—Summary of "Sydney Morning Herald" news service.
- Rugby wireless news.
- 12.25 p.m.—From the Sydney Cricket Ground: Further scores and description of play.
- 12.40 p.m.—From the Studio: Anne Luciano, soprano.
- 12.45 p.m.—From the Sydney Cricket Ground: Cricket scores and description of play.
- 1 p.m.—"Big Ben." Weather intelligence: from the Studio.
- 1.3 p.m.—"Evening News" midday news service.
- Producers' Distributing Society's Report.
- 1.20 p.m.—From the Studio: Lorraine Jarman, soprano: (a) "Before the Dawn" (Lang). (b) "Salaam" (Lang).
- 1.25 p.m.—A popular record.
- 1.28 p.m.—Stock Exchange, second call.
- 1.30 p.m.—Studio music. Two-pianoforte reproductions.
- 1.45 p.m.—From the Studio: Anne Luciano, soprano.

- 1.50 p.m.—Cricket scores. Studio music.
- 1.55 p.m.—From the Studio: Lorraine Jarman, soprano: "Cradle Song" (Jarman).
- 2 p.m.—"Big Ben."
- From the Sydney Cricket Ground: Continuation of the description of play, with scores at intervals.

AFTERNOON SESSION.

- 3 p.m.—"Big Ben."
- From the Studio: The "Radio Triad."

- Leader, Mr. Ewart Chapple.
- 3.10 p.m.—Phyllis Broadbent, soprano: "I wonder if love is a dream."
- 3.15 p.m.—Cricket descriptions and scores of the match, N.S.W. versus South Australia.
- 3.30 p.m.—From the Studio: The "Radio Triad."
- Leader, Mr. Ewart Chapple.
- 3.40 p.m.—Kathleen Colls, mezzo: "The songs my Mother Sung" (Grimshaw).
- 3.44 p.m.—Frank Botham, baritone: "Tommy Lad" (Margetson).
- 3.48 p.m.—From the Cricket Ground: Description of the play with scores.
- 4 p.m.—"Big Ben."
- From the Studio: The "Radio Triad."
- Leader, Mr. Ewart Chapple.
- 4.10 p.m.—Florence Roberts, soprano: "Still as the night" (Carl Bohm).
- 4.14 p.m.—Phyllis Broadbent, soprano: "The Little Damsel" (Novello).
- 4.18 p.m.—From the Sydney Cricket Ground: Description of the cricket match and scores.
- 4.30 p.m.—From the Studio: The "Radio Triad."
- Leader, Mr. Ewart Chapple.
- 4.40 p.m.—Kathleen Colls, mezzo: "Lambie Love" (Vanderpool).
- 4.45 p.m.—Stock Exchange, third call.
- 4.47 p.m.—Frank Botham, baritone: "Even bravest heart" (Gounod).
- 4.50 p.m.—From the Sydney Cricket Ground: Further descriptions of play and scores until 5.40 p.m.

EARLY EVENING SESSION.

- 5.40 p.m.—The Chimes of 2FC.
- 5.45 p.m.—The "Hello Man" talks to the children.
- 6 p.m.—"Big Ben."
- Stumps drawn scores of the cricket match, N.S.W. versus South Australia.
- 6.2 p.m.—Story time for the young folk.
- 6.30 p.m.—Dinner music.
- 7 p.m.—"Big Ben." Late sporting news. A talk by the 2FC Racing Commissioner.
- 7.10 p.m.—Dalgety's market reports (wool, wheat and stock).

NEW SOUTH WALES "A" AND "E" CLASS BROADCASTING STATIONS.

- 2FC.—Farmer's Broadcasting Station, Ltd., Sydney, wavelength 442 metres, power 5000 watts.
- 2BL.—Broadcasters' Ltd., Sydney, wavelength 353 metres, power 5000 watts.
- 2GB.—Theosophical Broadcasting Station, Ltd., Sydney, wavelength 316 metres, power 3000 watts.
- 2KY.—Trades and Labor Council, Sydney, wavelength 280 metres, power 1500 watts.
- 2UW.—Sandel Radio, Sydney, wavelength 267 metres, power 500 watts.
- 2MK.—Mockler Bros., Bathurst, wavelength 275 metres, power 250 watts.
- 2UE.—Electrical Utilities Supply Co., Sydney, wavelength 293 metres, power 250 watts.
- 2BE.—Burgin Electric Co., Sydney, wavelength 316 metres, 100 watts.
- 2HD.—H. A. Douglas, Newcastle, wavelength, 288 metres, 100 watts.

- 7.18 p.m.—Fruit and vegetable markets.
- 7.20 p.m.—Weather and shipping news.
- 7.28 p.m.—"Evening News" late news service.

NIGHT SESSION.

- 7.40 p.m.—Programme announcements.
- 7.45 p.m.—"Let's go around the World." No. 5 of the series of talks by the Rev. F. H. Raward.
- 8 p.m.—"Big Ben."
- From Her Majesty's Theatre (by permission of J. C. Williamson, Ltd): A Theatrical Transmission.
- 9.10 p.m.—From the Studio: Latest weather forecast.
- 9.11 p.m.—Graham Kent will commence a new series of talks on "Bridge."
- 9.20 p.m.—Lindley Evans, pianoforte solos: (a) "Prelude and Fugue in B Major" (Bach). (b) "Impromptu in B Flat" (Schubert).
- 9.30 p.m.—Brunton Gibb, elocutionist.
- 9.36 p.m.—William Bowyer and William Smith, Duet, "The Battle Eve" (Bonheur).
- 9.40 p.m.—Bertha Warren, soprano: "A Spirit Flower" (Campbell Tipton).
- 9.45 p.m.—William Bowyer and William Smith, Duets: (a) "A-hunting we will go" (Fielding). (b) "The Army and Navy" (Cooke).
- 9.51 p.m.—Lindley Evans, pianoforte solos: (a) "Danse des Clochettes" (Rebikoff). (b) "Andante" (Glazunow). (c) "Seguidilla" (Albeniz).
- 10.2 p.m.—Brunton Gibb, elocutionist.
- 10.10 p.m.—Bertha Warren, soprano: "A Bush Lullaby" (Dorothy Blythman).
- 10.14 p.m.—From the Ambassadors: The Ambassadors Orchestra, conducted by Mr. Al Hammet.
- 10.23 p.m.—From the Studio: William Bowyer and William Smith, duet: "Boatman's Song" (Abt).
- 10.27 p.m.—Bertha Warren, soprano: (a) "The Trout" (Franz Schubert). (b) "The Blacksmith" (Brahms).
- 10.33 p.m.—Late weather forecast.
- 10.34 p.m.—Len Maurice popular baritone.
- 10.39 p.m.—From the Ambassadors: Dance music under the baton of Mr. Al Hammet.
- 10.57 p.m.—Late news and announcements.
- 11 p.m.—"Big Ben."
- From the Ambassadors: The Ambassadors Dance Orchestra, interspersed with items from the Studio by Mr. Len Maurice, popular baritone.

2BL, SYDNEY.

Broadcaster's Ltd.

Wave Length, 353 Metres.

Friday

EARLY MORNING SESSION.

8 a.m. to 9 a.m.

MORNING SESSION.

- 10.30 a.m.—G.P.O. Clock and chimes. Musical programme from studio.
- 10.40 a.m.—News from the "Daily Telegraph" Pictorial.
- 10.50 a.m.—Musical programme from the studio.
- 11 a.m.—G.P.O. Clock and chimes. Women's Session. Talk on "Swimming" by

2GB, SYDNEY

Theosophical Broadcasting Service.
Wave Length, 316 Metres.

Friday.

MORNING SESSION.

- 10 a.m.—Music.
- 10.10 a.m.—"Good Cheer" Talk.
- 10.20 a.m.—Music.
- 10.30 a.m.—Happiness Talk.
- 10.40 a.m.—Women's Session.
- 11 a.m.—Close down.

AFTERNOON SESSION.

- 2 p.m.—Music.
- 2.7 p.m.—Address.
- 2.22 p.m.—Music.
- 2.37 p.m.—Address.
- 2.52 p.m.—Music.
- 3 p.m.—Close down.

EVENING SESSION.

- 5.30 p.m.—Music. Children's Session.
- 6.30 p.m.—Music.
- 7 p.m.—Announcements; News; Market reports.
- 7.20 p.m.—Music.
- 7.30 p.m.—Address.
- 7.45 p.m.—Music.
- 8 p.m.—Instrumental Trio:
DAN SCULLY, MURIELLE LANG,
DOROTHY SPARK.
- 8.15 p.m.—Address.
- 8.30 p.m.—Songs by WALTER DAINER.
- 8.37 p.m.—Cello Solos by MURIELLE LANG.
- 8.47 p.m.—Songs by NANCE MARLEY.
- 8.54 p.m.—Instrumental Trio:
DAN SCULLY, MURIELLE LANG,
DOROTHY SPARK.
- 9.8 p.m.—Songs by WALTER DAINER.
- 9.10 p.m.—Talk.
- 9.30 p.m.—Violin Solos by DAN SCULLY.
- 9.47 p.m.—Songs by NANCE MARLEY.
- 9.54 p.m.—Good-Night Talk.
- 10 p.m.—Close down.

INTERSTATE "A" AND "B" CLASS
BROADCASTING STATIONS.

- 3LO.—Broadcasting Company of Australia, Ltd., Melbourne, wavelength 371 metres, power 5000 watts.
- 3AR.—Associated Radio Co., Ltd., Melbourne, wavelength 484 metres, power 5000 watts.
- 4QG.—Queensland Radio Service, Brisbane, wavelength 385 metres, power 5000 watts.
- 5CL.—Central Broadcasters' Ltd., Adelaide, wavelength 395 metres, power 5000 watts.
- 6WF.—Westralian Farmers, Ltd., Perth, wavelength 1250 metres, power 5000 watts.
- 7ZL.—Tasmanian Broadcasters, Ltd., Hobart, wavelength 516 metres, 3000 watts.
- 3DB.—The 3DB Broadcasting Co. Pty., Ltd., Capitol House, Melbourne, wavelength 255 metres, power 500 watts.
- 3UZ.—O. J. Nilsen & Co., Melbourne, wavelength 319 metres, power 100 watts.
- 4GR.—Cold Radio Electric Service, Toowoomba, Queensland, wavelength 294 metres, power 100 watts.
- 5KA.—Sport Radio Broadcasting Station, Adelaide, wavelength 250 metres, power 1000 watts.
- 5DN.—5DN Pty., Ltd., Adelaide, wavelength 313 metres, 500 watts.

2 UW, SYDNEY

Sandel Radio, Ltd.
Wave Length, 267 Metres.

Friday

- 9 a.m.—News Shipping, Mails and studio items.
- 9.45 a.m.—Women's Session.
- 10 a.m.—Close down.
- 12.15 p.m.—Special employees' Luncheon Session.
- 12.45 p.m.—Close down.
- 7 p.m.—Where to go.
- 7.10 p.m.—Dance Music.
- 7.30 p.m.—Reg Ellis; Jazz interlude.
- 7.40 p.m.—Miss Jeanette Paterson, pianoforte solo:
"Prelude in C Minor" (Rachmaninoff).
- 7.47 p.m.—Miss Cecily Ellis, soprano: Selected.
- 7.54 p.m.—News items.
- 8 p.m.—Dance music.
- 8.10 p.m.—Miss Jeanette Patterson, pianoforte solo:
"Fantasie Impromptu" (Chopin).
- 8.17 p.m.—Mr. Reg. Ellis; Jazz interlude.
- 8.27 p.m.—Studio items.
- 8.37 p.m.—Mr. G. F. Manuel, tenor:
(a) "If I might come to you."
(b) "The Star."
- 8.47 p.m.—Miss Cecily Ellis, soprano: Selected.
- 8.54 p.m.—Studio items.
- 9 p.m.—Weather forecast.
- 9.2 p.m.—Announcements.
- 9.5 p.m.—Mr. Geo. F. Manuel, tenor:
"Elegie" (Massinet).
- 9.12 p.m.—Dance music.
- 9.30 p.m.—Close down.

3LO, MELBOURNE.

Friday.

Broadcasting Co. of Aust.
Wave Length, 371 Metres.

MORNING SESSION.

- 7.15 a.m.—"Herald" morning session.
- 8.15 a.m.—Close down.

MIDDAY SESSION.

- 11.15 a.m.—Description of CROQUET, Test Matches, England v. Australia, by Mr. C. J. Miller, from the Melbourne Croquet Club, Union Street, Windsor.
- 11.30 a.m.—Description of TENNIS, Davis Cup, Trial Datches, by Mr. Alf. Dunlop, from Kooyong Courts, Melbourne (Moon v. Hopman).
- 12 noon.—Melbourne Observatory Time Signal.
- 12.1 p.m.—Metal prices received by The Australian Mines and Metals Association from the London Stock Exchange this day. British official Wireless news from Rugby. Reuter's and The Australian Press Association cables. "Argus" news service.
- 12.20 p.m.—STUDIO QUARTETTE:
Selection of Mendelssohn Memories, Part I.
- 12.30 p.m.—ALBERT CARLISLE, tenor (by permission of J. C. Williamson, Ltd.):
"Lorraine" (Sanderson).
"Passing By" (Purcell).
- 12.37 p.m.—Stock Exchange information.
- 12.40 p.m.—BERTHA JORGENSEN, violin:
"Sonata in A" (Handel).
- 12.50 p.m.—JEAN HAMBLETON, contralto:
"Sequid ill a"—Carmen (Biszt).
"The Lover's Curse" (Hughes).
- 12.57 p.m.—THE STUDIO QUARTETTE:
"Sakantala Overture" (Goldmark).
- 1.7 p.m.—THE LYNCH BELLRINGERS:
"Sweet Chiming Bells."
- 1.12 p.m.—Meteorological information; rain-fall for Victoria, Tasmania, South Australia, and New South Wales. Ocean forecasts. River reports.

Miss Varley, Broadcasters Women's Sports Authority.
Social Notes—Replies to correspondents by Mrs. Jordan.
Talk on "Feeding the Family" by Mrs. Jordan.

- 12 noon.—G.P.O. Clock and chimes.
- Special Ocean forecast and weather report.
- 12.3 p.m.—Musical programme from the studio
- 12.8 p.m.—Information—Mails, Shipping, and port directory.
- 12.11 p.m.—Boats in call by wireless.
- 12.13 p.m.—Fruit Market reports.
- 12.15 p.m.—Vegetable Market report.
- 12.17 p.m.—London Metal Market report.
- 12.19 p.m.—Dairy Farm and Produce Market report.
- 12.22 p.m.—Forage Market report.
- 12.24 p.m.—Fish Market report.
- 12.26 p.m.—Rabbit Market report.
- 12.28 p.m.—Stock Exchange report.
- 12.30 p.m.—H.M.V. Gramophone recital.
- 1.27 p.m.—Stock Exchange report.
- 1.30 p.m.—G.P.O. Clock and chimes.
- Talk to children and special entertainment for Children in Hospital.
- 2 p.m.—G.P.O. Clock and chimes. Close down.

AFTERNOON SESSION.

- Racing information broadcast immediately after each race by courtesy of the "Sun."
- 3 p.m.—G.P.O. Clock and chimes.
- Women's Session. Legal Talk by Mr. Ross Douglas.
- 3.15 p.m.—Civil Service Stores Trio.
- 3.30 p.m.—G.P.O. Clock and chimes.
- Women's Session. Talk on "Banking"
- 3.45 p.m.—Talk on Sport by Miss Gwen Varley.
- 4 p.m.—G.P.O. Clock and chimes.
- Civil Service Stores Trio.
- 4.15 p.m.—Talk on Women of the Orient of all ages.
- 4.35 p.m.—Pianoforte Recital from the studio.
- 4.50 p.m.—News from the "Sun."
- 4.55 p.m.—Resume of night's programme.
- 4.57 p.m.—Racing resume.
- 4.59 p.m.—Special Ocean Forecast.
- 5 p.m.—G.P.O. Clock and chimes. Close down.

EARLY EVENING SESSION.

- 5.45 p.m.—G.P.O. Clock and chimes.
- Children's Session.

SPECIAL COUNTRY SESSION.

- 6.30 p.m.—G.P.O. Clock and chimes.
- Australian Mercantile Land and Finance Co's report.
- Weather report and forecast by courtesy of Govt. Meteorologist.
- Producers Distributing Society's Fruit and Vegetable Market report.
- Stock Exchange reports.
- Grain and Fodder report ("Sun.")
- Dairy Farm Produce Market report ("Sun.")
- N.R.M.A. Talk.
- 6.45 p.m.—Country News from the "Sun."
- 7 p.m.—G.P.O. Clock and chimes.
- Dinner Music.
- 7.30 p.m.—Talk on "Gardening Science" by Mr. Cooper, Park Superintendent, City Council.
- 8 p.m.—G.P.O. Clock and chimes.
- Broadcasters Typical Chorus.
- 8.3 p.m.—Broadcasters Light Orchestra under the direction of Mr. J. Knight Barnett.
- 8.13 p.m.—Miss Marjorie Skill, soprano.
- 8.20 p.m.—Miss Mary Charlton, piano solos.
- 8.27 p.m.—Mr. R. Acldler Scott, tenor.
- 9.34 p.m.—Miss Dulcie Blair, violinist.
- 8.41 p.m.—Miss Mab Fotheringham, soubrette.
- 8.48 p.m.—Broadcasters Light Orchestra.
- 8.58 p.m.—Weather report and forecast by courtesy of Mr. C. J. Mares, Govt. Meteorologist.
- 9 p.m.—G.P.O. Clock and chimes.
- Resume of following day's programme.
- 9.4 p.m.—Broadcasters Light Orchestra.
- 9.14 p.m.—Miss Marjorie Skill.
- 9.21 p.m.—Miss Mary Charlton.
- 9.28 p.m.—Mr. R. Acldler Scott.
- 9.35 p.m.—Miss Dulcie Blair.
- 9.42 p.m.—Miss Mab Fotheringham.
- 9.49 p.m.—Broadcasters Light Orchestra.
- 10 p.m.—G.P.O. Clock and chimes.
- The Sporting Editor of the "Sun" will talk on the prospects of Saturday's racing.
- 10.15 p.m.—Romano's Dance Orchestra under the Direction of Mr Merv. Lyons Broadcast from Romano's.
- 11.30 p.m.—G.P.O. Clock and chimes.
- National Anthem.

- 1.19 p.m.—ALBERT CARLISLE, tenor:
"Hold Thou My Hand" (Briggs).
"Mother in Ireland" (Griffin).
- 1.24 p.m.—STUDIO QUARTETTE:
"Mendelssohn Melodies, Part II."
- 1.34 p.m.—JEAN HAMBLETON, contralto:
"Turn ye to Me" (Old Highland Melody).
"The Lament of Isis" (Bantock).
- 1.40 p.m.—Description of TENNIS, Davis Cup
Trial Matches, Crawford v. Hawkes, by Mr.
Alf. Dunlop, from Kooyong Courts, Mel-
bourne.
- 1.45 p.m.—STUDIO QUARTETTE.
- 1.50 p.m.—VAUDE AND VERNE.
- 2 p.m.—Close down.
- 2.45 p.m.—Description of CROQUET, Test
Matches, England v. Australia, by Mr. C.
J. Miller, from Melbourne Croquet Club,
Melbourne.

AFTERNOON SESSION.

- 3 p.m.—Melbourne Observatory Time Signal.
- 3.1 p.m.—STUDIO QUARTETTE:
Selection from "La Boheme" (Puccini).
- 3.10 p.m.—MISS FRANCES FRASER, Herces
of Fiction:
"King Arthur."
- 3.25 p.m.—BERNARD THOMAS, tenor:
"Ave Maria" (Cooper).
"Mother Machree!"
- 3.32 p.m.—STUDIO QUARTETTE:
Selection, "La Traviata" (Verdi).
- 3.42 p.m.—ALICE MALLON, soprano:
"Morning" (Speaks).
"The Lass with the Delicate Air."
- 3.49 p.m.—AGNES FORTUNE, Piano:
"Barcarolle" (Rubenstein).
- 4 p.m.—BERNARD THOMAS, tenor:
"Bonny Mary of Argyle."
"Little Mother of Mine" (Burleigh).
- 4.7 p.m.—MRS. M. CALLAWAY MAHOOD:
Study and Colour—Blue.
- 4.23 p.m.—ALICE MALLON, soprano:
"The Kerry Dance."
"When Love is Kind."
- 4.30 p.m.—Description of TENNIS, Davis Cup
Trial, by Mr. Alf. Dunlop, from Kooyong
Tennis Courts (Patterson-Crawford v. Hop-
man-O'Hara Wood).
- 4.45 p.m.—"Herald" news service.
- 5 p.m.—Description of TENNIS, Davis Cup
Trial Match, by Mr. Alf. Dunlop, from
Kooyong Tennis Courts, Melbourne (Patter-
son-Hopman v. Crawford-O'Hara Wood).
- 5.10 p.m.—Close down.

EVENING SESSION.

- 6 p.m.—Answers to Letters and Birthday
Greetings from "BILLY BUNNY."
- 6.20 p.m.—FREDA NORTHCOTE, contralto:
"The Little Old Garden" (Hewitt).
"Smilin' Through" (Penn).
- 6.27 p.m.—CAPTAIN DONALD MacLEAN:
"More Piratical Persons."
- 6.42 p.m.—FREDA NORTHCOTE, contralto:
"Japanese Love Song" (Thomas).
"Children Asleep" (Moir).
- 6.50 p.m.—BILLY BUNNY:
"The Treasure Seekers are Still Seeking."
- 7 p.m.—Official report of Newmarket Stock
Sales by the Associated Stock and Station
Agents, Bourke Street, Melbourne.
- 7.5 p.m.—"Herald" news service. Weather
synopsis. Shipping movements.
- 7.12 p.m.—Stock Exchange information.
- 7.17 p.m.—Fish market reports, by J. R.
Borrett Ltd. Rabbit prices.
- 7.19 p.m.—River reports.
- 7.21 p.m.—Market reports by the Victorian
Producers' Co-operative Co. Ltd. Poultry,
Grain, Hay, Straw, Jute, Potatoes, and
Onions. Market reports of Fruit by the
Wholesale Fruit Merchants Association.
Citrus fruits.

NIGHT SESSION.

- 7.30 p.m.—COLLINGWOOD CITIZENS'
BAND:
March, "The Voice of the Guns."

Overture, "The Southern Cross."

7.40 p.m.—BERNARD THOMAS, tenor:

"Selected."

7.47 p.m.—MR. H. K. LOVE:

"Technicalities."

Mr. Love will be glad to attend to your
wireless difficulties, and we ask you write
to him for any advice that you may require."

7:57 p.m.—COLLINGWOOD CITIZENS'

BAND:

"An Evening Song."

8.4 p.m.—HARMONISTS MALE QUAR-

TETTE:

"A Medley of Negro Folk Songs."

8.11 p.m.—THE LYNCH BELLRINGERS:

"Selection from La Traviata."

8.15 p.m.—COLLINGWOOD CITIZENS'

BAND:

Selection, "Lurline."

8.25 p.m.—VICTORIA WILSON, soprano:

"Roberto o tu che ador" (Mybeer).

"Robin Adair."

8.32 p.m.—THE FRENCH BROS., Banjoists:

"Uncle Sambo."

"Lindy Lou."

8.40 p.m.—VAUDE AND VERNE:

Selected.

8.50 p.m.—CAPTAIN DONALD-MACLEAN:

"Piratical Pilgrimages."

9.5 p.m.—THE LYNCH BELLRINGERS, on

the Marimba Resonators:

"Eileen Alannah."

"Home, Sweet Home."

9.10 p.m.—TOM MASTERS and JAMES

FRASER, Duets:

"The Fisherman."

"The Garden of Your Heart."

9.17 p.m.—COLLINGWOOD CITIZENS'

BAND:

"Carnival of Flowers."

9.25 p.m.—BERNARD THOMAS, tenor:

Selected.

9.32 p.m.—THE FRENCH BROS., banjoists:

"Tuck Me to Sleep."

"Hawaiian Melodies."

9.40 p.m.—THE HARMONISTS' MALE

QUARTETTE:

"I'm a Longin' for You."

"Ma'ry of A'gyle."

9.47 p.m.—COLLINGWOOD CITIZENS'

BAND:

"Recollections of Wales."

9.55 p.m.—"DONCASTER," Mr. Frank Dexter,

of the "Argus," will talk on to-morrow's

Races.

10.5 p.m.—VICTORIA WILSON, soprano:

"Cato Nome."

"Swing Low, Sweet Chariot" (Negro-

Spiritual).

10.12 p.m.—THE LYNCH BELLRINGERS:

"Intermezzo from Cavalleria Rusticana."

10.17 p.m.—COLLINGWOOD CITIZENS'

BAND:

March, "Carnival King."

10.25 p.m.—MR. JAMES SCOTT, bass:

"Hear me ye winds and waves"—from

Julius Caesar.

HORACE WHITE, tenor:

"O! Flower Divine" (Hady Wood).

10.32 p.m.—"Argus" news service. Meteorolo-

gical information. Road Notes. British

Official Wireless news from Rugby. Island

Steamer movements.

10.45 p.m.—JOE ARONSON AND HIS SYN-

COPATING SYMPHCNISTS:

"Along a Moonlit Way" (Weeks).

"Just once Again" (Ash).

"Charmine" (Rapee).

"Someday, Sweetheart" (Spiken).

"Yah Gonna be Home To-night?" (Dubin).

11 p.m.—OUR GREAT THOUGHT:

"Courage is by no means incompatible with

tenderness. On the contrary, gentleness and

tenderness have been found to characterise

the man, no less than the women, who have

done the most courageous deeds."

—Samuel Smiles.

11.1 p.m.—JOE ARONSON AND HIS SYN-

COPATING SYMPHONISTST.

11.40 p.m.—GOD SAVE THE KING.

3AR, MELBOURNE

Associated Radio Co.

Wave Length, 484 Metres.

Friday.

MORNING NEWS SESSION.

11.0 a.m. to 12 noon.

MIDDAY CONCERT SESSION, 12.1 p.m.

Transmitted from Panatope House, 252
Collins Street (by exclusive permission of
Wills and Paton, Ltd.), on the Brunswick
Panatope.

1.0 p.m.—Newmarket Stock Sales; Special

"Snap" Report on the Progress of this

Morning's Stock Sales at Newmarket (by

courtesy of John Macnamara and Co.). To

be repeated at 2.30, specially for the benefit

of our Country Listeners.

1.1 p.m.—Close Down.

MATINEE SESSION.

DANCE CONCERT.

2.30 p.m.—Newmarket Stock Sales; Special

"Snap" Progress Report Direct from the

yards (by courtesy of John Macnamara

and Co.).

2.31 p.m.—Studio Orchestra.

2.40 p.m.—Mr. Tom White, Clarinet:

"Shadow Dance" (Meyerbeer).

2.44 p.m.—Ayarz Dansonians.

3.5 p.m.—Miss Ethel Brearley, Piano:

"Polonaise in C Sharp Minor" (Chopin).

3.9 p.m.—Studio Orchestra.

3.30 p.m.—Mr. Alan Adcock, Entertainer:

Merry Moments with a Merry-maker.

3.38 p.m.—Ayarz Dansonians.

3.56 p.m.—Mr. Herbert Pettifer, Violin:

"Spanish Dance" (Sarasate).

4.0 p.m.—G.P.O. Clock Says "Four."

4.1 p.m.—2nd Weather Forecast.

4.3 p.m.—Announcements.

4.6 p.m.—Studio Orchestra.

4.17 p.m.—Ayarz Dansonians.

4.35 p.m.—Mr. Alan Adcock, Humorous En-

tertainer:

Another Interlude of Happy Humor.

4.42 p.m.—Studio Orchestra.

4.55 p.m.—To-night's Entertainment.

5.0 p.m.—G.P.O. Clock Says "Five"; Close

Down.

CHILDREN'S SESSION.

6.30 p.m.—The Farmyard Five.

EVENING SESSION.

CAMPFIRE CONCERT.

7.30 p.m.—"The Romance of Ice Cream."

An interesting account of the strange his-

tory of frozen delicacies from Ancient

NEW ZEALAND STATIONS:

1YA, Auckland, The Radio
Broadcasting Co. of New
Zealand, Ltd.

Power 500 Watts; Wave-
length, 333 Metres. Silent
Night, Monday.

2YA, Wellington, The Radio
Broadcasting Co. of New
Zealand, Ltd.

Power 5000 Watts; Wave-
length, 420 Metres.

3YA, Christchurch, The Radio
Broadcasting Co. of New
Zealand, Ltd.

Power 500 Watts; Wave-
length, 306 Metres. Silent
Night, Thursday.

4YA, Dunedin, The Radio
Broadcasting Co. of New
Zealand, Ltd.

Power 750 Watts; Wave-
length, 463 Metres.

Times to now-a-days by Mr. O. A. Mendelssohn, B.Sc., F.C.S., A.A.C.I., Public Analyst.

- 8.1 p.m.—Miss Betty Nankervis, Piano:
A Young Bendigo Pianiste, who makes her radio debut:
"The Butterfly" (Lavallee).
"Arabesque No. 12" (Debussy).
- 8.7 p.m.—Mr. Tom Semple, Tenor:
"Sign no More" (Aitken).
"For You Alone" (Geehl).
- 8.15 p.m.—Mr. Frederick Hanton: The favorite Frankston mimic, will give some of his astonishing imitations of people human and inhuman in his specially arranged sketch: "The Country Concert."
- 8.22 p.m.—Miss Gertrude Alger, Violin:
One of our most distinguished Australian Concert celebrities will play:
"Sonata in D" (Tartini).
(a) "Movement 1"—Andante Cantabile.
(b) "Movement 2"—Allegro.
- 8.32 p.m.—Madame Hilda Sedgley, Contralto: Special engagement of the well-known Wagga cantatrice, who will sing:
"The Enchantress" (Hatton).
"Waita Poi" (Alf. Hill).
- 8.40 p.m.—The Sundowners' Male Quartette Party:
"Believe Me If All" (Brewer).
"Coppah Moon" (Shelley).
- 8.47 p.m.—Mr. Nathan S. Spielvogel, Australian Author.
One of our best-known authors will narrate the final chapter of his own thrilling account of "The Affair at Eureka," to be followed by his own poem, "Eureka."
- 9.2 p.m.—Mr. W. Bradley, Piccolo:
"The Russian Waltz, Larinka" (Parachoski).
"Il Bacio" (Arditi).
- 9.10 p.m.—Mr. Tom Semple, and Mr. Herbert Sanderson:
Duet, "The Moon Hath Raised Her Lamp" (Benedict).
Duet, "I Love You Truly" (Jacobs-Bondy).
- 9.17 p.m.—"Round the Camp Fire."
Music, Story and Verse, grave and gay, by the writers and poets of Australasia. Narrator, Mr. V. Upton-Brown.
- 9.55 p.m.—Miss Betty Nankervis, Piano:
"Hungarian Dance" (MacDowell).
"Ballad Edward in D Minor" (Brahms).
- 10.2 p.m.—The Sundowners' Male Quartette Party:
"Going Home" (Dvorak).
"Him" (Dichmont).
- 10.19 p.m.—Miss Gertrude Alger, Violin:
"Sonata in D" (Tartini), continued.
(c) "Movement III.—Assettuoso."
(d) "Movement IV.—Allegro Assai."
- 10.20 p.m.—Mr. W. H. McLennan: "Bowls."
Popular and pithy comments on the game Drake played at Plymouth Hoe.
- 10.30 p.m.—Madame Hilda Sedgley, Contralto:
"Summer Night" (Goring Thomas).
"Danny Boy" (Old Air).
- 10.38 p.m.—Mr. W. Bradley, Flute:
"Carnival Di Venice" (Bricialdi).
- 10.43 p.m.—Mr. Robert Allen, Alto:
"When I Go Home" (Towner).
"Vale" (Russell).
- 10.50 p.m.—The "Age" News Bulletin, exclusive to 3AR.
- 10.55 p.m.—To-morrow's Entertainment.
- 10.58 p.m.—Final Weather Forecast.
- 10.59 p.m.—Our Australian Good-Night Quote is from the poem: "The Earth Mother," by John Sandes.
- 11.0 p.m.—G.P.O. Clock Says "Eleven"; God Save the King.

4QG, BRISBANE

Queensland Radio Service
Wave Length, 385 Metres.

Friday.

MORNING SESSION.

- 10.30 a.m.—To-day's social news.
- 10.40 a.m.—Music.
- 10.45 a.m.—A Cookery Talk by "Betty Simpson."
- 11 a.m.—Music.
- 11.10 a.m.—General news.
- 11.20 a.m.—Music.
- 11.30 a.m.—Close down.

MIDDAY SESSION.

- 1 p.m.—Market reports; weather information; "The Daily Mail" and "The Daily Standard" news.
- 1.20 p.m.—Lunch hour music.
- 1.58 p.m.—Standard time signal.
- 2 p.m.—Close down.

AFTERNOON SESSION.

- 3.30 p.m.—A programme of music from the Studio.
- 4.15 p.m.—"The Telegraph" News.
Weather news.
- 4.30 p.m.—Close down.
- EARLY EVENING SESSION.
- 6 p.m.—"Daily Standard" news; weather information; announcements.
- 6.10 p.m.—A Talk on the Teeth: "Pyorrhoea," by Mr. G. W. Illingworth (Dental Surgeon).
- 6.30 p.m.—Bedtime stories by "The Sandman."
- 7 p.m.—Market reports; stock reports.
- 7.30 p.m.—Weather news; announcements; "Daily Standard" news.
- 7.43 p.m.—Standard time signal.
- 7.45 p.m.—A review of to-morrow's racing.

NIGHT SESSION.

PART I.

- A programme arranged by Mr. C. E. Monteath.
- 8 p.m.—From the Studio:
Piano duet, "Italy from Foreign Parts" (Mozzkowski).
Miss Heather Spence and Mr. Claude Monteath.
- Soprano solo, "Cherry Ripe" (Lehmann).
Miss Nancy Muirhead.
- Piano solo, "Gavotte and Signe" (from French Suite in G) (Bach).
Mr. Claud Monteath.
- 'Cello solo, "Andante from 'Cello Sonata" (Greig).
Miss Mary Jeffries.
- Two Pianos, "Danse Macabre" (Saint-Saens).
Miss Heather Spence and Mr. Claude Monteath.
- Soprano solo, Recit. "Crudele. Ah! no, mio beue." Aria, "Non mi dir" (Mozart).
Miss Nancy Muirhead.
- 'Cello solos:
"Lullaby" (Cyril Scott).
"Scene de Bal" (Squire).
Miss Mary Jeffries.
- Piano duets, "Hungarian Dances" (Brahms).
Miss Heather Spence and Mr. Claude Monteath.

Short Wave Broadcasters

Schedules and Wavelengths Subject to Change.

- 2NM, Gerald Marcuse, Caterham, England, 23 and 33 metres (B.B.C. Programmes).
- PCJJ, Philips' Experimental Station, Eindhoven, Holland, 30.2 metres (B.B.C. Programmes).
- 2XAF, General Electric Co., Schenectady, New York State, U.S.A., 32.77 metres (W.G.Y. Programmes).
- 2XAG, General Electric Co., Schenectady, New York State, 14, 26 and 52 metres (W.G.Y. Programmes).
- KDKA, Westinghouse Electric Co., Pittsburgh, Penn., U.S.A., 63.5, 14 and 42 metres.
- WLW, Crosley Radio Corporation, Cincinnati, Ohio, U.S.A., 52 metres.
- 2XAL, "Radio News," New York City, U.S.A., 30.91 metres (WRNY Programmes).
- JB, Johannesburg Broadcasting Company, South Africa, 20 and 25 metres.
- 5SW, Marconi Company, Chelmsford, England, 24 metres.
- RFN, Moscow, U.S.S.R., 29 metres.

- Vocal solo, "The Last Rose of Summer" (Traditional).
Miss Nancy Muirhead.
- Piano solo, "Polonaise in A-Flat" (Chopin).
Miss Heather Spence.
- 'Cello solo, "Andante" from "Concerto" (Goltermann).
Miss Mary Jeffries.
- Piano duets, "Fragments" (from "Nutteracker and Mouseking"—Renieke); "Spanish Dance" (Moszkowski).
Miss Heather Spence and Mr. Claude Monteath.
- Vocal solo, "My Life is Love" (from "Maid of the Mountains"—Simson).
Miss Nancy Muirhead.
- Two pianos, "Rondo in C" (Chopin).
Miss Heather Spence and Mr. Claude Monteath.

PART II.

- RADIO NOVELTY—"SOUNDS WE DON'T HEAR."
- 9 p.m.—From the Studio:
Radio Novelty: "Sounds We Don't Hear."
- 10 p.m.—From the Studio:
"The Daily Mail" news.
Weather news.
Close down.

5CL, ADELAIDE

Central Broadcasters, Ltd

Wave Length, 395 Metres.

Friday.

MORNING SESSION.

12 noon to 2 p.m.

AFTERNOON SESSION.

- 3 p.m.—G.P.O. Chimes.
- 3.1 p.m.—Musical numbers.
- 3.45 p.m.—Short story.
- 4 p.m.—G.P.O. Chimes
- 4.1 p.m.—Musical numbers.
- 4.57 p.m.—S. C. Ward and Co.'s Stock Exchange intelligence.
- 5 p.m.—G.P.O. Chimes and close down.

EVENING SESSION.

- 6.30 p.m.—G.P.O. Chimes.
- 6.31 p.m.—Children's time
- 7.20 p.m.—Market reports by A. W. Sandford and Co., A. E. Hall and Co., Dalgety and Co., S.A. Farmers' Co-operative Union, Taylor Bros, Retail Grocers' Association, J. H. Young's special report on the tomato market, Interstate Fruit and Produce Market Co., Ltd. S. C. Ward and Co.'s Stock Exchange intelligence.
- 7.30 p.m.—Extracts from "News Bulletin."
- 7.35 p.m.—"Windbag's" Sporting Service.
- 7.45 p.m.—Cricket talk by "Willow."
- 7.55 p.m.—Station announcements.
- 8 p.m.—G.P.O. Chimes.
- 8.1 p.m.—Orchestral selection by Malcolm Reid and Co.'s Orchestra.
- 8.20 p.m.—Soprano solo, Florence Rendall.
- 8.24 p.m.—Orchestral selections continued.
- 8.40 p.m.—Soprano solo, Florence Rendall.
- 8.45 p.m.—Raymond Lambert (Belgian pianist).
- 9 p.m.—G.P.O. Chimes.
- 9.1 p.m.—Meteorological information.
- 9.3 p.m.—Dalgety's wheat report.
- 9.5 p.m.—Station announcements.
- 9.7 p.m.—Male quartette, The Lyric Quartette.
- 9.15 p.m.—'Cello solo, Helena Harris.
- 9.20 p.m.—Comedy song, Milton Ingham.
- 9.25 p.m.—Male quartette, The Lyric Quartette.
- 9.30 p.m.—Mr. R. Hill (District Agricultural Instructor) talks on the "Possibilities of Eyres Peninsula."
- 9.45 p.m.—Comedy song, Milton Ingham.
- 9.50 p.m.—'Cello solo, Helena Harris.
- 9.54 p.m.—Tenor solo, Robert Sims.
- 10 p.m.—G.P.O. Chimes.
- 10.1 p.m.—"Advertiser" News Service.
- 10.5 p.m.—Station announcements.
- 10.18 p.m.—Comedy, Milton Ingham.

10.20 p.m.—Cello solo, Helena Harris.
 10.25 p.m.—Tenor solo, Robert Sims.
 10.30 p.m.—Relay from the Maison De Danse, Gleneig: Dance selection.
 10.55 p.m.—Saturday's programme and Meteorological information.
 11 p.m.—G.P.O. Chimes and National Anthem.

6WF, PERTH

Westralian Farmer's.
 Wave Length, 1250 Metres.

Friday.

AFTERNOON SESSION.

12.30 p.m.—Tune in.
 12.35 p.m.—Markets, news and cables.
 1 p.m.—Time signal from Perth Observatory.
 1.1 p.m.—Weather notes supplied by the Meteorological Bureau of Western Australia.
 1.2 p.m.—STUDIO QUINTETTE:
 2 p.m.—Close down.
 3.30 p.m.—Tune in.
 3.35 p.m.—Organ music relayed from the Grand Theatre, Murray Street.
 Vocal interludes from the Studio.
 4.30 p.m.—Close down.

EVENING SESSION.

6.45 p.m.—Tune in.
 THE EVENING TRANSMISSION IS BROADCAST ON 104.5 METRES AS WELL AS THE USUAL WAVE LENGTH.
 6.50 p.m.—Musical evening for the Kiddies by Uncles Henry and Duffy.
 7.20 p.m.—Stocks, Markets, News.
 7.45 p.m.—Racing talk by the Sporting Editor of "Truth" Newspaper Coy.
 8 p.m.—Time signal from Perth Observatory.
 8.1 p.m.—Weather notes supplied by the Meteorological Bureau of Western Australia.
 Station announcements, such as alterations to programmes, etc.
 8.3 p.m.—POPULAR NIGHT.
 Musical programme from the Studio, including vocal and instrumental artists, Orchestral music played by Hoyt's Orchestra, conducted by Mr. Harold Partington, relayed from Hoyt's Regent Theatre.
 10 p.m.—Late news items by courtesy of "The Daily News" Newspaper Coy.
 Ships within range announcement.
 Weather report and forecast.
 10.30 p.m.—Close down.
 104.5 METRE TRANSMISSION.
 Simultaneous broadcast on 104.5 Metres of Programme given on 1250 Metres, commencing at 6.45 p.m.

Saturday, Jan. 7

2FC, SYDNEY.

EARLY MORNING SESSION.

7 a.m. to 8 a.m.

MORNING SESSION.

10 a.m.—"Big Ben" and announcements.
 10.5 a.m.—Studio music.
 10.15 a.m.—"Sydney Morning Herald" news service.
 10.30 a.m.—Studio music.
 10.35 a.m.—A talk by the 2FC Racing Commissioner.
 10.45 a.m.—Studio music.
 11 a.m.—"Big Ben."
 A.P.A. and Reuter's Cable Services.
 11.5 a.m.—A talk on Gardening by Mr. G. J. Lockley ("Redgum").
 11.30 a.m.—From the Sydney Cricket Ground: Description of the Cricket match, N.S.W. versus South Australia.
 12 noon—"Big Ben."
 Stock Exchange, first call.

12.2 p.m.—Studio music.
 Further cricket scores and description of the play direct from the ground.
 12.20 p.m.—From the Studio:
 "Sydney Morning Herald" news service.
 12.32 p.m.—Rugby wireless news.
 12.35 p.m.—Studio music.
 From the Sydney Cricket Ground: Further descriptions and scores from the match, N.S.W. v. South Australia, until the luncheon adjournment at 1.15.
 1.15 p.m.—Weather intelligence.
 1.18 p.m.—"Evening News" midday news service.
 1.35 p.m.—Studio music.
 NOTE: Events of the A.J.C. Meeting at Warwick Farm will be described in the running by the 2FC Racing Commissioner, throughout the afternoon.
 Studio music.
 2 p.m.—"Big Ben."
 From the Sydney Cricket Ground: Further scores and description of the play.
 During intervals of cricket and racing, the following musical items will be given:
 From the Crystal Palace, Theatre, George Street, Sydney:
 Items by the Orchestra, conducted by Mr. Harry Cross.
 From the Studio:
 Harry Leighton, novelty pianist.
 Louise Homfrey, lady baritone.
 David Greenberg's Trio (steel guitar, Spanish guitar and ukulele).
 4.45 p.m.—Complete sporting resume.
 5 p.m.—"Big Ben."
 Continuation of description of play from the Sydney Cricket Ground, until 5.40 p.m.

EARLY EVENING SESSION.

5.40 p.m.—The Chimes of 2FC.
 5.45 p.m.—The "Hello Man" talks to the children.
 6 p.m.—"Big Ben."
 Stumps drawn scores of the cricket match, N.S.W. versus South Australia.
 6.2 p.m.—Continuation of the Children's Hour.
 6.15 p.m.—Story time for the young folk.
 6.30 p.m.—Dinner music.
 7 p.m.—"Big Ben."
 Weather intelligence.
 7.3 p.m.—Late sporting news.
 7.15 p.m.—"Evening News" late news service.
 7.25 p.m.—Studio music.

FOREIGN BROADCASTERS.

JOCK—Nagoya Radio Broadcasting Co., Nagoya, JAPAN: 360 metres, 1000 watts. (Announcement in English and Japanese).
 JOBK—Osaka Central Broadcasting Co., Osaka, JAPAN: 385 metres, 1000 watts. (Announcement in English and Japanese).
 JOAK—Tokyo Broadcasting Co., Tokyo, JAPAN, 375 metres, 1000 watts. (Announcement in English and Japanese).
 JFC—Bataviasche Radio Vereeniging, BATAVIA, 228 metres, 40 watts.
 KZRM—Manila, PHILIPPINE ISLANDS: 413 metres, 1000 watts. (Announcement in English and Philippine.)
 KGU—"Honolulu Advertiser," Honolulu, HAWAII, 270 metres, 500 watts.
 KGO—Oakland, CALIFORNIA: 361.2 metres, 5000 watts.
 KFI—Los Angeles, CALIFORNIA, 467 metres, 5000 watts.
 KOA—Denver, COLORADO: 322.4 metres, 5000 watts.

NIGHT SESSION.

7.40 p.m.—Programme announcements.
 7.45 p.m.—The Congress Band.
 8 p.m.—"Big Ben."
 Mr. R. A. Bartleman, baritone.
 8.4 p.m.—The Congress Band.
 8.16 p.m.—Gwladys Fimister, soprano.
 8.20 p.m.—The Congress Band.
 8.34 p.m.—Charles Lawrence, entertainer.
 8.43 p.m.—Carlton Fay, pianoforte solo.
 8.53 p.m.—Win and Windle, English entertainers.
 9 p.m.—"Big Ben." Late weather forecast.
 9.1 p.m.—The Congress Band.
 9.12 p.m.—Laurence Halbert, baritone.
 9.16 p.m.—Carlton Fay, pianoforte solos.
 9.23 p.m.—The "Radio Revellers," led by Mr. Laurence Halbert.
 10.15 p.m.—Win and Windle, English entertainers.
 10.23 p.m.—From the Ambassadors:
 The Ambassadors Dance Orchestra, under the leadership of Mr. Al Hammet.
 10.30 p.m.—From the Studio:
 Late weather forecast.
 10.31 p.m.—From the Ambassadors:
 The Ambassadors Dance Orchestra. Conductor, Mr. Al Hammet.
 10.57 p.m.—Late news and announcements.
 11 p.m.—"Big Ben."
 The Ambassadors Orchestra, interspersed with musical items from the Studio until 11.45 p.m.
 11.45 p.m.—National Anthem.
 Close down.

2BL, SYDNEY.

Saturday.

EARLY MORNING SESSION.

8 a.m. to 9 a.m.

MORNING SESSION.

11 a.m.—G.P.O. Clock and chimes.
 Women's Session—Social Notes by Mrs. Jordan.
 Talk on "Simple Cooking for Children" by Mrs. Jordan.

AFTERNOON SESSION.

Racing information broadcast immediately after each race by courtesy of the "Sun."
 12 noon.—G.P.O. Clock and chimes.
 Special Ocean forecast and weather report.
 12.3 p.m.—Musical programme from the studio
 12.20 p.m.—News from the "Sun."
 12.25 p.m.—Sporting and athletic fixtures.
 12.27 p.m.—Whats on at the Pictures and Theatres.
 12.30 p.m.—Musical programme from the studio.
 12.40 p.m.—News from the "Sun."
 12.50 p.m.—Musical programme from the studio.
 1 p.m.—G.P.O. Clock and chimes.
 Musical programme from studio.
 1.10 p.m.—Sporting talk and athletic fixtures for the day.
 1.20 p.m.—Musical programme from the studio
 1.30 p.m.—G.P.O. Clock and chimes.
 Talk to children and special entertainment for Children in Hospital.
 2 p.m.—G.P.O. Clock and chimes.
 Racing resume.
 2.5 p.m.—Talk on Women of the Orient of all ages.
 2.20 p.m.—Musical programme from the studio
 2.30 p.m.—G.P.O. Clock and chimes.
 News from the "Sun."
 2.40 p.m.—Musical programme from the studio
 2.55 p.m.—News from the "Sun."
 3 p.m.—G.P.O. Clock and chimes.
 Racing resume.
 3.5 p.m.—Musical programme from the studio
 3.20 p.m.—News from the "Sun."
 3.35 p.m.—Musical programme from the studio

3.40 p.m.—Dungowan Dance Band, Broadcast from Dungowan Cabaret.
 4 p.m.—G.P.O. Clock and chimes. Racing resume.
 4.5 p.m.—Musical programme from the studio.
 4.20 p.m.—News from the "Sun."
 4.30 p.m.—Dungowan Dance Band.
 4.50 p.m.—Resume of nights programme.
 4.52 p.m.—Racing Resume.
 5 p.m.—G.P.O. Clock and chimes. Close down

EARLY EVENING SESSION.

5.45 p.m.—G.P.O. Chimes and chimes. Uncle Jack and Uncle Bass will entertain the children.
 6.30 p.m.—Sporting results and country news from the "Sun."
 7 p.m.—Musical programme from the studio.
 7.30 p.m.—Talk on "The Aborigines" by "Bringa."
 8 p.m.—G.P.O. Clock and Chimes. Broadcasters' Topical Chorus.
 8.3 p.m.—Special Dance Night, Cyril Kaye and the Wentworth Cafe Orchestra. During intervals between dances humorous and popular items will be broadcast from the studio.
 12 p.m.—G.P.O. Clock and chimes. National Anthem.

2 UW, SYDNEY

Saturday.

7 p.m.—Studio item.
 7.2 p.m.—Where to go.
 7.10 p.m.—Dance music from Studio.
 9.30 p.m.—Close down.

3LO, MELBOURNE.

Saturday.

MORNING SESSION.

11 a.m.—JOE ARONSON AND HIS SYNCOPATING SYMPHONISTS.
 11.9 a.m.—THE PREMIER FOUR: "Blue Skies" (Berlin). "Just a Cottage Small" (Hanley).
 11.16 a.m.—THE LYNCH BELLRINGERS: "International Melodies."
 11.20 a.m.—JOE ARONSON AND HIS SYNCOPATING SYMPHONISTS.
 11.29 a.m.—Description of CROQUET, Test Matches, England v. Australia, by Mr. C. J. Miller, at Melbourne Croquet Ground, Union Street, Windsor.
 11.39 a.m.—Description of TENNIS, Davis Cup Trial, by Mr. Alf Dunlop, from Kooyong Tennis Courts. Moch v. Rowe.
 11.55 a.m.—THE PREMIER FOUR, Selected.
 12.3 p.m.—Metal prices received by the Australian Mines and Metals Association from the London Stock Exchange this day. British official wireless news from Rugby. Reuter's and the Australian Press Association Cables. "Argus" news service.
 12.23 p.m.—THE LYNCH BELLRINGERS, on the Marimba Resonators: "Come Back to Erin." "I Want to be Happy."
 12.30 p.m.—VAUDE AND VERNE, selected.
 12.39 p.m.—Stock Exchange information.
 12.43 p.m.—STUDIO QUARTETTE: "Waltz, 'The Magic of Love.'"
 12.53 p.m.—BERNARD THOMAS, Tenor. Selected.
 1 p.m.—Melbourne Observatory Time Signal. Are you going out Motoring, Picnicking, Swimming? Remember always for your own sake as well as for others SAFETY FIRST—and don't forget to see that you leave your bily fire absolutely OUT.

MIDDAY SESSION.

1.1 p.m.—JOE ARONSON AND HIS SYNCOPATING SYMPHONISTS.
 1.9 p.m.—Meteorological information. Weather forecast and rainfall for Victoria, Tasmania, South Australia and New South Wales. Ocean forecasts. River reports.
 1.15 p.m.—Description of cricket match, St. Kilda v. Melbourne, at Melbourne Cricket Ground, by Mr. Rod McGregor.

1.30 p.m.—Description of TENNIS, Davis Cup Trial, by Mr. Alf. Dunlop, from Kooyong Tennis Courts (Crawford v. Kalms).

1.40 p.m.—MYRTLE SKINNER, soprano: "A lovely evening in summer 'twas" (Greig) "Sing! Sing!" (Kjerulf).

1.47 p.m.—STUDIO QUARTETTE: Selection, "Madame Pompadour."

1.54 p.m.—MYRTLE SKINNER, soprano: "To one who passed whistling through the night" (Gibbs). "April Rain" (Crist).

2.2 p.m.—Description of TENNIS, Davis Cup Trial, by Mr. Alf. Dunlop, from Kooyong Tennis Courts (Crawford v. Kalms). Results of Camperdown Charity Races, Beulah Turf Club and the Australian games at Manly—official opening—will be given as they come to hand.

2.15 p.m.—Description of CRICKET MATCH, St. Kilda v. Melbourne, at Melbourne Cricket Grounds, by Mr. Rod McGregor.

2.30 p.m.—Description of Two-year-old, five furlongs, SANDOWN PARK RACES, by "Musket," of the "Sporting Globe."

2.35 p.m.—Description of CRICKET MATCH, St. Kilda v. Melbourne, at Melbourne Cricket Ground, by Mr. Rod McGregor.

2.45 p.m.—Description of Croquet Test Match, at Melbourne Croquet Club, Union-street, Windsor, by Mr. C. J. Miller.

AFTERNOON SESSION.

HARRY SHUGG'S STUDIO BOYS.

3 p.m.—Melbourne Observatory time signal.

3.1 p.m.—Description of Trial Welter, 1 mile, SANDOWN PARK RACES, by "Musket," of the "Sporting Globe."

3.5 p.m.—Description of TENNIS MATCH, Davis Cup Trial, by Mr. Alf. Dunlop, from Kooyong Tennis Courts.

3.20 p.m.—HARRY SHUGG'S STUDIO BOYS: Selection, "Comic Opera."

3.30 p.m.—Description of Sandown Plate, 5 furlongs, SANDOWN PARK RACES, by "Musket," of the "Sporting Globe."

3.35 p.m.—HARRY SHUGG'S STUDIO BOYS: Selection, "Comic Opera."

3.45 p.m.—Description of CRICKET MATCH, St. Kilda v. Melbourne, at Melbourne Cricket Ground, by Mr. Rod McGregor.

4 p.m.—Description of Sandown Park Handicap, 1 mile, SANDOWN PARK RACES, by "Musket," of the "Sporting Globe."

4.5 p.m.—Description of TENNIS MATCH, Davis Cup Trials, by Mr. Alf. Dunlop, from Kooyong Tennis Courts.

4.20 p.m.—HARRY SHUGG'S STUDIO BOYS: Selections, "Comic Opera."

4.30 p.m.—Description of Sandown Purse, SANDOWN PARK RACES, by "Musket," of the "Sporting Globe."

4.35 p.m.—Description of CRICKET MATCH, St. Kilda v. Melbourne, at Melbourne Cricket Ground, by Mr. Rod McGregor.

4.50 p.m.—Description of TENNIS, Davis Cup Trial, by Mr. Alf. Dunlop, from Kooyong Tennis Courts, Melbourne (Patterson and Hopman v. Crawford and O'Hara Wood).

5 p.m.—Description of Jumpers' Flat Race 1¼ miles, SANDOWN PARK RACES, by "Musket," of the "Sporting Globe."

5.5 p.m.—Description of TENNIS MATCH, Davis Cup Trial, by Mr. Alf. Dunlop, from Kooyong Tennis Courts.

5.15 p.m.—"Herald" news service.

3.30 p.m.—Description of CRICKET MATCH, St. Kilda v. Melbourne, at Melbourne Cricket Ground, by Mr. Rod McGregor.

EVENING SESSION.

6 p.m.—Sporting results.

6.10 p.m.—Answers to Letters and Birthday Greetings by "LITTLE MISS KOOKABURRA."

6.30 p.m.—STUDIO QUARTETTE: Children's Overture, Part I. (Roger Quilter).

6.37 p.m.—"LITTLE MISS KOOKABURRA": A Story for the Little Ones.

6.50 p.m.—STUDIO QUARTETTE: Children's Overture, Part II. (Roger Quilter)

7 p.m.—Sporting results.

7.5 p.m.—"Herald" news service. Weather synopsis. Shipping movements. Stock Exchange information.

7.12 p.m.—Stock Exchange information.

7.17 p.m.—River reports.

7.19 p.m.—Market reports by the Victorian Producers' Co-operative Co., Ltd.: Poultry, Grain, Hay, Straw, Jute, Dairy Produce, Potatoes and Onions.

7.21 p.m.—Wholesale Prices of Fruit by the Wholesale Fruit Merchants' Association. Citrus Fruits.

7.30 p.m.—Mr. F. CHAPMAN, of the National Museum: "Flinders Foreshore."

7.45 p.m.—MR. J. G. PYKE: "An Esperantist's Experiences in the Balkans."

8 p.m.—MALVERN TRAMWAYS BAND: Overture, "Tancredi" (Rossini). March, "The Boomerang" (White).

8.10 p.m.—Results of Yacht Club Races (Royal St. Kilda Yacht Club Races).

8.13 p.m.—J. ALEXANDER BROWNE, baritone: "Sea Fever" (Ireland). "Hope the Horn Blower" (Ireland).

8.20 p.m.—MALVERN TRAMWAYS BAND: Waltz, "River of Pearls" (Rimmer).

8.27 p.m.—MADAME ELLA KINGSTON, soprano: "The Waking of Spring." Selected.

8.34 p.m.—W. A. SOMERSET: "Shipwrecks in Australian Waters," No. 4.

8.50 p.m.—THE LYNCH BELLRINGERS: "Sweet Chiming Bells."

8.55 p.m.—VAUDE AND VERNE.

9 p.m.—THE LYNCH BELLRINGERS: Waltz, "The Blue Danube."

9.3 p.m.—J. ALEXANDER BROWNE, baritone: "The Jolly Miller" (Quilter). "O, Mistress Mine" (Quilter).

9.10 p.m.—THE DI GUTANA REVUE will be transmitted from the Tivoli Theatre, Melbourne, by permission of J. C. Williamson.

10.30 p.m.—ELLA KINGSTON: "Loch Leven." Selected.

10.37 p.m.—MALVERN TRAMWAYS BAND: March, "Punchinello."

10.43 p.m.—Late Sporting Notes.

11 p.m.—Mr. ERIC AITKEN will give a resume of to-night's events at the Motodrome.

11.5 p.m.—OUR GREAT THOUGHT: "People hardly ever do anything in anger of which they do not repent."—Richardson.

11.6 p.m.—JOE ARONSON AND HIS SYNCOPATING SYMPHONISTS.

11.40 p.m.—GOD SAVE THE KING.

3AR, MELBOURNE

Saturday.

MORNING NEWS SESSION.

11 a.m. to 12 noon.

MIDDAY CONCERT SESSION.

12 noon to 1 p.m.

Transmitted from Panatrophe House, 252 Collins-street (by exclusive permission of Wills and Paton, Ltd.), on the Brunswick Panatrophe.

1 p.m.—Close down.

ORCHESTRAL CONCERT. MATINEE SESSION.

Sporting results. During the afternoon the results of the Sandown and Warwick Farm races will be broadcast immediately each

race is run, together with other information.

- 2.30 p.m.—Studio Orchestra.
 2.45 p.m.—Miss Ida Wright, mezzo-soprano:
 "Still as the night" (Bohm).
 "The reason" (Del Riego).
 2.52 p.m.—Studio Orchestra.
 3.7 p.m.—Mr. Ronald Brearley, 'cello:
 Aria from the music book of Anna Magdalena Bach (J. S. Bach).
 3.11 p.m.—Studio Orchestra.
 3.27 p.m.—Miss Ida Wright, mezzo-soprano:
 "A summer night" (Thomas).
 "Angus MacDonald" (Boeckel).
 3.35 p.m.—Studio Orchestra.
 3.44 p.m.—Mr. Herbert Pettifer, violin:
 "Bolero" (Bohm).
 3.48 p.m.—Studio Orchestra.
 4 p.m.—G.P.O. clock says Four.
 4.1 p.m.—Second weather forecast.
 4.3 p.m.—Announcements.
 4.6 p.m.—Mr. Edward Pipe, tenor:
 "Mountain voices" (Treharne).
 "As Ever I Saw" (Warlock).
 4.14 p.m.—Studio Orchestra.
 4.32 p.m.—Mr. Edward Pipe, tenor:
 "Thunder Waters" (Cadman).
 "Dream of Long Ago" (Caruso).
 4.40 p.m.—Studio Orchestra.
 4.55 p.m.—To-night's entertainment.
 5 p.m.—G.P.O. clock says Five.
 Close down.

CHILDREN'S SESSION.

- 6.30 p.m.—Uncle Mac's entertainment.

EVENING SESSION.

VAUDEVILLE DANCE.

- 7.30 p.m.—Everyman's Garden. Special week-end talk by Mr. W. B. Warner, president of the Nurserymen's and Seedmen's Association of Victoria.
 7.45 p.m.—Newmarket cattle sales. Notices. To-day's sporting results.
 8 p.m.—G.P.O. clock says Eight.
 8.1 p.m.—Vaudeville Dance Entertainment transmitted from Panatrop House, 252 Collins-street, Melbourne (by exclusive arrangement with Wills and Paton, Ltd.), Brunswick Panatrop Committee. Chairman, Mr. W. D. S. Taylor. Programme selector, Mr. John Feil. Programme Director, Mr. Geoffrey G. Fox.
 8.2 p.m.—Harry Archer's Orchestra:
 Fox trot, "Baby" (Wenrich).
 Fox trot, "Lantern of Love" (Wenrich).
 8.7 p.m.—California Orchestra (conductor, Mr. Abe Lyman):
 Fox trot, "Mandy" (Herbert), by request.
 Fox trot, "Lucky Day" (Henderson).
 8.13 p.m.—Novelty Marimba Band (conductor, Mr. Joseph Green):
 "Broken Dreams."
 8.16 p.m.—Mr. Franklyn Blair (with ladies' choir):
 "Lantern of Love" (Wenrich).
 8.19 p.m.—Regent Club Orchestra:
 Waltz, "C'est Vous."
 Waltz, "Underneath the stars with you."
 8.25 p.m.—Debroy Somers' Band:
 Fox trot, "I would like to fondly" (Wenrich).
 Waltz, "Rainbow of your smile" (Wenrich).
 8.31 p.m.—Mr. Lew White, Roxy Theatre, Kimball Organ:
 "At Sundown" (White), by request.
 8.34 p.m.—Mr. Al. Jolson, comedian (with Carl Fenton's Orchestra):
 "If I knew I'd find you" (Clare).
 8.37 p.m.—Six Jumping Jacks' Dance Band:
 Fox trot, "She's just what the doctor ordered."
 Fox trot, "I'm gonna dance with de Guy wot brung me."
 8.43 p.m.—Regent Club Orchestra:
 Waltz, "Can't you hear me say I love you?"
 Waltz, "Homeward Bound."
 8.49 p.m.—Mr. Ray Perkins, comedian:
 "Me and my shadow" (by request).
 8.52 p.m.—Miss Esther Walker, comedienne:
 "I'm in love with you that's why" (Henderson).

- 8.55 p.m.—Royal Flush Orchestra (conductor, Mr. Fess Williams).
 Fox trot, "Number Ten."
 Fox trot, "Razor Edge."
 9.1 p.m.—Ben Selvin's Orchestra:
 Fox trot, "Dew-Dew-Dewy Day."
 Fox trot, "Oh, Dorris! Where do you live?"
 9.7 p.m.—Mr. Arthur Stigant, comedian:
 "Ow I 'ate Women" (by request).
 9.10 p.m.—Mr. Harry Snodgrass, "King of the Ivories":
 "Along Miami Shore" (Hirsch).
 9.13 p.m.—Hotel McAlpine Orchestra (conductor, Mr. Ben Bernie).
 "No wonder I'm happy."
 "Just once again."
 9.19 p.m.—Colonial Club Orchestra:
 Fox trot, "Love and Kisses."
 Fox trot, "Ain't that a grand and glorious feeling?"
 9.25 p.m.—Palakiko and Paaluh, Hawaiian Players:
 "Southern Blues."
 9.28 p.m.—Mr. Bennie Krueger, saxophone:
 "Forever and ever with you" (Burke), by request.
 9.31 p.m.—Denza Dance Band:
 Waltz, "Cheerie-Beerie-Bee" (Young).
 Waltz, "Water of the Perkiomen" (Dubin).
 9.37 p.m.—Denza Dance Band:
 Fox trot, "Ooh! Maybe it's you" (Berlin).
 Fox trot, "Shaking the blues away" (Berlin).
 9.43 p.m.—Mr. Teddy Bryan, popular violinist:
 "Russian Lullaby" (Berlin), by request.
 9.46 p.m.—Southland Syncopators (conductor, Mr. Art. Gilham):
 "I'd walk a million miles" (Marks).
 9.49 p.m.—Jules Herbuveaux's Orchestra:
 Fox trot, "I'm coming, Virginia."
 Fox trot, "Meet me in the moonlight."
 9.55 p.m.—Carl Fenton's Orchestra:
 Waltz, "Dreamy Carolina Moon" (Schmidt).
 "So long, I'll see you again."
 10 p.m.—G.P.O. clock says Ten.
 10.1 p.m.—Semi-final weather forecast, specially for our country listeners.
 10.2 p.m.—Miss Margaret McKee, bird imitator:
 "Hawaiian Love Bird" (McKee).
 10.5 p.m.—Mr. Vivian Foster, "The Vicar of Mirth":
 "The parson and the Charleston," Part 1 (Foster).
 10.8 p.m.—The Six Jumping Jacks' Dance Band:
 Fox trot, "Say, Mister, have you met Rosie's Sister?"
 Fox trot, "Sittin' around" (Kahn).
 10.14 p.m.—"Kenn" Sisson's Orchestra:
 Fox trot, "Bamboola" (by request).
 Fox trot, "Blue Heaven."
 10.20 p.m.—Brunswick Military Band:
 March, "Up the street" (Morse).
 10.23 p.m.—Mr. Ed. Smalle, comedian:
 "The wind blew through his whiskers" (Rose).
 10.26 p.m.—Percival Mackey's Band:
 Fox trot, "Waiting for the rainbow" (Tenant).
 Fox trot, "Ca, C'est Paree" (Padilla), by request.
 10.32 p.m.—Layton and Johnstone, dancing Duettists:
 "Feelin' kind of blue" (Cooper).
 10.35 p.m.—Miss Vaughan de Leath, comedienne:
 "Crazy Words, Crazy Tune" (Ager), by request.
 10.38 p.m.—Piccadilly Revels' Band:
 Fox trot, "Mock the mocking bird" (Stept).
 Waltz, "Perhaps you'll think of me" (Stone).
 10.44 p.m.—The Radio Franks, dance duettists:
 "No wonder I'm happy."
 10.47 p.m.—Mr. Walter Kingsley, haritone:
 "Come back in dreams" (Hamblen).
 10.50 p.m.—The Six Jumping Jacks' Dance Band:
 Fox trot, "The village blacksmith owns the village now" (Moore).
 Fox trot, "Charleston Ball" (Heywood).
 10.56 p.m.—To-morrow's entertainment.
 10.58 p.m.—Final weather forecast.

- 10.59 p.m.—Our Australian good-night quote is from the poem, "The Australian Girl," by Ethel Castilla.
 11 p.m.—G.P.O. clock says Eleven.
 God Save the King.

4QG, BRISBANE.

Saturday.

NO MIDDAY TRANSMISSION.
AFTERNOON SESSION.

- 3.30 p.m.—A matinee for little listeners by "Miss Waratah."
 4.30 p.m.—Close down.

EARLY EVENING SESSION.

- 6.30 p.m.—Bedtime Stories by Uncle Ben.
 7.15 p.m.—Racing Results.
 7.20 p.m.—To-day's Sporting News described.
 7.30 p.m.—Sailing Notes by Fred Smith.

NIGHT SESSION.

- 8 p.m.—From the Gaiety Theatre:
 Orchestral music.
 8.30 p.m.—From the Speedway:
 Motor Cycle Races.
 9.30 p.m.—From Lennon's Ballroom:
 Dance Music.
 10 p.m.—From the Studio:
 "The Daily Mail" news; weather news.
 Close down.

5CL, ADELAIDE.

Saturday.

MORNING SESSION.

- 12 noon.—G.P.O. Chimes.
 12.1 p.m.—"Advertiser" news service.
 12.30 p.m.—Musical numbers.
 1 p.m.—G.P.O. Chimes.
 1.1 p.m.—Relay from the Morphettville Race-course. A running description of events by Mr. Arnold Treloar interspersed with interstate results and musical numbers from the studio.
 5.15 p.m.—(Approx), Close down.

EVENING SESSION.

- 6.3 p.m.—G.P.O. Chimes.
 6.31 p.m.—Children's time.
 7.25 p.m.—S. C. Ward and Co's Stock Exchange Intelligence.
 7.30 p.m.—Sporting results.
 7.45 p.m.—Talk on "Heroes of Missions" arranged by Church of England Conference Missionary Campaign.
 7.55 p.m.—Station announcements.
 8 p.m.—G.P.O. Chimes.
 8.1 p.m.—Band Concert from Henley Beach Rotunda by Holden's Silver Band interspersed with vocal and instrumental numbers.
 8.45 p.m.—Talk by Rev. G. E. Hale, B.A.
 9 p.m.—G.P.O. Chimes.
 9.1 p.m.—Meteorological information.
 9.5 p.m.—Band concert continued.
 10 p.m.—G.P.O. Chimes.
 10.1 p.m.—Sporting results.
 10.15 p.m.—Relay from Maison De Danse—Dance selections.
 10.55 p.m.—Sunday's programme and Meteorological information.
 11 p.m.—G.P.O. Chimes and National Anthem.

6WF, PERTH.

Saturday.

MIDDAY SESSION.

- 12 noon.—Tune in.
 12.5 p.m.—Musical programme from the Studio, including pianoforte selections by Miss Evelyn Willis, A.R.C.M.
 12.47 p.m.—Markets, News, and Cables.
 1 p.m.—Time signal from Perth Observatory.
 1.1 p.m.—Weather notes supplied by the Meteorological Bureau of Western Australia.
 1.2 p.m.—Close down.
 3.15 p.m.—Tune in.

SPORTING SESSION.

Racing results and progressive cricket scores.

Musical programme from the Studio, including vocal and instrumental artists.

5.30 p.m.—Close down.

6.45 p.m.—Tune in.

THE EVENING TRANSMISSION IS BROADCAST ON 104.5 METRES AS WELL AS THE USUAL WAVE LENGTH.

6.50 p.m.—Birthday greetings for the Kiddies by Uncles Henry and Duffy.

7.10 p.m.—Sports results.

7.20 p.m.—Markets, News and Cables.

7.45 p.m.—Dinner music.

8 p.m.—Time signal from Perth Observatory.

8.1 p.m.—Weather notes supplied by the Meteorological Bureau of Western Australia.

Station announcements, such as alterations to programmes, etc.

8.3 p.m.—CONCERT NIGHT.

Musical programme from the Studio, including vocal and instrumental artists.

Motor Cycling events described in detail, relayed from the Claremont Speedway.

Trotting events described in detail, relayed from the W.A.T.A. Grounds.

10 p.m.—Late news items by courtesy of "The Daily News" Newspaper Coy.

Ships within range announcement.

Weather report and forecast.

10.30 p.m.—Close down.

104.5 METRE TRANSMISSION.

Simultaneous broadcast on 104.5 Metres of Programme given on 1250 Metres commencing at 6.45 p.m.

Sunday, Jan. 8

2FC, SYDNEY.

MORNING SESSION.

10.55 a.m.—Programme announcements.

11 a.m.—"Big Ben."

From the Fullerton Memorial Church:

The Morning Service.

Preacher, Rev. G. Cowie.

Organist, Mr. Herbert Tinkler.

12.15 p.m.—From the Studio: News Session.

12.30 p.m.—Close down.

AFTERNOON SESSION.

2.55 p.m.—Programme announcements.

3 p.m.—"Big Ben."

From the Lyceum Hall, Pitt Street, Sydney:

Pleasant Sunday Afternoon Service,

arranged by the Central Methodist Mission.

4.30 p.m.—From the Studio:

A Pianoforte Recital, arranged by Madame Evelyn Grieg:

1. (a) "Des Abends" (Evening) (Schumann).

(b) "Kreisleriana No. 1." (Schumann).

(c) "Traumerie" (Dreaming) (Schumann).

2. "To the Spring" (Grieg).

3. "Valse in A Major" (Mischa Levitzki).

4.45 p.m.—Close down.

NIGHT SESSION.

6 p.m.—"Big Ben" and announcements.

6.5 p.m.—Captain Fred Aarons will commence a series of talks, dealing with famous figures in European literature, taking as his subject to-night:

"Canterbury Tales," by Geoffrey Chaucer.

6.20 p.m.—From the Pitt Street Congregational Church, Sydney:

An Organ Recital by Mr. E. J. Robinson.

7 p.m.—"Big Ben."

The Evening Service from the Pitt Street Congregational Church:

Preacher, Rev. T. E. Ruth.

8.30 p.m.—From the Studio:

Oliver King, basso:

"A Ruddier than the Cherry" (Handel).

8.36 p.m.—Gladstone Bell, 'cello solo:

"Melodie" (D'Amrosio).

8.42 p.m.—Madame Lilian Gibson—contralto.

8.48 p.m.—Lance Kennedy, flute solo.

8.54 p.m.—Oliver King, basso:

(a) "The Sea Gipsy" (Michael Head).

(b) "Give a man a horse he can ride" (Head).

9.2 p.m.—Gladstone Bell, 'cello solo:

"Waltz" (Kulah).

9.8 p.m.—Madame Lilian Gibson, contralto.

9.13 p.m.—Lance Kennedy, flute solos.

9.20 p.m.—Oliver King, basso:

(a) "To people who have gardens" (Kennedy Fraser).

(b) "A Banjo Song" (Sidney Homer).

9.28 p.m.—Daisy Richards, violin solos.

9.36 p.m.—Gladstone Bell, 'cello solo:

"Hungarian Rhapsody" (Popper).

9.41 p.m.—Madame Lilian Gibson, contralto.

9.45 p.m.—Daisy Richards, violin solos.

10.5 p.m.—National Anthem.

Close down.

2BL, SYDNEY

Sunday.

10.45 a.m.—Special news service.

11 a.m.—Service broadcast from St. Jude's Church of England, Randwick.

AFTERNOON SESSION.

2 p.m.—G.P.O. Clock and chimes.

Special session for Children in Hospitals.

2.15 p.m.—Recital by courtesy of H.M.V. Gramophone Company.

3 p.m.—G.P.O. Clock and chimes. Close down.

3.15 p.m.—G.P.O. Clock and chimes. Bible

Class conducted by Mr. W. "Cairo" Bradley.

4 p.m.—Pleasant Sunday Afternoon with the

Leichhardt Central Methodist Mission.

5 p.m.—G.P.O. Clock and chimes.

Close down.

5.45 p.m.—G.P.O. Clock and chimes.

Children's Service.

7.15 p.m.—Service broadcast from Chalmers

Presbyterian Church.

8.30 p.m.—Recital by the North Sydney Tram-

way Band broadcast from Manresa Hall,

North Sydney.

9.15 p.m.—From the Studio:

Miss C. L. Robertson, elocutionist.

9.22 p.m.—Mr. Lloyd Davies, violinist.

9.29 p.m.—By Request. Repeat performance

of the song Cycle "Dorothy's Wedding Day"

(Lane Wilson).

Soloists:

Miss Helena Stewart, soprano.

Mr. Lance Jeffree, tenor.

Miss Amy Ostinga, contralto.

Mr. Peter Sutherland, basso.

9.55 p.m.—Resume of following day's pro-

gramme. Weather report and forecast by

courtesy of Mr. C. J. Mares, Govt. Meteor-

ologist.

10 p.m.—G.P.O. Clock and chimes.

10.1 p.m.—Mr. Lloyd Davies.

10.8 p.m.—Miss C. L. Robertson.

10.15 p.m.—G.P.O. Clock and chimes.

National Anthem.

2GB, SYDNEY

Sunday.

MORNING SESSION.

10.15 a.m.—Music from St. Alban's Liberal

Catholic Church, Redfern.

10.30 a.m.—Morning Service from St. Alban's

Church, Redfern.

12 noon.—Close down.

5.30 p.m.—Children's Session.

EVENING SESSION.

6.30 p.m.—Music from Studio.

7 p.m.—Lecture from Adyar Hall.

8 p.m.—Violin and Pianoforte:

DAN SCULLY AND DOROTHY SPARK.

8.10 p.m.—Vocal Duets by ELSIE BROWN

AND EVA CROFT.

8.17 p.m.—Pianoforte Solo by DOROTHY

SPARK.

8.24 p.m.—Songs by EVA CROFT.

8.31 p.m.—Violin solos by DAN SCULLY.

8.38 p.m.—Vocal Duets by ELSIE BROWN

AND EVA CROFT.

8.45 p.m.—Address.

9.5 p.m.—Music.

2 UW, SYDNEY

Sunday

10.30 a.m.—H.M.V. Recital, by kind permis-

sion of His Master's Voice Gramophone Co.

11.30 a.m.—Studio items.

12.15 p.m.—Resume of forward programme.

12.18 p.m.—Studio items.

12.30 p.m.—Close down.

7 p.m.—Studio items.

7.30 p.m.—Miss Sylvia Churchill, mezzo so-

prano:

Selected.

7.37 p.m.—Studio item.

7.44 p.m.—Miss Mabel Ramsbotham:

Violin solo.

7.51 p.m.—Studio item.

7.58 p.m.—Mr. Douglas Rae, tenor:

"The Kerry Dance."

8.5 p.m.—Studio item.

8.12 p.m.—Miss Sylvia Churchill, soprano:

"Carissima."

8.19 p.m.—Miss Mabel Ramsbotham:

Violin solo, Selected.

8.24 p.m.—Studio item.

8.30 p.m.—Duet, Mr. Douglas Rae and Miss

Sylvia Churchill:

"A Night in Venice."

8.37 p.m.—Studio item.

8.42 p.m.—Mr. Douglas Rae, tenor:

"Friend of Mine" (Sanderson).

8.49 p.m.—Studio item.

8.54 p.m.—Miss Mabel Ramsbotham:

Violin solo, Selected.

9 p.m.—Studio items.

9.10 p.m.—Resume of forward programme.

9.15 p.m.—Studio items.

9.30 p.m.—Close down.

3LO, MELBOURNE

Sunday.

MORNING SESSION.

10.30 a.m.—Bells from ST. PAUL'S

CATHEDRAL.

10.45 a.m.—Express Train information.

British Official Wireless news from Rugby.

News from yesterday's papers.

11 a.m.—MORNING SERVICE FROM CEN-

TRAL MISSION, WESLEY CHURCH,

LONSDALE STREET, MELBOURNE.

Conducted by REV. J. H. CAIN.

12.15 p.m.—Close down. Benediction.

AFTERNOON SESSION.

3 p.m.—PLEASANT SUNDAY AFTERNOON

FROM CENTRAL MISSION, WESLEY

CHURCH, LONSDALE STREET, MEL-

BOURNE.

Chairman, REV. S. J. HOBAN.

Conductor of Choir: Mr. G. M. WILLIAMS.

Address: Dr. A. E. ELLIS:

"The World Outlook in 1928."

National Anthem.

Benediction.

Orchestra.

4.30 p.m.—Close down.

EVENING SESSION.

CHILDREN'S HOUR.

5.30 p.m.—Answers to Letters and Birthday

Greetings by "BILLY BUNNY."

6 p.m.—"THE PIED PIPERS":

"Songs of Joy and Kindness."

6.25 p.m.—"BILLY BUNNY":

"A Story for Children and for Those Who

Never Grow Old."

6.45 p.m.—BELLS FROM ST. PAUL'S

CATHEDRAL.

NIGHT SESSION.

7 p.m.—SERVICE FROM SCOTS CHURCH,

COLLINS STREET, MELBOURNE.

Preacher: THE REV. D. W. BORLAND.

Organist: Mr. W. E. ELLIS.

Psalm, Metrical Version 43, verse 3,

Tune 222.

Prayer.

Prose Psalm 57.

Chants.

Old Testament Lesson: Isaiah 42: 10, 17.

Hymn 126.

Prayer of Intercession.

New Testament Lesson: St. John 1: 1-18.

Anthem, "The Radiant Morn Hath Passed Away" (Woodward).

The Lord's Prayer (The Congregation standing will unite).

SERMON: "LEAD, KINDLY LIGHT," St. John 8-12.

Prayer.

Hymn 297.

Intimations.

Offering.

Offertory: "Give Ear Unto My Prayer" (Arcadelt).

Hymn 355.

Benediction.

FROM THE STUDIO—

8.30 p.m.—Shipping information.

8.31 p.m.—COLLINGWOOD CITIZENS' BAND:

March, "Cavalry of the Clouds."

Overture, "Bohemian Girl."

8.41 p.m.—L. NOEL SMITH, baritone (by permission of J. C. Williamson, Ltd.):

"There's a Land" (Allitsen).

"The Song of the Bow" (Aylward).

8.48 p.m.—COLLINGWOOD CITIZENS' BAND:

Cornet Solo: "Lost Chord," Soloist, J. Robinson.

8.55 p.m.—FREDA STEVENS, soprano:

"Night of Stars" (Offenbach).

"To the Angels" (Yado).

9.2 p.m.—AGNES FORTUNE, Piano:

"Melody in F" (Rubenstein).

"Impromptu" (Schubert).

9.15 p.m.—COLLINGWOOD CITIZENS' BAND:

Two Glees:

"Here's a Health to all Good Lassies."

"Life's a Bumper."

9.22 p.m.—L. NOEL SMITH, baritone:

"Comrades of Mine" (W. James).

"Bush Night Song" (W. James).

9.29 p.m.—COLLINGWOOD CITIZENS' BAND: Two Part Songs:

"Summer days are Coming."

"Tell me Roses."

9.35 p.m.—FREDA STEVENS, soprano:

"Les Rameaux" (Faure).

"Elegie" (Massenet).

9.42 p.m.—COLLINGWOOD CITIZENS' BAND: Impromptu:

"The Cathedral."

"Andante—Sonata No. 12" (Beethoven).

9.50 p.m.—News. Announcements.

OUR GREAT THOUGHT:

"I'm no fool myself; I'm forced to wink a good deal, for fear of seeing too much, for a neighbourly man must let himself be cheated a little."

10 p.m.—GOD SAVE THE KING.

3AR, MELBOURNE

Sunday.

MORNING CHURCH SERVICE.

11.0 a.m.—Morning Service from Cairns Memorial Church, East Melbourne.

AFTERNOON ENTERTAINMENT SESSION.

3.0 p.m.—Miss Minnie Marks, Soprano:

"Open Thy Blue Eyes" (Massenet).

"Wait" (d'Hardelot).

3.7 p.m.—Mr. Les Shanley, Tenor:

"How Many Hired Servants" (Sullivan).

"The Requiem" (Homer).

3.14 p.m.—Miss Jean Tunnecliff, Contralto:

"Abide With Me" (Liddle).

"Coming Home" (Willeby).

3.21 p.m.—Miss Emilie Davies, Piano:

"Romance" (Schumann).

"Hungarian Study" (MacDowell).

3.26 p.m.—Miss Ivy Gross, Soprano:

"Come Unto Him" (Handel).

"I Know That My Redeemer Liveth" (Handel).

3.33 p.m.—Mr. Will Davies, Bass:

"Do We Believe" (St. Quenton).

"The Watchman" (Squire).

3.40 p.m.—Mr. Hamilton Bateman, Violin:

"Ave Maria" (Schubert).

"Hejre Kati" (Hubay).

3.47 p.m.—Miss Minnie Marks, Soprano:

"The Cradle" (Schubert).

"Don't You Mind the Sorrows" (Cowles).

3.53 p.m.—Mr. Les Shanley, Tenor:

"Pleading" (Elgar).

"The Curtain Falls" (d'Hardelot).

4.0 p.m.—Miss Jean Tunnecliff, Contralto:

"O Dry Those Tears" (Riego).

"Down Here" (Brahe).

4.7 p.m.—Miss Emilie Davies, Piano:

"Romance" (Sibelius).

4.12 p.m.—Miss Ivy Gross, Soprano:

"Like as the Heart Desireth" (Allitsen).

"Teach Me to Pray" (Jessie Everett).

4.19 p.m.—Mr. Will Davies, Bass:

"Hear Me, Ye Winds and Waves" (Handel).

"I Will Not Grieve" (Schumann).

4.26 p.m.—Mr. Hamilton Bateman, Violin:

"Gipsy Airs" (Sarasate).

"Minuet in G" (Beethoven).

4.33 p.m.—God Save the King.

CHILDREN'S SESSION.

6.0 p.m.—Special Children's Hour.

EVENING CHURCH SERVICE.

7.0 p.m.—Evening Service from the Independent Church, Collins Street, Melbourne. Minister, Rev. J. Ernest James.

EVENING CONCERT SESSION.

8.30 p.m.—Brunswick Panatlope Entertainment: Broadcast from Panatlope House, 252 Collins Street, Melbourne (by exclusive permission of Wills and Paton, Ltd.), under the direction of the Panatlope Committee.

8.31 p.m.—Jacques Jacobs' Ensemble:

Indian Love Lyric, "Kashmiri Song" (Woodforde-Finden), by request.

8.34 p.m.—Mr. Percy Grainger, Australian Pianist:

"Prelude in A Flat Major, Op. 28, No. 17" (Chopin).

8.38 p.m.—Miss Florence Easton, Soprano:

Violin Obligato by Mr. Fredric Fradkin, together with Harp and Organ Accompaniment:

"Ave Maria" (Gounod).

8.42 p.m.—Madame Sorano, Celesta Solo:

"Pirouette" (Finck).

8.45 p.m.—Signor Riccardo Stracciari, Baritone:

"Ideale" (Tosti).

8.49 p.m.—Trinity Church Chimes of New York:

"Nearer, My God, to Thee" (Mason).

8.52 p.m.—Mr. Frank Munn, Tenor:

"When Irish Eyes Are Smiling" (Olcott), by request.

8.55 p.m.—Dr. G. W. Pattmann, Grand Organ:

Andantino, "Song of the Soul" (Lemare).

8.59 p.m.—The Salisbury Singers:

"Come, Let Us Join the Roundelay" (Beale).

9.2 p.m.—Celeste Octet. (Conductor, Mr. J. H. Squire):

"Salut d'amour" (Sir Edward Elgar).

9.5 p.m.—Mr. Allen McQuhae, Tenor:

"The Sound of the Irish Bells" (Trent), by request.

9.8 p.m.—Jacques Jacobs' Ensemble:

Indian Love Lyric, "Till I Wake" (Woodforde-Finden).

9.11 p.m.—Mr. Percy Grainger, Australian Pianist:

(a) "Etude in C Minor," Op. 25, No. 12 (Chopin).

(b) "Waltz in A Flat Major" (Brahms).

9.15 p.m.—Miss Florence Easton, Soprano:

"O Divine Redeemer" (Gounod), by request.

9.19 p.m.—Madame Sorano, Celesta Solo:

"Humoreske" (Dvorak).

9.22 p.m.—Signor Riccardo Stracciari, Baritone:

"Elegie" (Massenet), by request.

9.26 p.m.—Trinity Chimes of New York:

"Lead, Kindly Light" (Dr. J. B. Dykes).

9.29 p.m.—Mr. Frank Munn, Tenor:

"Somewhere a Voice is Calling" (Tate).

9.32 p.m.—Dr. W. G. Pattmann, Grand Organ:

"In a Monastery Garden" (Ketelbey), by request.

9.36 p.m.—The Salisbury Singers:

"Drink to Me Only With Thine Eyes" (Ar. Dr. Ivey).

9.39 p.m.—Celeste Octet. (Conductor, Mr. J. H. Squire):

"Barcarolle," from "The Tales of Hoffmann" (Offenbach).

9.42 p.m.—Mr. Allen McQuhae, Tenor:

"Come to the Fair" (Martin), by request.

9.45 p.m.—Walter B. Rogers' Brass Band: Overture to "William Tell" (Rossini), in four parts.

9.57 p.m.—The "Age" News Bulletin, exclusive to 3AR.

9.58 p.m.—Final Weather Forecast.

9.59 p.m.—Our Australian Good Night Quote is from the poem, "Ave Australia," by A. G. Stephens.

10.0 p.m.—God Save the King.

4QG, BRISBANE.

Sunday.

MORNING SESSION.

The complete Morning Service will be relayed from the Baptist City Tabernacle.

11 a.m.—From the City Tabernacle: Morning Service.

12.30 p.m.—Close down.

AFTERNOON SESSION.

The Concert by the Excelsior Band will be relayed from the Botanic Gardens.

3.15 p.m.—From the Botanic Gardens: Band Concert.

4.30 p.m.—Close down.

NIGHT SESSION.

The complete Evening Service will be relayed from the City Tabernacle.

7 p.m.—From the City Tabernacle: Children's Service.

7.30 p.m.—Evening Service.

At the conclusion of the Church Service the Concert by the Brisbane Municipal Concert Band will be relayed from Wickham Park.

8.30 p.m.—From Wickham Park: Band Concert.

5CL, ADELAIDE

Sunday.

MORNING SESSION.

10.45 a.m.—Carillon of Bells from St. Andrew's Church, Walkerville.

11 a.m.—G.P.O. Chimes.

11.1 a.m.—Relay from St. Peter's Cathedral Divine Service.

12.10 p.m.—(Approx.) Close down.

AFTERNOON SESSION.

3 p.m.—G.P.O. Chimes.

3.1 p.m.—P.S.A. Concert to be arranged.

4 p.m.—G.P.O. Chimes and close down.

EVENING SESSION.

6.30 p.m.—G.P.O. Chimes.

6.31 p.m.—Sunday Story for children.

6.50 p.m.—Running time of the East West Express.

6.51 p.m.—Carillon of Bells from St. Andrew's Church, Walkerville.

7 p.m.—G.P.O. Chimes.

7.1 p.m.—Relay from Pirie Street Methodist Church, Divine Service.

8.10 p.m.—(Approx.) Sacred Concert from Pirie Street Methodist Church.

9 p.m.—Relay from Henley Beach Rotunda band selections by Holden's Silver Band.

9.30 p.m.—Talk by Mr. P. H. Nicholls.

9.50 p.m.—Monday's programme and Meteorological information.

9.55 p.m.—National Anthem and close down.

6WF, PERTH.

Sunday.

MORNING SESSION.

10.45 a.m.—Tune in.

11 a.m.—Morning Church Service.

12.15 p.m.—Close down.

3.30 p.m.—Tune in.

FROM THE STUDIO.

Musical programme, including vocal and instrumental artists.

4.30 p.m.—Close down.

Harringtons

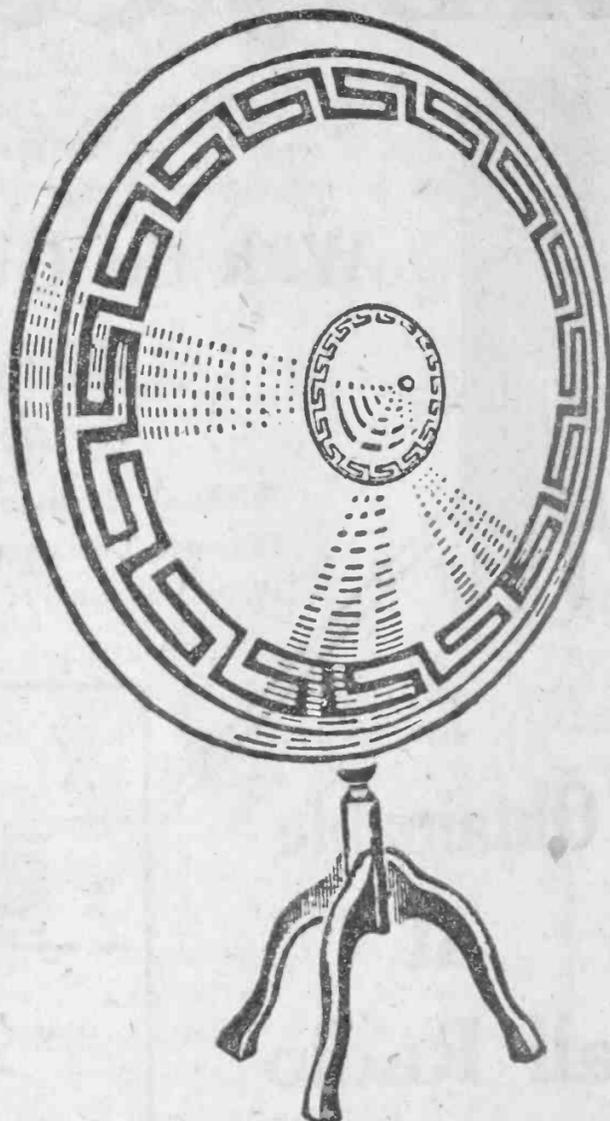
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EVENING SESSION.

7 p.m.—Tune in.

THE EVENING TRANSMISSION IS BROADCAST ON 104.5 METRES AS WELL AS THE USUAL WAVE LENGTH.

7.5 p.m.—Children's Bedtime Stories.

7.30 p.m.—Evening Church Service.

8.45 p.m.—A RELAY.

Concert by the Perth City Band (conducted by Mr. L. M. Price), and items by vocal assisting artists.

10.5 p.m.—Close down.

104.5 METRE TRANSMISSION.

Simultaneous broadcast on 104.5 Metres of Programme given on 1250 Metres commencing at 7 p.m.

Monday, Jan. 9

2FC, SYDNEY

EARLY MORNING SESSION.

7 a.m. to 8 a.m.

MORNING SESSION.

10 a.m.—"Big Ben" and announcements.

10.5 a.m.—Studio music.

10.15 a.m.—"Sydney Morning Herald" news service.

10.30 a.m.—Studio music.

10.35 a.m.—Last minute sporting information by the 2FC Racing Commissioner.

10.45 a.m.—Studio music.

11 a.m.—"Big Ben." Studio music.

11.5 a.m.—A.P.A. and Reuter's Cable Services.

11.15 a.m.—A reading.

11.30 a.m.—From the Sydney Cricket Ground, Description of Play and progress scores throughout the match, N.S.W. versus South Australia.

MIDDAY SESSION.

12 noon.—"Big Ben" and announcements.

12.2 p.m.—Stock Exchange, first call.

12.3 p.m.—Weather forecast, rainfall.

12.5 p.m.—Studio music.

12.10 p.m.—Summary of "Sydney Morning Herald" news service.

12.25 p.m.—Rugby wireless news.

12.30 p.m.—Studio music.

12.35 p.m.—May Craven, mezzo: "The Sleepy Song" (Katherine Barry).

12.40 p.m.—Studio music.

12.55 p.m.—Doris Hestelow, soprano: "Morning" (Speaks).

1 p.m.—"Big Ben." Weather intelligence.

1.3 p.m.—"Evening News" midday news service.

Producers' Distributing Society's Report.

1.20 p.m.—Studio music.

1.28 p.m.—Stock Exchange, second call.

1.30 p.m.—May Craven, mezzo:

"Rose softly blooming" (Spohr).

1.34 p.m.—Studio music.

1.55 p.m.—Doris Hestelow, soprano:

"Betty's Garden" (Sanderson).

2 p.m.—"Big Ben."

AFTERNOON SESSION.

3 p.m.—"Big Ben."

From the Sydney Cricket Ground: Continuation of the description of the match, N.S.W. versus South Australia, with progress scores at intervals throughout the afternoon.

3.15 p.m.—From the Studio, Joyce Gillespie, soprano: "Dolorosa."

3.19 p.m.—From the Lyric Wintergarden Theatre, Sydney:

Jimmy Elkin's Jazz Band.

3.30 p.m.—From the Sydney Cricket Ground: Progress Scores and Descriptions of Play.

3.40 p.m.—From the Studio:

Doris Crossman, contralto.

3.44 p.m.—From the Lyric Wintergarden Theatre, Sydney:

Jimmy Elkin's Jazz Band.

3.55 p.m.—From the Studio, Doris Orr, soprano: "Farewell my love, farewell" (Franz Lehar).

4 p.m.—"Big Ben." From the Sydney Cricket Ground: Progress Scores and Description of Play.

4.15 p.m.—From the Studio:

Ann Mills, mezzo.

4.20 p.m.—Joyce Gillespie, soprano:

"Two Troubled Eyes" (Elliott).

4.24 p.m.—From the Lyric Wintergarden Theatre:

Jimmy Elkin's Jazz Band.

4.35 p.m.—From the Studio:

Doris Crossman, contralto.

4.38 p.m.—From the Sydney Cricket Ground:

Progress Scores and Description of Play.

4.45 p.m.—From the Studio:

Stock Exchange, third call.

4.47 p.m.—Doris Orr, soprano:

"Come to the Fair" (Easthope Martin).

4.50 p.m.—Ann Mills, mezzo.

4.54 p.m.—FROM THE SYDNEY CRICKET GROUND: Progress Scores and Description of play until 5.40 p.m.

EARLY EVENING SESSION.

5.40 p.m.—The Chimes of 2FC.

5.45 p.m.—The "Hello Man" Talks to the Children.

6 p.m.—Cricket scores.

6.30 p.m.—Storytime for the Young Folk.

6.40 p.m.—Dinner Music.

7 p.m.—"Big Ben." Late Sporting news.

7.10 p.m.—Dalgety's Market reports (Wool, Wheat and Stock).

7.18 p.m.—Fruit and Vegetable Markets.

7.20 p.m.—Weather and Shipping news.

7.26 p.m.—"Evening News" late news service.

NIGHT SESSION.

7.40 p.m.—Programme announcements.

7.45 p.m.—Flotsam and Jetsam.

8 p.m.—"Big Ben." The 2FC Studio Orchestra, conducted by Mr. Horace Keats.

8.15 p.m.—Russell Rix, baritone.

8.23 p.m.—Jules Van Der Klei, 'Cello solos.

8.30 p.m.—Thrilling Tales of the Solomon Islands, told by Mr. Sinclair Mackay, who has just returned to Sydney after an eventful visit to Malaita, during the recent uprising. His subject to-night is: "Weird Customs of Malaita."

8.43 p.m.—The 2FC Studio Orchestra, conducted by Mr. Horace Keats.

8.50 p.m.—Alice Prowse, contralto.

8.54 p.m.—Frank Leonard, English Entertainer

9 p.m.—"Big Ben." Late Weather forecast.

9.1 p.m.—The 2FC Studio Orchestra, conducted by Mr. Horace Keats.

9.12 p.m.—Russell Rix, baritone.

9.16 p.m.—Jules Van Der Klei, 'Cello solos.

9.23 p.m.—Alice Prowse, contralto.

9.27 p.m.—The 2FC Studio Orchestra.

9.38 p.m.—Frank Leonard, English Entertainer.

9.45 p.m.—Russell Rix, baritone.

9.50 p.m.—The 2FC Studio Orchestra. Conductor, Mr. Horace Keats.

10 p.m.—"Big Ben." Peter Brooks, popular items.

10.6 p.m.—Alice Prowse, contralto.

10.14 p.m.—The 2FC Studio Orchestra. Conductor, Mr. Horace Keats.

10.20 p.m.—Peter Brooks, popular items.

10.27 p.m.—Dance Music, interspersed with vocal choruses by Len Maurice, until 10.57.

10.30 p.m.—Weather forecast.

10.57 p.m.—Late news and announcements.

11 p.m.—"Big Ben." National Anthem.

Close down.

2BL, SYDNEY

Monday.

EARLY MORNING SESSION.

8 a.m. to 9 a.m.

MORNING SESSION.

10.30 a.m.—G.P.O. Clock and chimes.

Musical programme from studio.

10.40 a.m.—News from the "Daily Telegraph" Pictorial.

10.50 a.m.—Musical programme from the studio.

11 a.m.—G.P.O. Clock and chimes.

Women's Session. Talk on "Tennis" by Miss Varley, Broadcasters Women's Sports Authority.

Social Notes—Replies to correspondents by Mrs. Jordan. Talk on "Preserves" by Mrs. Jordan.

12 noon.—G.P.O. Clock and chimes.

Special Ocean forecast and weather report.

12.3 p.m.—Musical programme from the studio

12.8 p.m.—Information—Mails, Shipping, and port directory.

12.12 p.m.—Boats in call by wireless.

12.14 p.m.—Fruit Market report.

12.16 p.m.—Vegetable Market report.

12.18 p.m.—Dairy Farm and produce market report.

12.22 p.m.—Forage Market report.

12.24 p.m.—Fish Market report.

12.26 p.m.—Rabbit Market report.

12.28 p.m.—Stock Exchange report.

12.30 p.m.—H.M.V. Gramophone recital.

1.27 p.m.—Stock Exchange report.

1.30 p.m.—G.P.O. Clock and chimes.

Talk to children and special entertainment for Children in Hospital.

2 p.m.—P.P.O. Clock and chimes.

Close down.

AFTERNOON SESSION.

Racing information broadcast immediately after each race by courtesy of the "Sun."

3 p.m.—G.P.O. Clock and chimes.

Musical programme from studio.

3.10 p.m.—News from the "Sun."

3.20 p.m.—Pianoforte recital from studio.

3.30 p.m.—News from the "Sun."

3.40 p.m.—Dungowan Dance Band, broadcast from the Dungowan Cabaret.

4 p.m.—G.P.O. Clock and chimes.

News from the "Sun."

4.8 p.m.—Musical programme from the studio

4.15 p.m.—Talk on Women of the Orient of all ages.

4.30 p.m.—Dungowan Dance Band.

4.50 p.m.—News from the "Sun."

4.55 p.m.—Resume of nights programme.

4.57 p.m.—Racing resume.

4.59 p.m.—Special Ocean Forecast.

5 p.m.—G.P.O. Clock and chimes, Close down.

EARLY EVENING SESSION.

5.45 p.m.—G.P.O. Clock and chimes.

Children's Session.

SPECIAL COUNTRY SESSION.

6.30 p.m.—G.P.O. Clock and chimes.

Australian Mercantile Land and Finance Co's report.

Weather report and forecast by courtesy of Govt. Meteorologist.

Producers Distributing Society's Fruit and Vegetable Market report.

Stock Exchange reports.

Grain and fodder report ("Sun.")

Dairy Produce report ("Sun.")

Eucharistic Conference Notes.

6.45 p.m.—Country news from the "Sun."

7 p.m.—G.P.O. Clock and chimes.

Dinner Music.

7.30 p.m.—Talk on "The Motor Car" by Mr. Martin.

8 p.m.—G.P.O. Clock and chimes.

Broadcasters Topical Chorus.

An hour's Programme presented by Lindeman's Wines.

8.3 p.m.—Sid Owen's Banjo Band.

8.13 p.m.—Mr. Cecil Chaseling, baritone.

8.20 p.m.—Mr. Frank Ryan, entertainer.

8.27 p.m.—Miss Ada Althouse, soprano.

8.34 p.m.—Mr. Warwick McKenzie, violinist.

8.41 p.m.—Mr. Dick Matthews, comedian.

8.48 p.m.—Miss Maise Barnett, contralto.

8.55 p.m.—Talk on Wines.

9 p.m.—G.P.O. Clock and chimes.

9.1 p.m.—Description by Mr. Walter E. Withrow of the boxing contest at the Stadium.

9.45 p.m.—Sid Owen's Banjo Band.

9.55 p.m.—Mr. Cecil Chaseling.

10.2 p.m.—Mr. Frank Ryan.

10.9 p.m.—Miss Ada Althouse.

10.16 p.m.—Mr. Warwick McKenzie.

10.23 p.m.—Miss Maise Barnett.

10.30 p.m.—Mr. Dick Matthews.

10.37 p.m.—Resume of following day's programme. Weather report and forecast by courtesy of Mr. C. J. Mares, Govt. Meteorologist.

10.40 p.m.—Romano's Dance Orchestra under the direction of Mr. Merv. Lyons broadcast from Romano's. During intervals between dances "Sun" news will be broadcast.
11.30 p.m.—G.P.O. Clock and chimes.
National Anthem.

2GB, SYDNEY

Monday.

MORNING SESSION.

10 a.m.—Music.
10.10 a.m.—"Good Cheer" Talk.
10.20 a.m.—Music.
10.30 a.m.—Happiness Talk.
10.40 a.m.—Women's Session.
11 a.m.—Close down.

AFTERNOON SESSION.

2 p.m.—Music.
2.7 p.m.—Address.
2.22 p.m.—Music.
2.37 p.m.—Address.
3 p.m.—Close down.
5.30 p.m.—Children's Session.

EVENING SESSION.

6.30 p.m.—Music.
7 p.m.—Announcements; News; Market reports, etc.
7.20 p.m.—Music.
7.30 p.m.—Address.
7.45 p.m.—Music.
8 p.m.—Instrumental Trio:
DAN SCULLY, MURIELLE LANG,
DOROTHY SPARK.
8.15 p.m.—Address.
8.30 p.m.—Songs by CLEMENT HOSKING.
8.37 p.m.—Cello Solos by MURIELLE LANG
8.47 p.m.—Songs by MISS K. M. DANIELS.
8.54 p.m.—Pianoforte Solos by VICTOR CROUGH.
9.3 p.m.—Songs by CLEMENT HOSKING.
9.10 p.m.—Talk.
9.30 p.m.—Instrumental Trio:
DAN SCULLY, MURIELLE LANG,
DOROTHY SPARK.
9.37 p.m.—Serial Story.
9.47 p.m.—Songs by MISS K. M. DANIELS.
9.54 p.m.—Good-Night Talk.
10 p.m.—Close down.

2 UW, SYDNEY

Monday.

9 a.m.—News, shipping, mails and studio items.
9.45 a.m.—Women's Session, conducted by Aunt Flo.
10 a.m.—Close down.
12.15 p.m.—Special employees' Luncheon Session.
12.45 p.m.—Close down.
7 p.m.—Studio items.
7.2 p.m.—Where to Go.
7.10 p.m.—Studio items.
7.30 p.m.—Pianoforte solo, Mrs. A. Dalton:
"Morning Mood."
7.37 p.m.—Mrs. Pearce:
Violin solo, Selected.
7.44 p.m.—Studio item.
7.50 p.m.—Miss Constance Cooper, soprano:
"Robin Adair."
7.57 p.m.—Mrs. Pearce:
Violin solo, Selected.
8 p.m.—Studio chimes.
8.2 p.m.—Mrs. Dalton:
Pianoforte solo, "Spring Song" (Mendelssohn).
8.9 p.m.—Dance music.
8.20 p.m.—Miss Constance Cooper, soprano:
"Open thy blue eyes."
8.27 p.m.—Studio item.
8.31 p.m.—News items.
8.38 p.m.—Mrs. A. Dalton:
Pianoforte solo, Selected.
8.45 p.m.—Resume of forward programme.
8.50 p.m.—Studio items.
9 p.m.—Weather forecast.
9.5 p.m.—Dance music.
9.30 p.m.—Close down.

3LO, MELBOURNE.

Monday

MORNING SESSION.

7.15 a.m.—"Herald" morning session.
8.15 a.m.—Close down.

MIDDAY SESSION.

12 noon.—Melbourne Observatory time signal.
12.1 p.m.—British official wireless news from Rugby. Reuter's and the Australian Press Association Cables. "Argus" news service.
12.20 p.m.—JOE ARONSON AND HIS SYNCOPATING-SYMPHONISTS
12.29 p.m.—LEO FISHER AND MRS. FISHER, tenor and soprano:
Solo, Mrs. Fisher, "Nightingale and the Rose" (J. Thompson).
Solo, Leo Fisher, "A Spirit Flower" (Tipton).
Duet, "Love Divine"—Daughter of Jairus.
12.39 p.m.—Stock Exchange information.
12.42 p.m.—JOE ARONSON AND HIS SYNCOPATING-SYMPHONISTS
12.51 p.m.—LYNCH BELLRINGERS:
"The Rosary."
12.55 p.m.—JOE ARONSON AND HIS SYNCOPATING-SYMPHONISTS.
1 p.m.—Melbourne Observatory time signal.
"Are you giving your children their chance—not pampering and spoiling them, but seeing that they get a good education; teaching them to be self-reliant, helpful, thoughtful for others, and to enjoy the simple pleasures of out-door games, sunshine, fresh air and water."
1.1 p.m.—JOE ARONSON AND HIS SYNCOPATING-SYMPHONISTS
1.14 p.m.—Meteorological information. Weather forecast and rainfall for Victoria, Tasmania, South Australia, and New South Wales. Ocean forecast. River reports.
1.20 p.m.—LYNCH BELLRINGERS on the Marimba Resonators:
"Come Back to Erin."
"I Want to Be Happy."
1.24 p.m.—JOE ARONSON AND HIS SYNCOPATING-SYMPHONISTS:
1.38 p.m.—LEO FISHER, Tenor:
"Santus" (Gounod).
"Mary" (Richardson).
1.40 p.m.—LYNCH BELLRINGERS, on the Glassophones:
"Last Rose of Summer."
"Swanee River."
1.45 p.m.—JOE ARONSON AND HIS SYNCOPATING-SYMPHONISTS:
2 p.m.—Close down.
AFTERNOON SESSION.
3 p.m.—Melbourne Observatory time signal.
3.1 p.m.—METROPOLITAN FIRE BRIGADE BAND:
March, "Death or Glory."
Foxtrot, "The More we are Together."
3.10 p.m.—MRS. DOROTHY SILK:
"Home Crafts."
3.25 p.m.—JESSIE IRWIN, Soprano:
"Oh, Moon Upon the Water" (Cadman).
"Gossiping" (Dodge).
3.32 p.m.—METROPOLITAN FIRE BRIGADE BAND:
Overture, "Prince and Peasant."
Selection, "Lucia di Lammermoor."
March, "King Cotton."
"Selected."
4.4 p.m.—AGNES FORTUNE, Piano:
"Anitra's Dance" (Grieg).
4.14 p.m.—METROPOLITAN FIRE BRIGADE BAND:
Trombone Solo, "The Jigshaw."
"Chanson sans Paroles."
4.24 p.m.—JESSIE IRWIN, soprano:
"Love's Echo." (Newton).
"The Cuckoo" (Lehmann).
4.31 p.m.—METROPOLITAN FIRE BRIGADE BAND:
Selection, "The Yeoman of the Guard."
4.45 p.m.—"Herald" news service.
5 p.m.—Acceptances for Wednesday's Races at Warrnambool.
5.5 p.m.—Close down.

EVENING SESSION.

CHILDREN'S HOUR.

6 p.m.—Answers to letters and Birthday greetings by "LITTLE MISS KOOKABURRA."
6.20 p.m.—STUDIO QUARTETTE:
Suite Fantastique, "In Fairyland," Part I (Kosmer).
6.27 p.m.—CAPTAIN DONALD MacLEAN:
"The Pirates are Still Plundering."
6.42 p.m.—STUDIO QUARTETTE:
"In Fairyland," Part II (Kosmer).
"The Water Sprites."
6.50 p.m.—"LITTLE MISS KOOKABURRA,"
"The Plucky Patrol."
7 p.m.—Official report of Newmarket Stock Sales by the Associated Stock and Station Agents, Bourke Street, Melbourne. Number of sheep and cattle drawn for week's sales.
7.5 p.m.—"Herald" news service.
Weather synopsis. Shipping movements.
7.12 p.m.—Stock Exchange information.
7.17 p.m.—Fish market reports by J. R. Borrett Ltd. Rabbit prices.
7.19 p.m.—River reports.
7.21 p.m.—Market reports by the Victorian Producers' Co-operative Co. Ltd. Poultry, Grain, Hay, Straw, Jute, Dairy Produce, Potatoes and Onions. Market reports of Fruit by the Victorian Fruiterers' Association. Retail prices. Wholesale prices of Fruit by the Wholesale Fruit Merchants' Association. Citrus fruits.

NIGHT SESSION.

7.30 p.m.—Under the auspices of the Boy Scouts' Association of Australia—
COMMISSIONER DR. C. GORDON McADAM will speak on:
"New Year Resolutions for Scouts."
7.45 p.m.—Under the auspices of the Department of Agriculture—
J. M. WARD, Superintendent of Horticulture, will speak on—
"Handling the Fruit Crop."
8 p.m.—R. CHALMERS, American and European Athletic Coach, will speak on—
"Hints on High Jump and Broad Jump."
8.15 p.m.—BRUNSWICK CITY BAND:
Selection, "The Mikado."
8.25 p.m.—LEO FISHER and MRS. FISHER, tenor and soprano:
Solo, Mrs. Fisher, "June's Holden Song" (H. Dale).
Solo, Leo Fisher, "My Queen" (Blumenthal).
Duet, "Land of Long Ago" (Ray).
8.35 p.m.—LYNCH BELLRINGERS on the Organ Chimes:
"Ah Che La Morte."
"Killarney."
8.40 p.m.—AGNES FORTUNE, piano:
Selected.
And now we have much pleasure in introducing to you the original "Sentimental Bloke."
8.45 p.m.—WALTER CORNOCK, comedian:
"With a Tear and a Laugh."
"Tell England, ye who pass this monument; We died for her, and here we rest content."
8.55 p.m.—J. HOWLETT ROSS:
"The Evacuation of Gallipoli."
9.10 p.m.—BRUNSWICK CITY BAND:
March, "Heroes of Gallipoli."
Song March, "Till the Boys Come Home."
9.17 p.m.—SOUTHERN CHORAL SOCIETY, MALE CHORUS:
"A Long, Long Trail."
"Australia Will be There."
9.24 p.m.—BRUNSWICK CITY BAND:
Selection, "Echoes of the Ocean."
9.30 p.m.—GRAHAM BURGIN, baritone:
"Heroes of the Dardanelles."
"Trooper Johnny Ludlow."
9.37 p.m.—THEO FARALL, Cornet.
"The Trumpeter."
9.44 p.m.—SOUTHERN CHORAL SOCIETY, MALE CHORUS, and BRUNSWICK CITY BAND:
"Keep the Home Fires Burning."
"Tipperary."
"Pack up Your Troubles."
9.51 p.m.—BRUNSWICK CITY BAND:
Fantasia, "The Last Post."
10 p.m.—"Argus" news service. Girl Guide News, Meteorological information. British Official wireless news from Rugby.

- 10.10 p.m.—BRUNSWICK CITY BAND: Waltz, "Heart of Gold."
- 10.17 p.m.—RITA HILTON, Soubrette: "Dirty Face" (by request). "She's Just what the Doctor Ordered."
- 10.24 p.m.—LYNCH BELLRINGERS: Intermezzo from "Cavalleria Rusticana."
- 10.29 p.m.—BRUNSWICK CITY BAND: Intermezzo, "A Night in June." March, "The King's Guard."
- 10.35 p.m.—RITA HILTON, Soubrette: "He's the Last Word" (Donaldson). "The Difference" (Hardie and Down).
- 10.42 p.m.—Announcements. Island steamer movements.
- 10.46 p.m.—JOE ARONSON AND HIS SYN-COPATING-SYMPHONISTS: "Along a Moonlit Way" (Weeks). "Just Once Again" (Ash). "Charmaine" (Rapee). "Someday Sweetheart" (Spikes). "Yah Gonna be Home To-night" (Dubin).
- 11 p.m.—OUR GREAT THOUGHT: "Custom may lead a man into many errors; but it justifies none." —(Fielding).
- 11.1 p.m.—JOE ARONSON AND HIS SYN-COPATING-SYMPHONISTS.
- 11.40 p.m.—GOD SAVE THE KING.

3AR, MELBOURNE

Monday.

MORNING NEWS SESSION.

11 a.m. to 12 noon.

MIDDAY CONCERT SESSION.

12.1 p.m.—Transmitted from Panatrophe House, 252 Collins Street (by exclusive permission of Wills and Paton, Ltd.), on the Brunswick Panatrophe.

MATINEE SESSION.

ORCHESTRAL CONCERT.

- 2.30 p.m.—Newmarket Stock sales. Special "Snap" progress report direct from the yards, by courtesy of John MacNamara and Co.).
- 2.31 p.m.—Studio Orchestra.
- 2.45 p.m.—Miss Alice Mallon, soprano. "L'Addio," from the Opera, "La Boheme" (Puccini). "The Second Minuet" (Besly).
- 2.53 p.m.—Studio Orchestra.
- 3.10 p.m.—Miss Ethel Brearley, piano: "First Movement of the Moonlight Sonata" (Bethoven), by request.
- 3.14 p.m.—Studio Orchestra.
- 3.30 p.m.—Miss Alice Mallon, soprano. "Ave Maria" (Bach-Gounod). "The Lass with the Delicate Air" (Arne).
- 3.38 p.m.—Studio Orchestra.
- 3.52 p.m.—Mr. Ralph Thompson, baritone: "Love is an Ocean" (Lohr). "The Persian Love Song" (Rubinstein).
- 4 p.m.—G.P.O. Clock says "Four."
- 4.1 p.m.—Second Weather forecast.
- 4.3 p.m.—Announcements.
- 4.6 p.m.—Studio Orchestra.
- 4.21 p.m.—Mr. Herbert Pettifer, violin: "L'escapollette" (Barnes).
- 4.25 p.m.—Studio Orchestra.
- 4.37 p.m.—Mr. Ralph Thompson, baritone: "Time was I Roved" (Lohr). "In Sheltered Vale" (German).
- 4.45 p.m.—Studio Orchestra.
- 4.50 p.m.—To-night's entertainment.
- 4.55 p.m.—Special Racing report; Acceptances and Barrier positions for Aspendale Races, by "Daybreak."
- 4.59 p.m.—Caulfield Races. Result of Koor-nang Welter, 1 mile.
- 5 p.m.—G.P.O. Clock says "Five." Close down.

CHILDREN'S SESSION.

6.30 p.m.—The Farmyard Five. EVENING SESSION.

EVERYBODY'S ENTERTAINMENT.

7.30 p.m.—Amateur Sport. Special topical Sporting talk, arranged by Mr. H. R. Weir, Hon. Sec. of the V.A.A.A.

- 7.45 p.m.—Mr. Horace Jno. Book, Secretary of the National Safety Campaign will continue his interesting series of popular addresses.
- 8 p.m.—G.P.O. Clock says "Eight."
- 8.1 p.m.—Instrumental Trio: Intermezzo: Suite, "Dansante" (Rosse).
- 8.12 p.m.—Mr. Sydney Holmes, baritone: "The Bandolero" (Stuart). "A Spirit Flower" (Campbell-Tipton).
- 8.20 p.m.—Mr. J. Harcourt-Bailey, entertainer. Cockney Character Sketch: "Me and Jim" (Anon.). "The Miner's Story" (Clifford Essex).
- 8.29 p.m.—Miss Cammie Barton, "The Ukulele Lady," Popular hits of the moment to her own quaint accompaniment.
- 8.36 p.m.—Miss Violet Woolcock, Mus. Bac.: Violin, "Valse Caprice" (Zsolt).
- 8.43 p.m.—Miss Clare Davis, contralto: "Hymn to Light" (Ireland). "The Joy of a Rose" (Tarbox).
- 8.51 p.m.—Mr. Con. Barry, entertainer: Return (by way of Radio) of one of our most versatile platform entertainers, in his own original sketches.
- 8.59 p.m.—Instrumental Trio: "Prelude to Cyrano" (Walter Damrosch). "Minuet" (Schubert). "Romance" (Rubenstein).
- 9.11 p.m.—Mr. J. Harcourt-Bailey, entertainer. "Sheriff or Man" (Crossley). "A Gentleman of France" (Walsh).
- 9.20 p.m.—Mr. William Mc Redmond, tenor: "Bid Me to Love" (Barnard). "I'll Sing Thee Songs of Araby" (Clay), by request.
- 9.28 p.m.—Mr. Alfred Firman: Rapid reviews of Books of Yesterday, To-day and Tomorrow, by the popular chief librarian of Mullens.
- 9.38 p.m.—Miss Cammie Barton, The Ukulele Lady: More snappy and catchy songs of the day.
- 9.46 p.m.—Miss Elizabeth Lester, 'Cello: "Abenlied" (Schumann), by request. "Le Baiser" (Goring Thomas).
- 9.54 p.m.—Mr. Sydney Holmes, baritone: "The Crown of the Year" (Easthope Martin). "The Bells of San Marie" (John Ireland).
- 10 p.m.—G.P.O. Clock says "Ten."
- 10.1 p.m.—Semi-final Weather forecast, especially for our country listeners.
- 10.4 p.m.—"Yes, Australia! Know Australia!" Vivid and interesting news of our own country. This one deals with Camperdown. Specially prepared for 3AR by the Editor of the "Camperdown Chronicle."
- 10.14 p.m.—Miss Clare Davis, contralto: "Second Minuet" (Maurice Besley). "A Farewell" (Liddle).
- 10.22 p.m.—Instrumental Trio: "Tome Jones's Dances" (Ed. German).
- 10.34 p.m.—Mr. Con. Barry, entertainer: More inimitable sketches by a popular entertainer.
- 10.42 p.m.—Mr. William Mc Redmond, tenor: "Thora" (Stephen Adams), by request. "Roses" (Stephen Adams), by request.
- 10.50 p.m.—The "Age" news bulletin, exclusive to 3AR.
- 10.55 p.m.—To-morrow's Entertainment.
- 10.58 p.m.—Final Weather forecast.
- 10.59 p.m.—Our Australian Good-Night Quote is from the poem, "Outposts," by E. J. Brady.
- 11 p.m.—G.P.O. Clock says "Eleven." God Save the King.

4QG, BRISBANE

Monday.

MORNING SESSION.

- 10.30 a.m.—To-day's Social News.
- 10.40 a.m.—Music.
- 10.45 a.m.—"How Your Set Works."
- 11 a.m.—Music.
- 11.10 a.m.—General News.
- 11.20 a.m.—Music.
- 11.30 a.m.—Close down.

MIDDAY SESSION.

- 1 p.m.—Market reports; weather information supplied by the Commonwealth Weather Bureau; news services supplied by "The Daily Mail" and "The Daily Standard."
- 1.20 p.m.—Lunch hour music.
- 1.58 p.m.—Standard time signal.
- 2 p.m.—Close down.

AFTERNOON SESSION.

- 3.30 p.m.—Afternoon tea music.
- 4.15 p.m.—"The Telegraph" news.
- 4.30 p.m.—Close down.

EARLY EVENING SESSION.

- 6 p.m.—News service supplied by "The Daily Standard."
- 6.10 p.m.—Lecturette: Nil.
- 6.30 p.m.—The Children's Session: Stories by "The Sandman."
- 7 p.m.—Market reports; stock reports.
- 7.30 p.m.—Weather news; "Daily Standard" news.
- 7.43 p.m.—Standard time signals.
- 7.45 p.m.—Lecturette: "Care of Pigs in Summer," Mr. E. J. Shelton (Instructor in Pig raising).

NIGHT SESSION.

To-night's entertainment will take the form of a "Mystery Programme." A concert will be broadcast from the Studio, but instead of the artists being named, they will each be announced by a distinguishing letter.

Listeners will be asked to identify the artists and post their attempts to Station 4QG, taking care to mark the envelope "Mystery Programme."

The listener who correctly identifies all the artists will receive a prize of £2/2, and the listener who is second nearest to being correct will receive £1/1.

In the event of more than one person correctly identifying all the artists, all the correct entries will be placed in a box and a drawing made to determine who shall receive first and second prizes.

A MYSTERY PROGRAMME.

Announcer Mr. "A."
Accompanist Mr. "B."
Characteristic: "March of the Mountain Gnomes" (Eilenberg).
The "C" Orchestra (conductor, Mr. "D").

Two Humorous Items:

- (a) "Now Why Do They?"
- (b) "How They Did It—And Do It." Miss "E."

Male quartette, "Calm is the Sea" (Pfael).
The "F" Male Quartette.

Tenor solos:

- (a) "Love's Request" (Reichardt).
- (b) "Little Irish Girl" (Lohr). Mr. "G."

Selection, "Southern Melodies" (Solomon).
The "C" Orchestra.

Organ solo, Selected.

Mr. "B."

Soprano solos:

- (a) "Wait" (D'Hardelot).
- (b) "Your Voice." Miss "H."

Male quartette, "Piccaninnies' Lullaby" (Macy).

The "F" Male Quartette.

Selection, Group of Popular Numbers.
The "C" Orchestra.

9 p.m.—Metropolitan weather forecast.

Contralto solos:

- (a) "Before the Dawn" (Galloway).
- (b) "Break, Break, Break" (Carey). Miss "I."

Organ solo, Selected.

Mr. "B."

Waltz, "Tears of Moy" (Lincke).

The "C" Orchestra.

Baritone solos:

- (a) "Glorious Devon" (German).
- (b) "Sea Fever" (Ireland). Mr. "J."

Male quartette, "Killarney" (Balfe).

The "F" Male Quartette.

Overture, "Castelan" (Schlepegrell).

The "C" Orchestra.

10 p.m.—"The Daily Mail" news; weather news.
Close down.

5CL, ADELAIDE

Monday.

MORNING SESSION.

12 noon to 2 p.m.

AFTERNOON SESSION.

3 p.m.—G.P.O. Chimes.
3.1 p.m.—Musical numbers.
4 p.m.—G.P.O. Chimes.
4.1 p.m.—Musical numbers.
4.57 p.m.—S. C. Ward and Co's Stock Exchange Intelligence.
5 p.m.—G.P.O. Chimes.

EVENING SESSION.

6.30 p.m.—G.P.O. Chimes.
6.31 p.m.—Children's time.
7.20 p.m.—Market reports by A. W. Sandford and Co. A. E. Hall and Co. Dalgety and Co. S. A. Farmers Co-operative Union Taylor and Co. Retail Grocers Association. J. H. Young's special report on the Tomato Market. Interstate Fruit and Produce Market Co. Ltd. S. C. Ward and Co's stock exchange intelligence.
7.30 p.m.—Extracts from "News Bulletin."
7.35 p.m.—Talk by Capt. R. B. Playford.
7.45 p.m.—Talk arranged by Aborigines Protection League (Miss Tomkinson).
7.55 p.m.—Station announcements.
8 p.m.—G.P.O. Chimes.
8.1 p.m.—Original humorous talk by the "Twinkler" (Mr. F. J. Mills).
8.20 p.m.—Overture, Studio Orchestra.
8.30 p.m.—Entertainment by Boys Choir from Christain Brothers College by Brother Duffy.
8.45 p.m.—Selection, Studio Orchestra.
8.55 p.m.—Contralto solo, Mrs. W. Harry.
9 p.m.—G.P.O. Chimes.
9.1 p.m.—Meteorological information.
9.5 p.m.—Dalgety's wheat report.
9.7 p.m.—Station announcements.
9.10 p.m.—Choral selections by Christian Brother Boy's Choir.
9.25 p.m.—Selection, Studio Orchestra.
9.35 p.m.—Contralto solo, Mrs. W. Harry.
9.39 p.m.—Recitation, Geo. Whittle.
9.45 p.m.—Selection, Studio Orchestra.
9.55 p.m.—Recitation, Geo. Whittle.
10 p.m.—G.P.O. Chimes.
10.1 p.m.—"Advertiser" News Service.
10.15 p.m.—Selection, Studio Orchestra.
10.20 p.m.—Recitation, Geo. Whittle.
10.25 p.m.—Selection, Studio Orchestra.
10.30 p.m.—Relay from the Maison de Danse Glenelg—Dance selection.
10.55 p.m.—Tuesday's programme and Meteorological information.
11 p.m.—G.P.O. Chimes and National Anthem.

6WF, PERTH.

Monday.

MIDDAY SESSION.

12.30 p.m.—Tune in.
12.35 p.m.—Markets, News, and Cables.
1 p.m.—Time signal from Perth Observatory.
1.1 p.m.—Weather notes supplied by the Meteorological Bureau of Western Australia.
1.2 p.m.—STUDIO QUINTETTE.
2 p.m.—Close down.
3.30 p.m.—Tune in.
3.35 p.m.—Afternoon Tea Concert relayed from the Carlton Cafe, Hay Street. Vocal interludes from the Studio.
4.30 p.m.—Close down.
6.45 p.m.—Tune in.

THE EVENING TRANSMISSION IS BROADCAST ON 104.5 METRES AS WELL AS THE USUAL WAVE LENGTH.

6.50 p.m.—Stories for the Kiddies by Uncles Henry and Duffy.
7.20 p.m.—Stocks, Markets, News.
7.45 p.m.—Talk.

8 p.m.—Time signal from Perth Observatory.
8.1 p.m.—Weather notes supplied by the Meteorological Bureau of Western Australia.
Station announcements such as alterations to programmes, etc.
8.3 p.m.—BAND NIGHT.
Concert by the R.S.L. Band, conducted by Mr. W. A. Halvorsen, relayed from the R.S.L. Institute.
10 p.m.—Late news items by courtesy of "The Daily News" Newspaper Coy.
Ships within range announcement.
Weather report and forecast.
10.30 p.m.—Close down.

104.5 METRE TRANSMISSION.

Simultaneous broadcast on 104.5 Metres of Programme given on 1250 Metres commencing at 6.45 p.m.

Tuesday, Jan. 10

2FC, SYDNEY

EARLY MORNING SESSION.

7 a.m. to 8 a.m.

MORNING SESSION.

10 a.m.—"Big Ben" and announcements.
10.5 a.m.—Studio music.
10.15 a.m.—"Sydney Morning Herald" news service.
10.30 a.m.—Studio music.
10.35 a.m.—Last minute sporting information by the 2FC. Racing Commissioner.
10.45 a.m.—Studio music.
11 a.m.—"Big Ben." Studio music.
11.5 a.m.—A.P.A. and Reuter's Cable Services.
11.15 a.m.—A talk on home cooking and recipes by Miss Ruth Furst.
11.30 a.m.—From the Sydney Cricket Ground. Progress scores and description of the Match, N.S.W. versus South Australia.
12 noon.—"Big Ben," and announcements.
12.2 p.m.—Stock Exchange, first call.
12.3 p.m.—Official weather forecast rainfall.
12.5 p.m.—Studio music.
12.10 p.m.—Summary of "Sydney Morning Herald" news service. Rugby wireless news.
12.20 p.m.—From the Sydney Cricket Ground: Further scores and descriptions of the Play.
12.30 p.m.—From the Studio: Kathleen Stollery, mezzo.
12.34 p.m.—From the Sydney Cricket Ground: Progress scores and description of play.
12.55 p.m.—Hilda Nelson, mezzo:
"June's First Rose" (Coates). From the Studio.
1 p.m.—"Big Ben." Weather intelligence.
1.3 p.m.—"Evening News" midday news service. Producers' Distributing Society's report.
1.20 p.m.—Studio music.
1.28 p.m.—Stock Exchange, second call.
1.30 p.m.—Kathleen Stollery, mezzo.
1.35 p.m.—Studio music.
1.50 p.m.—Hilda Nelson, mezzo:
"In the silence" (Loughborough).
1.54 p.m.—Studio music.
2 p.m.—"Big Ben." From the Sydney Cricket Ground: Description of Play and Progress scores at intervals.
3 p.m.—"Big Ben." "The Dulcet Three."
Leader, Mr. Ewart Chapple.
3.10 p.m.—Edward Barry, baritone.
"The Moonbeam" (Gounod).
3.14 p.m.—From the Sydney Cricket Ground: Progress Scores and description of play.
3.25 p.m.—From the Studio, Elsie Roling, contralto:
"Orpheus with his Lute" (Sullivan).
3.30 p.m.—The "Dulcet Three" Leader, Mr. Ewart Chapple.
3.40 p.m.—Katherine Beverley, soprano.
"I've been roaming" (Horn).
3.44 p.m.—From the Sydney Cricket Ground: Progress scores and description of play.
3.55 p.m.—From the Studio. Persia Rutter, Soprano.
4 p.m.—"Big Ben," and announcements.
4.4 p.m.—The "Dulcet Three" Leader, Mr. Ewart Chapple.

4.14 p.m.—From the Sydney Cricket Ground: Progress scores and description of Play. N.S.W. versus South Australia.
4.25 p.m.—From the Studio, Elsie Roling, contralto:
"Dear Hands" (Russell).
4.24 p.m.—Katherine Beverley, soprano:
Cabbage Roses (Daisy McGeoch).
4.28 p.m.—The "Dulcet Three."
Leader, Mr. Ewart Chapple.
4.38 p.m.—Persia Rutter, soprano.
4.42 p.m.—Studio music.
4.45 p.m.—Stock Exchange, third call.
4.47 p.m.—From the Sydney Cricket Ground: Progress scores and description of Play u. til 5.40 p.m.

EARLY EVENING SESSION.

5.40 p.m.—The chimes of 2FC.
5.45 p.m.—The "Hello Man" talks to the children.
6 p.m.—Cricket scores.
6.30 p.m.—Story time for the young folk.
6.40 p.m.—Dinner music.
7 p.m.—"Big Ben." Late sporting news.
7.10 p.m.—Dalgety's market reports, wool, wheat and stock.
7.18 p.m.—Fruit and vegetable markets. P.D.S. Poultry markets.
7.22 p.m.—Weather and shipping news.
7.28 p.m.—"Evening News" late news service.

NIGHT SESSION.

7.40 p.m.—Programme announcements.
7.45 p.m.—Radio play Scott Alexander.
8 p.m.—The New South Wales Tramway Band—from the studio;
(a) March: "The Vanished Army" (Alford).
(b) Waltz: "The Chorister's" (Hume).
8.14 p.m.—Signor Ubaldo Russo, Italian Operatic Tenor.
8.19 p.m.—Lionel Lawson, violinist:
"Rondo" (Mazarat-Kreisler).
8.25 p.m.—Miss Goodie Reeve will continue her series of talks:
"Behind the Scenes at Hollywood."
8.38 p.m.—The New South Wales Tramway Band. Selection: "William Tell" (Rimmer).
8.50 p.m.—Virginia Bassetti, contralto.
9 p.m.—"Big Ben." Late weather forecast.
9.1 p.m.—Radio Play by Scott Alexander.
9.10 p.m.—The New South Wales Tramway Band:
(a) Waltz: "Forest Flowers" (Greenwood).
(b) March: "Under the Stars" (Weiss).
9.21 p.m.—Signor Ubaldo Russo, Italian Operatic Tenor.
9.28 p.m.—Lionel Lawson, violinist:
"Dance of the Goblins" (Bazzini).
9.36 p.m.—Ad Cree, Scotch comedian.
9.44 p.m.—The New South Wales Tramway Band:
(a) Fantasia: "Irene" (Teirney).
(b) Cornet solo: "Matilda" (arr. Philpott) Bandsman Fred Philpott.
9.57 p.m.—Virginia Bassetti, contralto.
10.4 p.m.—Bandsman F. Lowe, Trombone solo N.S.W. Tramway Band:
"Love's garden of roses" (Wood).
10.12 p.m.—From the Ambassadors:
The Ambassadors' Dance Orchestra, conductor, Mr. Al Hammet.
10.23 p.m.—From the studio, Ad Cree, scotch comedian.
10.30 p.m.—Late weather forecast.
10.31 p.m.—The Ambassadors' Dance Orchestra. Conductor, Mr. Al Hammet.
10.57 p.m.—Late news and announcements, from the studio.
11 p.m.—From The Ambassadors, Dance music until 11.45 p.m. interspersed with music from the studio at intervals.
11.45 p.m.—National Anthem.
Close down.

2BL, SYDNEY.

Tuesday.

EARLY MORNING SESSION.

8 a.m. to 9 a.m.

MORNING SESSION.

10.30 a.m.—G.P.O. Clock and chimes.
Musical programme from studio.
10.40 a.m.—News from the "Daily Telegraph" Pictorial.

- 10.50 a.m.—Musical programme from the studio.
- 11 a.m.—G.P.O. Clock and chimes
Women's Session. Social Notes—Replies to correspondents by Mrs. Jordan.
Talk on "Toilet Hints" by Mademoiselle Vitkowska.
- 12 noon.—G.P.O. Clock and chimes.
Special Ocean Forecast and weather report.
- 12.3 p.m.—Musical programme from the studio.
- 12.8 p.m.—Information—Mails, Shipping, and port directory.
- 12.11 p.m.—Boats in call by wireless.
- 12.13 p.m.—Fruit Market Report.
- 12.15 p.m.—Vegetable Market report.
- 12.17 p.m.—London Metal Market report.
- 12.19 p.m.—Dairy Farm and Produce Market report.
- 12.22 p.m.—Forage Market report.
- 12.24 p.m.—Fish Market report.
- 12.26 p.m.—Rabbit Market report.
- 12.28 p.m.—Stock Exchange Report.
- 12.30 p.m.—H.M.V. Gramophone Recital.
- 1.27 p.m.—Stock Exchange report.
- 1.30 p.m.—G.P.O. Clock and chimes. Talk to Children and special entertainment for Children in Hospital.
- 2 p.m.—G.P.O. Clock and chimes. Close down.

AFTERNOON SESSION.

- Racing information broadcast immediately after each race by courtesy of the "Sun."
- 3 p.m.—G.P.O. Clock and chimes
News from the "Sun."
- 3.15 p.m.—Civil Service Stores Trio, direction Miss de Courcey Bremer.
- 3.30 p.m.—G.P.O. Clock and chimes.
News from "Sun."
- 3.40 p.m.—Pianoforte recital from the studio.
- 3.50 p.m.—News from the "Sun."
- 4 p.m.—G.P.O. Clock and chimes
Civil Service Stores Trio.
- 4.15 p.m.—Talk on "Women of the Orient of all ages."
- 4.35 p.m.—Musical programme from the Studio.
- 4.50 p.m.—News from the "Sun."
- 4.55 p.m.—Resume of night's programme.
- 4.57 p.m.—Racing resume.
- 4.59 p.m.—Special Ocean Forecast.
- 5 p.m.—G.P.O. Clock and chimes.
Close down.

EARLY EVENING SESSION.

- 5.45 p.m.—G.P.O. Clock and chimes.
Children's Session

SPECIAL COUNTRY SESSION.

- 6.30 p.m.—G.P.O. Clock and chimes.
Australian Mercantile Land and Finance Co.'s report.
Weather report and forecast by courtesy of Govt. Meteorologist.
Producers Distributing Society's Fruit and Vegetable Market report.
Stock Exchange reports.
Grain and Fodder report ("Sun.")
Dairy Produce report ("Sun.")
N.R.M.A. Talk.
- 6.45 p.m.—Country news from the "Sun."
- 6.50 p.m.—Talk by a member of the Listeners' League.
- 7 p.m.—G.P.O. Clock and chimes.
Dinner Music.
- 7.30 p.m.—Talk by a member of the St. John Ambulance Association.
- 8 p.m.—G.P.O. Clock and chimes.
Broadcasters Topical Chorus.
A night of Music inspired by the works of Shakespeare and Miscellaneous programme.
- 8.3 p.m.—Broadcasters Light Orchestra under the direction of Mr. J. Knight Barnett.
- 8.13 p.m.—Miss Helena Stewart, soprano.
- 8.20 p.m.—Mr. Moore McMahon, violinist.
- 8.27 p.m.—Miss Heather Kinnaird, contralto.
- 8.34 p.m.—Mr. W. S. Reay, elocutionist.
- 8.44 p.m.—Mr. W. E. Lewis, baritone.
- 8.51 p.m.—Broadcasters Light Orchestra.
- 9 p.m.—G.P.O. Clock and chimes.
- 9.1 p.m.—Broadcasters Light Orchestra.
- 9.11 p.m.—Mr. Norman Wright, tenor.
- 9.18 p.m.—Mr. Moore McMahon.
- 9.25 p.m.—Miss Helena Stewart.
- 9.32 p.m.—Mr. W. E. Lewis.
- 9.39 p.m.—Mr. W. S. Reay.
- 9.49 p.m.—Miss Heather Kinnaird.
- 9.56 p.m.—Mr. Norman Wright.
- 10.3 p.m.—Broadcasters Light Orchestra.

- 10.13 p.m.—Weather report and forecast by courtesy of Mr. C. J. Mares, Govt. Meteorologist.
Resume of following day's programme.
- 10.16 p.m.—Cyril Kaye and The Wentworth Cafe Orchestra broadcast from the ballroom of the Wentworth. During intervals between dances "Sun" news will be broadcast.
- 11.30 p.m.—G.P.O. Clock and chimes.
National Anthem.

2GB, SYDNEY

Tuesday.

MORNING SESSION.

- 10 a.m.—Music.
- 10.10 a.m.—"Good Cheer" Talk.
- 10.20 a.m.—Happiness Talk.
- 10.30 a.m.—Music.
- 10.40 a.m.—Women's Session.
- 11 a.m.—Close down.

AFTERNOON SESSION.

- 2 p.m.—Music.
- 2.7 p.m.—Address.
- 2.22 p.m.—Music.
- 2.37 p.m.—Address.
- 2.53 p.m.—Music.
- 3 p.m.—Close down.
- 5.50 p.m.—Children's Session.

EVENING SESSION.

- 6.30 p.m.—Music.
- 7 p.m.—Announcements; News, etc.
- 7.20 p.m.—Music.
- 7.30 p.m.—Address.
- 7.45 p.m.—Music.
- 8 p.m.—Sonata for Violin and Pianoforte: LEONARD BREWER AND DOROTHY SPARK.
- 8.15 p.m.—Address.
- 8.30 p.m.—Songs by FREDERICK TURRELL.
- 8.37 p.m.—Pianoforte Solos by DOROTHY SPARK.
- 8.44 p.m.—Humorous Items.
- 8.51 p.m.—Songs by HELEN HILL.
- 8.58 p.m.—Violin Solos by LEONARD BREWER.
- 9.3 p.m.—Songs by FREDERICK TURRELL.
- 9.10 p.m.—Talk.
- 9.30 p.m.—Humorous Items.
- 9.37 p.m.—Serial Story.
- 9.47 p.m.—Songs by HELEN HILL.
- 9.54 p.m.—Good-Night Talk.
- 10 p.m.—Close down.

2 UW, SYDNEY

Tuesday.

- 9 a.m.—News, Shipping, Mails, and studio items.
- 9.45 a.m.—Women's Session (Aunt Flo).
- 10 a.m.—Close down.
- 12.15 p.m.—Special Employees' Uncheon Session.
- 12.45 p.m.—Close down.
- 7 p.m.—Studio items.
- 7.2 p.m.—Where to Go.
- 7.10 p.m.—Dance music.
- 7.30 p.m.—Lecture on Natural History by Mr. Clifford Coles.
- 7.50 p.m.—Dance music.
- 8.45 p.m.—Gems of the Opera:
"Lohengrin" (Wagner), by Geo. F. Manuel:
(a) Biographical notes on the life of the Composer.
(b) Story of the Opera.
(c) Instrumental and vocal illustrations taken from each act of the Opera.
(d) Musical notes.
- 9.30 p.m.—Close down.

3LO, MELBOURNE

Tuesday.

MORNING SESSION.

- 7.15 a.m.—"Herald" news service.
- 8.15 a.m.—Close down.

MIDDAY SESSION.

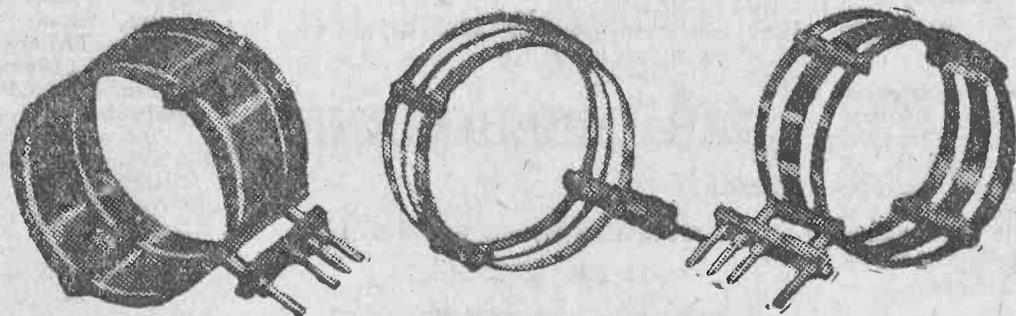
- 12 noon.—Melbourne Observatory time signal.
- 12.1 p.m.—Metal prices received by the Australian Mines and Metals Association from the London Stock Exchange this day.
British official wireless news from Rugby. Reuter's and the Australian Press Association cables. "Argus" news service.
- 12.20 p.m.—STUDIO QUARTETTE:
"Fantasia on Plantation and Canadian Songs" arr. by (Retford).
- 12.37 p.m.—Stock Exchange information.
- 12.40 p.m.—STATION TRIO:
Waltz, Hesitation, "Mighty Lak a Rose" (Nevin).
- 12.50 p.m.—ELLA RIDDELL, contralto:
"Country Folk" (May Brahe).
"To a Miniature" (May Brahe).
- 12.57 p.m.—LYNCH BELLRINGERS on the Marimba Resonators:
"Eileen Alannah."
"Home, Sweet Home."
- 1 p.m.—Melbourne Observatory time signal.
"Are you still one of the reckless ones who rush across the street against the signal of the traffic constable? Resolve in future to wait just that couple of seconds that may mean life or death to you."—SAFETY FIRST.
- 1.1 p.m.—STUDIO QUARTETTE:
"Les deux Pigeons" Suite from the Ballet by (Andre Messager).
- 1.10 p.m.—Meteorological information. Weather forecast and rainfall for Victoria, Tasmania, South Australia, and New South Wales. Ocean forecasts. River reports.
- 1.17 p.m.—TASMA TIERNAN, 'cello:
"Melodie" (Squire).
- 1.26 p.m.—LYNCH BELLRINGERS on the Glassophones:
"Because I Love You."
- 1.31 p.m.—STUDIO QUARTETTE:
Selection, "Nadisha" (Goring Thomas).
- 1.38 p.m.—LYNCH BELLRINGERS on the Glassophones:
"Forgotten."
- 1.41 p.m.—Announcements.
- 1.45 p.m.—ELLA RIDDELL, Contralto:
"A Summer Night" (Goring Thomas).
"Ships That Pass in the Night" (Stephenson).
- 1.52 p.m.—LYNCH BELLRINGERS:
"Rendezvous."
- 2 p.m.—Description of Trial Hurdle, 2 miles 58 yards WARRNAMBOOL RACES, by "Musket" of the "Sporting Globe."
- 2.5 p.m.—Close down.
- 2.35 p.m.—Description of Trial Handicap 6 furlongs, WARRNAMBOOL RACES, by "Musket" of the "Sporting Globe."

AFTERNOON SESSION.

- 3 p.m.—Melbourne Observatory time signal.
- 3.1 p.m.—JOE ARONSON AND HIS SYN-COPATING SYMPHONISTS:
- 3.15 p.m.—Description of Booval Steeple, about 2 miles, WARRNAMBOOL RACES, by "Musket" of the "Sporting Globe."
- 3.20 p.m.—"AU FAIT."
"Fashions, Frills, Furs, and Fripperies."
- 3.40 p.m.—LYNCH BELLRINGERS, on the Marimba Resonators:
"That Certain Party."
"Horsey."
"Following You Around."
- 3.46 p.m.—JOE ARONSON AND HIS SYN-COPATING-SYMPHONISTS:
- 3.55 p.m.—Description of Summer Handicap, 1 mile, WARRNAMBOOL RACES, by "Musket" of the "Sporting Globe."
- 4 p.m.—JOE ARONSON AND HIS SYN-COPATING-SYMPHONISTS:
- 4.9 p.m.—LEO FISHER, tenor:
"The Message" (Blumenthal).
"Good Night, Beloved" (Balfe).
- 4.16 p.m.—JOE ARONSON AND HIS SYN-COPATING-SYMPHONISTS:
- 4.25 p.m.—MR. and MRS. LEO FISHER, tenor and soprano:
Duets, "The Voyagers" (Sanderson).
"Night in Venice" (Lucantoni).
- 4.32 p.m.—LYNCH BELLRINGERS:
Waltz, "The Blue Danube" (Strauss).
- 4.35 p.m.—Description of Lady Bay Hurdle 2 miles 58 yards WARRNAMBOOL RACES, by "Musket" of the "Sporting Globe."

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RADIOKES QUALITY PRODUCTS

- 4.40 p.m.—LYNCH BELLRINGERS:
"Selections from La Traviata."
4.45 p.m.—"Herald" news service.
5 p.m.—Close down.
5.10 p.m.—Description of Park Handicap, 6 furlongs, WARRNAMBOOL RACES, by "Musket" of the "Sporting Globe."
5.15 p.m.—Close down.

EVENING SESSION.

CHILDREN'S HOUR.

- 6 p.m.—Answers to letters and Birthday greetings by "BILLY BUNNY."
6.20 p.m.—STUDIO QUARTETTE:
"The Dwarf's Patrol" (G. Rinaldi).
6.30 p.m.—"PETER PAN"—like his namesake has never grown up, and all day long he plays tuneful ditties—the homes he visits are full of happy melodies—Wouldn't you like him to visit your home? Well, you must have both happy faces and voices. Let us sing in chorus.
"Mother's Lullaby."
6.40 p.m.—STUDIO QUARTET:
"Danny and his Hobby Horse" (Pryor).
6.50 p.m.—"BILLY BUNNY":
"Helen's Babies."
7 p.m.—Official Report of Newmarket Stock Sales by the Associated Stock and Station Agents, Bourke Street, Melbourne.
7.5 p.m.—"Herald" news service. Weather synopsis. Shipping movements.
7.12 p.m.—Stock Exchange information.
7.17 p.m.—Fish Market reports by J. R. Borrett, Ltd. Rabbit prices.
7.19 p.m.—River reports.
7.20 p.m.—Market reports by the Victorian Producers' Co-operative Co., Ltd.: Poultry, Grain, Hay, Straw, Jute, Dairy Produce, Potatoes and Onions. Market reports of fruit by the Victorian Fruiterers' Association—Retail prices. Wholesale prices of fruit by the Wholesale Fruit Merchants' Association. Citrus fruit. Ballarat Sheep Market reports.

NIGHT SESSION.

- 7.30 p.m.—C. J. MILLER, Croquet Champion of Australia will talk on "Croquet."
7.45 p.m.—Under the auspices of the University Extension Board, HON. SAMUEL MAUGER will speak on "Building for the Future: Humanity First."
8 p.m.—E. M. PASCOE will speak on "Bowls."
8.15 p.m.—MALVERN TRAMWAYS BAND:
Selection, "Romeo and Juliet" (by request) (Gounod).
8.25 p.m.—Mr. and Mrs. LEO FISHER, tenor and soprano:
Duets, "Marcheta" (Schertzinger).
Solo, Leo Fisher:
"Garden of your Heart" (Doull).
"Pale Hands" (Finden).
8.35 p.m.—MALVERN TRAMWAYS BAND:
"Minuet in G" (Beethoven).
8.40 p.m.—DORATHEA MACMASTER, piano:
"Arabesque in E major" (Debussy).
"Nocturne for the left hand alone" (Scriabine).
"Intermezzo in E flat."
Valse, Op. 39 no. 8" (Brahms).
"Scherzo in E flat Minor."
9 p.m.—Announcements.
9.4 p.m.—MALVERN TRAMWAYS BAND:
Morceau, "A Night in Switzerland" (Hume).
9.10 p.m.—GWALIA MALE PARTY:
"Mi welaf mewn Adgof" (Dr. Parry).
"The Dear Little Sharmock" (Elliot Button).
9.17 p.m.—WALTER CORNOCK, comedian:
"With a Tear and a Laugh."
9.24 p.m.—W. A. SOMERSET:
"Shipwrecks in Australian Waters. Number 5."
9.39 p.m.—MALVERN TRAMWAYS BAND:
Humoresque, "A Trip to Blackpool" (Raymond).
9.46 p.m.—GWALIA MALE PARTY:
"The Martyrs of the Arena" (L. de Rille).
"Delyn Eir" (Old Welsh).
9.52 p.m.—LYNCH BELLRINGERS on the Glassophones:
"Juanita."

- 9.56 p.m.—"Argus" news service.
Sporting Notes by "Olympus."
The Royal Automobile Club of Victoria's SAFETY MESSAGE for to-day is for Motorists:—
"Never take a chance. Remember a car can be built in 30 days. It takes 21 years to make a man."
10.4 p.m.—MALVERN TRAMWAYS BAND:
Overture, "Light Cavalry" (Suppe).
10.14 p.m.—WALTER CORNOCK, comedian:
"With a Tear and a Laugh."
10.21 p.m.—LYNCH BELLRINGERS:
Selected.
10.25 p.m.—MALVERN TRAMWAYS BAND:
March, "Independentia" (Hall).
Fox Trot, "Song of the Wanderer" (Barr).
10.30 p.m.—British Official Wireless News from Rugby. Announcements. Island Steamer Movements.
10.35 p.m.—LYNCH BELLRINGERS on the Organ Chimes:
"Blue Alsatian Mountains."
"Mother Machree."
10.40 p.m.—JOE ARONSON AND HIS SYM-COSYMPHONISTS.
10.53 p.m.—LEO FISHER:
Selected.
11 p.m.—OUR GREAT THOUGHT:
"The world is full of poetry. The air is living with its spirit; and the waves dance to the music of its melodies and sparkle in its brightness."—Percival.
11.1 p.m.—JOE ARONSON AND HIS SYM-COSYMPHONISTS.
11.40 p.m.—"GOD SAVE THE KING."

3AR, MELBOURNE

Tuesday.

MORNING NEWS SESSION.

11 a.m. to 12 noon.

MIDDAY CONCERT SESSION.

- 12.1 p.m.—Transmitted from Panatrop House, 252 Collins Street (by exclusive permission of Wills and Paton, Ltd.), on the Brunswick Panatrop.
1 p.m.—Newmarket Stock sales. Special "Snap" report on the progress of this morning's Stock sales at Newmarket (by courtesy of John McNamara and Co.) To be repeated at 2.30 p.m. specially for the benefit of our country listeners.
Close down.

MATINEE SESSION.

ORCHESTRAL CONCERT.

- 2.30 p.m.—Newmarket Stock sales. Special "Snap" progress report, direct from the yards (by courtesy of John Macnamara and Co.).
2.31 p.m.—Sport. During the afternoon results of the Warrnambool Races will be broadcast, with other information.
2.32 p.m.—Studio Orchestra.
2.48 p.m.—Miss Eileen June, soprano:
"Micaela's Song" (Bizet).
"Tell Me My Heart" (Bishop).
2.55 p.m.—Studio Orchestra.
3.10 p.m.—Mr. Ronald Brearley, 'cello:
"Andante Cantabile" (Tschaiakowsky).
3.14 p.m.—Studio Orchestra.
3.29 p.m.—Miss Eileen June, soprano:
"Elizabeth's Greeting" (Wagner).
"When Laura Smiles" (Rosseter).
3.37 p.m.—Studio Orchestra.
3.52 p.m.—Mr. John Box, baritone:
"Song of Hybrias the Cretan" (Elliott).
"Friend o' Mine" (Sanderson).
4 p.m.—G.P.O. Clock says "Four."
4.1 p.m.—Second Weather forecast.
4.3 p.m.—Announcements.
4.6 p.m.—"Madamoiselle Jeunesse":
"Timely Topics, Home Hobbies, and Novel Notions for our Lady Listeners."
4.16 p.m.—Studio Orchestra.
4.31 p.m.—Mr. John Box, baritone:
"Myself When Young" (Selemann).
"The Bandolero" (Stuart).

- 4.39 p.m.—Studio Orchestra.
4.55 p.m.—To-night's entertainment.
5 p.m.—G.P.O. Clock says "Five."
Close down.

CHILDREN'S SESSION.

- 6.30 p.m.—Uncle Mack's entertainment.

EVENING SESSION.

- 7.30 p.m.—"The Captain." School Life and School Sport for all the boys and girls of Australasia.
7.55 p.m.—Newmarket Stock sales. Notices.
8 p.m.—G.P.O. Clock says "Eight."
8.1 p.m.—The Classic Trio:
"The Red Sarafan" (Moffatt).
"Melody of Love" (Moffatt).
8.7 p.m.—Miss Beatrice Oakley, Soprano:
"Serenata" (Tosti).
"The Willow Tree" (Kahn).
8.15 p.m.—Mr. Alan Adcock:
Australia's Versatile Entertainer:
"The Waxwork's Watchman" (Wilcox).
8.22 p.m.—Announcements.
8.26 p.m.—The Classic Trio:
"Ballet Egyptian" (Luigini).
8.37 p.m.—Mr. Horace Calvert, Tenor:
"Siciliana" (Mascagni).
"She Is All So Slight" (Brahe).
8.45 p.m.—Miss Edna Hattenbach, 'Cello:
"Gypsy Dance" (Keral).
8.52 p.m.—Mr. Sydney Gray, Comedian:
In one of his whispering numbers:
"That's a Good Girl" (Berlin).
And another not so "whispery,"
"She Knows Her Onions" (Yellan).
9.0 p.m.—Mr. Les Busse, "The Melo Boy":
Song at the Piano:
"She's a Nice Girl" (Busse).
Melo Piano Number:
"So Blue" (Crawford).
9.8 p.m.—Miss Beatrice Oakley, Soprano:
"Nightfall at Sea" (Phillips).
"Waiata Poi" (Fill).
9.15 p.m.—Miss Ethel Deslandes, Some dainty songs, accompanied by her ukulele:
"Sweet Constancy" (Kapule).
"Aloha Oe" (Lehuokalani).
9.23 p.m.—Announcements.
9.27 p.m.—The Classic Trio:
Selection from "Pagliacci" (Leoncavallo).
9.38 p.m.—Mr. Alan Adcock, Australia's Versatile Entertainer:
"Sob Stuff" (Herbert).
9.45 p.m.—Mr. Horace Calvert, Tenor:
"O Vision Entrancing" (Thomas).
"Pleading" (Elgar).
9.53 p.m.—Mr. Sydney Gray, Comedian:
In a Witty Story and Song:
"Of All My Wife's Relations" (Sterling).
10.0 p.m.—G.P.O. Clock Says "Ten."
10.1 p.m.—Semi-Final Weather Forecast, specially for our country listeners.
10.2 p.m.—Answers by "Audio." Reports and Answers by 3AR Radio Engineers' Staff to Listeners who seek expert advice. The service is free.
10.15 p.m.—Miss Felice Crozier, Violin:
"Ave Maria" (Schubert).
"Danse des Sylphes" (Jenkinson).
10.22 p.m.—Mr. Leslie Busse, "The Melo Boy":
Song at the Piano: "Sally" (Busse).
Melo Piano Number, "La Paloma" (Yrdia).
10.30 p.m.—Miss Ethel Deslandes, On some dainty songs, accompanied by her ukulele:
"Drifting and Dreaming" (Alstyne).
"Adios Ke Aloha" (Hopkins).
10.37 p.m.—The Classic Trio:
"Chinese Bazaar" (Travers).
10.40 p.m.—Special Racing Report; Anticipations and Latest Track Information for To-morrow's Races, by "Stipe."
10.50 p.m.—To-morrow's Entertainment.
10.53 p.m.—The "Age" News Bulletin, exclusive to 3AR.
10.58 p.m.—Final Weather Forecast.
10.59 p.m.—Our Australian Good-Night Quote is taken from the poem, "The Road to Old Man's Town," by A. B. Paterson.
11.0 p.m.—G.P.O. Clock Says "Eleven"; God Save the King.

4QG, BRISBANE.

Tuesday.

MORNING SESSION.

- 10.30 a.m.—To-day's Social News.

A 1st class Ormond S.L.F. condenser

**—cheaper in price than any yet,
but still peerless in performance!**

ORMOND are already famed in every quarter of the globe for their apparently unique ability to combine first-class British workmanship with bedrock prices, but here is a new ORMOND Variable Condenser that will entirely revolutionise all existing ideas of Condenser values.

The New ORMOND "No. 3" S.L.F. Condenser

is in every way a typical ORMOND product—highly finished, highly efficient. The demand for it, needless to say, will be tremendous.

- .00025 - 11/6 each
- .00035 - 12/- "
- .0005 - 12/6 "



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A BRITISH PRODUCT—BETTER AND CHEAPER

10.40 a.m.—Music.
 10.45 a.m.—Lecture: "The Mattai Method of Piano Playing," No. 1, by Mrs. Smith.
 11 a.m.—Music.
 11.10 a.m.—General News.
 11.20 a.m.—Music.
 11.30 a.m.—Close down.

MIDDAY SESSION.

1 p.m.—Market reports; weather information; "The Daily Mail" and "The Daily Standard" news.
 1.30 p.m.—Lunch music.
 1.58 p.m.—Standard time signal.
 2 p.m.—Close down.

AFTERNOON SESSION.

3.30 p.m.—Afternoon tea music.
 4.15 p.m.—"The Telegraph" News.

EARLY EVENING SESSION.

6 p.m.—"Daily Standard" news; announcements.
 6.10 p.m.—Lecture: Nil.
 7 p.m.—Special News Service; Market Reports; Stock Reports.
 7.30 p.m.—Weather news; announcements.
 7.43 p.m.—Standard time signals.
 7.45 p.m.—Lecture: "A Talk on Photography," by Mr. F. L. South (Manager, Kodak Ltd.).

NIGHT SESSION.

PART I.

8 p.m.—From the Tivoli Theatre: Orchestral music and vaudeville. (Orchestra under the baton of Mr. C. Groves.)

PART II.

A DIGGER PLAY: "OFF DUTY,"
(By Miss Thelma Champion.)

In response to numerous requests, particularly from returned soldiers, the first of the three Digger plays, "Off Duty," which was broadcast some months ago, will be repeated.

The second and third Digger plays, "Homeward Bound" and "The Battalion Reunion," will be repeated in February and March respectively.

"Off Duty" is a sketch depicting the adventures of four diggers who, during the war, are granted a few hours' leave and manage to enjoy themselves during it.

Synopsis:

Scene 1: In the Camp.
 Scene 2: In the Estaminet.
 Scene 3: Back at the Camp.

Cast:

Dad: Mr. Tom Muller.
 Snowy: Mr. Ray Bruce.
 Bill: Mr. Hugh Gilroy.
 Long'un: Mr. J. P. Cornwell.
 Yvonne: Miss Thelma Champion.
 Tommy Sgt.-Major, Officers, Orderlies, Tommy Private, etc., by members of "The Bohemians."

8.30 p.m.—From the Studio:
 The Digger Play: "Off Duty."
 10 p.m.—"The Daily Mail" news; weather news.
 Close down.

5CL, ADELAIDE.

Tuesday.

MORNING SESSION,

12 noon to 2 p.m.

AFTERNOON SESSION.

3 p.m.—G.P.O. Chimes.
 3.1 p.m.—Musical numbers.
 3.45 p.m.—Talk by Rev. G. E. Hale B.A.
 4 p.m.—G.P.O. Chimes
 4.1 p.m.—Musical numbers.
 4.57 p.m.—S. C. Ward and Co's Stock Exchange intelligence.
 5 p.m.—G.P.O. Chimes and close down

EVENING SESSION.

6.30 p.m.—G.P.O. Chimes.
 6.31 p.m.—Children's time.
 7.20 p.m.—Market reports by A. W. Sandford and Co. A. E. Hall and Co. Dalgety and Co. S. A. Farmers Co-operative Union. Taylor Bros. Retail Grocers Association. J. H. Young's special report on the Tomato Market. Interstate Fruit and Produce Market Co. Ltd. S. C. Ward and Co's Stock Exchange intelligence.
 7.30 p.m.—Extracts from "News Bulletin."
 7.35 p.m.—Gardening talk by Lasscock's Nurseries Lockleys.
 7.45 p.m.—Home Beautiful talk by "Domus."
 7.55 p.m.—Station announcements.
 8 p.m.—G.P.O. Chimes
 8.1 p.m.—Instrumental trios, Carlyle Jones, Hartley Williams, C. L. Bentley.
 8.15 p.m.—Soprano solo (Classical), Marcella Berardi.
 8.23 p.m.—Pianoforte solo (Chopin), Spruhan Kennedy.
 8.33 p.m.—Tenor solo (Classical), Vincent Murray.
 8.40 p.m.—Instrumental trio (Classical), Carlyle Jones, Hartly Williams, C. L. Bentley.
 8.50 p.m.—Soprano solo, (Classical), Marcella Berardi.
 8.54 p.m.—Cello solo, Carlyle Jones.
 9 p.m.—G.P.O. Chimes.
 9.1 p.m.—Meteorological information.
 9.4 p.m.—Dalgety's wheat report.
 9.5 p.m.—Station announcements.
 9.7 p.m.—Tenor solo (Popular numbers), Vincent McMurray.
 9.11 p.m.—Violin solo (Semi classical), Hartley Williams.
 9.18 p.m.—Male Quartette (Popular numbers), Windarra Quartette.
 9.25 p.m.—Instrumental trio, (Experts from Comic Operas).
 9.40 p.m.—Light Humor, Geo. Horton.
 9.45 p.m.—Cello (Popular numbers), Carlyle Jones.
 9.50 p.m.—Instrumental trio, Carlyle Jones, Hartley Williams, C. L. Bentley.
 10 p.m.—G.P.O. Chimes.
 10.1 p.m.—"Advertiser" news service.
 10.15 p.m.—Dance Music relayed from the Maison de Danse.
 10.55 p.m.—Light Comedy and Musical Monologue, Geo. Horton.
 10.45 p.m.—Dance Music by the Maison de Danse.
 10.55 p.m.—Wednesday's programme and Meteorological information.
 11 p.m.—G.P.O. Chimes and National Anthem.

6WF, PERTH.

Tuesday.

MIDDAY SESSION.

12.30 p.m.—Tune in.
 12.35 p.m.—Markets, News, and Cables.
 1 p.m.—Time signal from Perth Observatory.
 1.1 p.m.—Weather notes supplied by the Meteorological Bureau of Western Australia.
 1.2 p.m.—STUDIO INSTRUMENTAL TRIO.
 1.30 p.m.—Close down.
 3.30 p.m.—Tune in.
 3.35 p.m.—Organ music relayed from the Grand Theatre, Murray Street.
 Vocal interludes from the Studio.
 4.30 p.m.—Close down.
 6.45 p.m.—Tune in.

THE EVENING TRANSMISSION IS BROADCAST ON 104.5 METRES AS WELL AS THE USUAL WAVE LENGTH.

6.50 p.m.—Stories for the Kiddies by Uncles Henry and Duffy.
 7.20 p.m.—Stocks, Markets, News.
 7.45 p.m.—Talk.
 8 p.m.—Time signal from Perth Observatory.
 8.1 p.m.—Weather notes supplied by the Meteorological Bureau of Western Australia.
 Station announcements such as alterations to programmes, etc.
 8.3 p.m.—FROM THE STUDIO.
 Musical programme, including vocal and instrumental artists.

10 p.m.—Late news items by courtesy of "The Daily News" Newspaper Coy.
 Ships within range announcement.
 Weather report and forecast.
 10.30 p.m.—Close down.

104.5 METRE TRANSMISSION.

Simultaneous broadcast on 104.5 Metres of Programme given on 1250 Metres commencing at 6.45 p.m.

Wednes., Jan. 11
2FC, SYDNEY

EARLY MORNING SESSION.

7 a.m.—"Big Ben" and announcements.
 7.5 a.m.—Studio music.
 7.15 a.m.—Country Session: Official weather forecast, rainfall, temperatures, astronomical memoranda, shipping intelligence, mail services.
 7.25 a.m.—Investment market, mining share market, metal quotations.
 7.35 a.m.—Wool sales, Breadstuffs markets, Interstate markets, produce markets.
 7.45 a.m.—"Sydney Morning Herald" summary.
 7.50 a.m.—Studio music.
 8 a.m.—"Big Ben." Close down.

MORNING SESSION.

10 a.m.—"Big Ben" and announcements.
 10.5 a.m.—Studio music.
 10.15 a.m.—"Sydney Morning Herald" news service.
 10.30 a.m.—From the Crystal Palace Theatre, George Street, Sydney:
 An Organ Recital by Mr. Hal Stead.
 11.10 a.m.—From the Studio:
 A.P.A. and Reuter's Cable Services.
 11.15 a.m.—A talk on Home Cooking and Recipes by Miss Ruth Furst.
 11.30 a.m.—Close down.

MIDDAY SESSION.

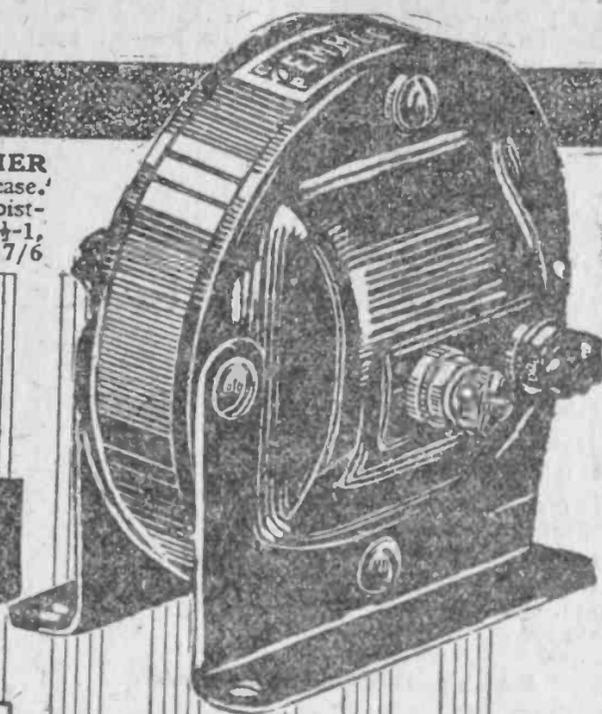
12 noon. "Big Ben" and announcements.
 12.2 p.m.—Stock Exchange, first call.
 12.3 p.m.—Official weather forecast, rainfall.
 12.5 a.m.—Studio music.
 12.10 p.m.—Summary of "Sydney Morning Herald" news service.
 12.15 p.m.—Rugby wireless news.
 12.20 p.m.—Studio music.
 12.40 p.m.—Ida Holmes, soprano.
 12.44 p.m.—Studio music.
 1 p.m.—"Big Ben." Weather intelligence.
 1.3 p.m.—"Evening News" midday news service.
 Producers' Distributing Society's Report.
 1.20 p.m.—Studio music.
 1.28 p.m.—Stock Exchange, second call.
 1.30 p.m.—A Pianoforte reproduction.
 1.40 p.m.—Ida Holmes, soprano:
 "Hindu Song" (Kosookoff).
 1.45 p.m.—Studio music.
 2 p.m.—Close down.

AFTERNOON SESSION.

3 p.m.—"Big Ben" and announcements.
 3.5 p.m.—From the Pitt Street Congregational Church, Sydney:
 An Organ Recital by Mr. E. J. Robinson.
 3.20 p.m.—From the Studio:
 Muriel Watt, contralto.
 3.25 p.m.—From the Pitt Street Congregational Church, Sydney:
 Organ Recital by Mr. E. J. Robinson.
 3.40 p.m.—From the Studio:
 Kathlene Williamson, soprano:
 "Sing, Joyous Bird" (Montague Phillips).
 3.45 p.m.—From the Pitt Street Congregational Church, Sydney:
 Continuation of the Organ Recital by Mr. E. J. Robinson.
 4 p.m.—"Big Ben."
 From the Studio:
 Florence Grant, soprano.
 4.3 p.m.—Mary Judd, violinist:
 "Gavotte" (Gossec).

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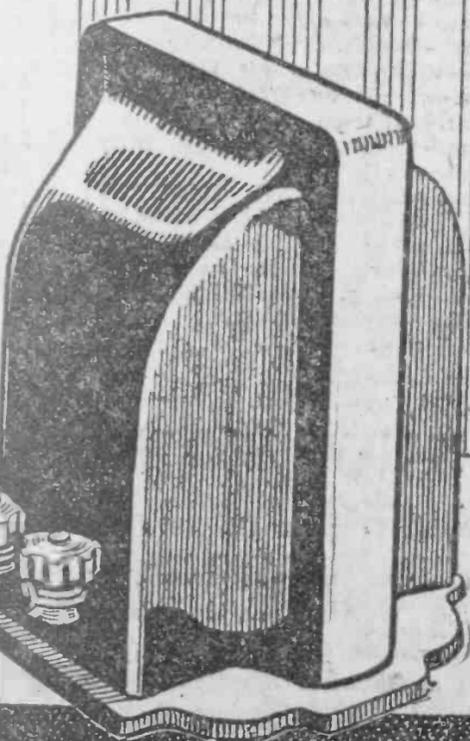
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WIRELESS WEEKLY

VOL. 11. No. 11.

FRIDAY, JANUARY 6th, 1928.

Notes on the Wireless Agreement

THE Bill to ratify the Wireless Agreement between the Government and Amalgamated Wireless has passed both Houses of Parliament, and is now an historical legal fact. It will be interesting to examine it in its relation to the general public.

The general public are interested in any activity of policy of Amalgamated Wireless, because the people, through the Commonwealth Government have invested £500,000 in the Company. Consequently the Company is in many respects filling the place of a Government department carrying on a public utility service. Most public utility services, of course, are conducted as a Government monopoly. The activities of the Wireless Company, however, are in competition with other companies.

People will ask—what is the origin of the Agreement! In order to answer that question we must turn our thoughts back to the Royal Commission on Wireless, which after several months of investigation made certain recommendations to the Government. Included in its report and recommendations were many references to Amalgamated Wireless.

The majority of those references were not complimentary—indeed some were very condemnatory. The methods and policy of the Company in certain respects were considered unsatisfactory and certain changes were suggested. It was suggested that the payments made to the Company or claimed by the Company in respect to broadcasting were too high, and should be reduced.

The Royalties payable indirectly by listeners to the Company amounted to 5/ per annum. The payment is made through the medium of the license of 27/6, of which amount 5/ is paid by the broadcasting company to Amalgamated Wireless. The Commission recommended a reduction of this amount to 2/.

The Company also demanded royalty payments from wireless traders who sold valve sets. These payments were to be 12/6 or 17/6 per valve socket, according to the country of manufacture—12/6 for British or 17/6 for other countries. Many traders objected to the payments, and the Commission recommended a payment of 5/ per valve socket.

The Government apparently went further into the matter than the Commission, and concluded an agreement with the Company whereby the traders were relieved of all payments, and the listeners pay an amount of 3/ per year as portion of their license fee. The Government thereby severely cut down the Company's toll taken from broadcasting. But the total amount will be pretty considerable nevertheless—over £37,500 for the present year.

One effect of this Agreement should be a reduction in the price of valve sets—to an amount approximating to the amount of royalty previously claimed by the wireless company. That is about £3 per four or five valve set. It will be interesting to see if the listener gets the benefit.

- 4.6 p.m.—From the Pitt Street Congregational Church, Sydney:
Concluding items of the Organ Recital by Mr. E. J. Robinson.
- 4.20 p.m.—From the Studio:
Muriel Watt, contralto:
"You Along o' Me" (Sanderson).
- 4.24 p.m.—Mary Judd, violinist:
"Londonderry Air" (Fritz Kreisler).
- 4.30 p.m.—Irene Duncan, soprano.
- 4.34 p.m.—Mary Judd, violinist:
"Nobody knows de trouble I've seen" (White).
- 4.36 p.m.—Florence Grant, soprano.
- 4.40 p.m.—Mary Judd, violinist:
"Hungarian Dance" (Brahms).
- 4.45 p.m.—Stock Exchange, third call.
- 4.47 p.m.—Kathleen Williamson, soprano:
"Evening" (Ronald).
- 4.50 p.m.—Irene Duncan, soprano.
- 4.54 p.m.—Popular records.
- 5 p.m.—"Big Ben." Close down.

EARLY EVENING SESSION.

- 5.40 p.m.—The chimes of 2FC.
- 5.45 p.m.—The "Hello Man" talks to the children.
- 6.15 p.m.—Uncle Rus and "Jerry" entertain.
- 6.40 p.m.—Studio music.
- 7 p.m.—"Big Ben." Late sporting news.
- 7.10 p.m.—Dalgety's market reports (wool, wheat and stock).
- 7.40 p.m.—Programme announcements.
- 7.18 p.m.—Fruit and vegetable markets.
- 7.22 p.m.—Weather and shipping news.
- 7.26 p.m.—"Evening News" late news service.

NIGHT SESSION.

- 7.45 p.m.—Overseas Topics by Captain Fred Aarons.
- 7.55 p.m.—Muriel O'Malley, contralto.
- 8 p.m.—"Big Ben."
From the Haymarket Theatre, George Street, Sydney:
Items by the Orchestra, conducted by Mr. Stanley Porter.
- 8.25 p.m.—From the Studio:
Hubert Carter, well-known tenor, makes his second broadcast appearance in Australia.
- 8.34 p.m.—Coltman and Harris, instrumentalists.
- 8.40 p.m.—Muriel O'Malley, contralto.
- 8.44 p.m.—From the Haymarket Theatre, George Street, Sydney:
Items by the Orchestra, conducted by Mr. Stanley Porter.
- 8.54 p.m.—From the Studio:
Hubert Carter, tenor.
- 9.4 p.m.—Weather forecast.
- 9.5 p.m.—Muriel O'Malley, contralto.
- 9.9 p.m.—Coltman and Harris, instrumentalists.
- 9.18 p.m.—H. W. Varna and Company will present on the air—for the first time in Australia—Henry Arthur Jones' famous comedy, "THE LIARS."
This play was made popular by the gruff Brough-Boucicault some years ago.

CAST.

- Sir Christopher Deering, H. W. Varna.
Edward Falkner (his friend), William Hume.
Gilbert Nepean (his brother), Horace J. Salier.
George Nepean (his brother), D. Foster.
Archibald Coke, Foster Dean.
Freddie Totton, C. W. Somerset.
Lady Jessica Nepean, Gwen Sherwood.
Dolly Coke, Florence Clark.
Maid, Ferris Clover.
Lady Rosamund Totton, Meg Service.
Mrs. Crespin, Gwen Penberthy.
Beatrice Ebernoe, Muriel Conner.
- 9.48 p.m.—From the Haymarket Theatre, George Street, Sydney:
Items by the Orchestra, conducted by Mr. Stanley Porter.

- 9.53 p.m.—From the Studio:
H. W. Varna and Company will present Part II. of the Comedy, "The Liars."
- 10.23 p.m.—The 2FC Dance Trio, conducted by Mr. Cec Morrison.
- 10.30 p.m.—Late weather forecast.
- 10.31 p.m.—The 2FC Dance Trio, conducted by Mr. Cec Morrison.
- 10.57 p.m.—Late news and announcements.
- 11 p.m.—"Big Ben."
National Anthem.
Close down.

2BL, SYDNEY.

Wednesday.

EARLY MORNING SESSION.

8 a.m. to 9 a.m.

MORNING SESSION.

- 11 a.m.—G.P.O. Clock and chimes.
Women's Session. Talk on "Rowing" by Miss Gwen Varley. Broadcasters Women's Sports Authority.
Social Notes—Replies to correspondents by Mrs. Jordan. Welfare Talk by Mrs. Jordan.

AFTERNOON SESSION.

- Racing information broadcast immediately after each race by courtesy of the "Sun."
- 12 noon.—G.P.O. Clock and chimes.
Special Ocean forecast and weather report.
- 12.3 p.m.—Musical programme from the Studio.
- 12.8 p.m.—Information—Mails, Shipping, and port directory.
- 12.11 p.m.—Boats in call by wireless.
- 12.13 p.m.—Fruit Market report.
- 12.15 p.m.—Vegetable Market report.
- 12.17 p.m.—London Metal Market report.
- 12.19 p.m.—Dairy Farm and Produce Market report.
- 12.22 p.m.—Forage Market report.
- 12.24 p.m.—Fish Market report.
- 12.26 p.m.—Rabbit Market report.
- 12.28 p.m.—Stock Exchange report.
- 12.30 p.m.—H.M.V. Gramophone Recital.
- 1.27 p.m.—Stock Exchange report.
- 1.30 p.m.—G.P.O. Clock and chimes. Talk to children and special entertainment for children in Hospital.
- 2 p.m.—G.P.O. Clock and chimes.
Racing Resume.
- 2.5 p.m.—Musical programme from the studio
- 2.20 p.m.—News from "Sun."
- 2.30 p.m.—Musical programme from the studio
- 2.45 p.m.—Talk on "Celtic Mythology."
- 3 p.m.—G.P.O. Clock and chimes.
Racing resume.
- 3.5 p.m.—News from the "Sun."
- 3.10 p.m.—Pianoforte recital from studio.
- 3.20 p.m.—News from the "Sun."
- 3.30 p.m.—Musical programme from Studio.
- 3.40 p.m.—Dungowan Dance Band, broadcast from Dungowan Cabaret.
- 4 p.m.—G.P.O. Clock and chimes.
Racing resume.
- 4.5 p.m.—Musical programme from the studio.
- 4.15 p.m.—Talk on "Women of the Orient of all ages."
- 4.30 p.m.—Dungowan Dance Band.
- 4.50 p.m.—Resume of night's programme.
- 4.52 p.m.—Special Ocean Forecast.
- 4.54 p.m.—Racing Resume.
- 5 p.m.—G.P.O. Clock and chimes. Close down.

EARLY EVENING SESSION.

- 5.45 p.m.—G.P.O. Clock and chimes.
Children's Session.

SPECIAL COUNTRY SESSION.

- 6.30 p.m.—G.P.O. Clock and chimes.
Australian Mercantile Land and Finance Co.'s report.
Weather report and forecast by courtesy of Govt. Meteorologist.

- Producers Distributing Society's Fruit and Vegetable Market report.
Stock Exchange reports.
Grain and fodder report ("Sun.")
Dairy Produce report ("Sun.")
N.R.M.A. Talk.
- 6.45 p.m.—Country News from the "Sun."
- 7 p.m.—Dinner Music.
- 8 p.m.—G.P.O. Clock and chimes.
Broadcasters Topical Chorus.
- 8.3 p.m.—Recital broadcast from the Straube Piano Salon.
- 9 p.m.—G.P.O. Clock and chimes.
Vaudeville Hour.
- 9.1 p.m.—Heyes Banjo Troupe.
- 9.11 p.m.—Mr. Harry Cash, comedian.
- 9.18 p.m.—Mr. George Welch, entertainer.
- 9.25 p.m.—The Ahad Duo, steel guitars.
- 9.32 p.m.—Miss Peggy Mack, soprano.
- 9.39 p.m.—Heyes Banjo Troupe.
- 9.49 p.m.—Mr. Harry Cash.
- 9.56 p.m.—Mr. George Welch.
- 10.3 p.m.—The Ahad Duo.
- 10.10 p.m.—Miss Peggy Mack.
- 10.17 p.m.—Broadcasters all sports expert will talk on General Sporting.
- 10.32 p.m.—Resume of following day's programme. Weather report and forecast by courtesy of Mr. C. J. Mares, Govt. Meteorologist.
- 10.35 p.m.—Romano's Dance Orchestra under the direction of Mr. Merv. Lyons broadcast from Romano's. During intervals between dances "Sun" news will be broadcast.
- 11.30 p.m.—G.P.O. Clock and chimes.
National Anthem.

2GB, SYDNEY

Wednesday.

MORNING SESSION.

- 10 a.m.—Music.
- 10.10 a.m.—"Good Cheer" Talk.
- 10.20 a.m.—Music.
- 10.30 a.m.—Happiness Talk.
- 10.40 a.m.—Women's Session.
- 11 a.m.—Close down.

AFTERNOON SESSION.

- 2 p.m.—Music.
- 2.15 p.m.—Address.
- 2.32 p.m.—Music.
- 2.45 p.m.—Address.
- 3 p.m.—Close down.
- 5.30 p.m.—Children's Session.

EVENING SESSION.

- 6.30 p.m.—Music.
- 7 p.m.—Announcements; News; Market reports.
- 7.20 p.m.—Music.
- 7.30 p.m.—Address.
- 7.45 p.m.—Music.
- 8 p.m.—Violin Solos by DAN SCULLY.
- 8.8 p.m.—Songs by ETHEL JONES.
- 8.15 p.m.—Address.
- 8.30 p.m.—Cornet Solos by P. COUCHMAN.
- 9.10 p.m.—Talk.
- 9.30 p.m.—2GB VOCAL QUARTET:
ETHEL JONES, EVA CASIMIR, THOMAS HALL, CLEMENT HOSKING.
- 9.37 p.m.—Serial Story.
- 9.47 p.m.—Songs by CLEMENT HOSKING.
- 9.54 p.m.—Good-night Talk.
- 10 p.m.—Close down.

2 UW, SYDNEY

Wednesday.

- 9 a.m.—News, shipping, mails, studio items.
- 9.45 a.m.—Women's Session (Aunt Flo).
- 10 a.m.—Close down.
- 12.15 p.m.—Special Employees' Luncheon Session.
- 12.45 p.m.—Close down.
- 7 p.m.—Studio item.



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- 7.2 p.m.—Where to Go.
 7.10 p.m.—Dance music.
 7.30 p.m.—Miss Aileen O'Connor:
 Songs at the Piano.
 7.37 p.m.—Studio item.
 7.44 p.m.—Miss Mabel Ramsbotham:
 Violin solo, Selected.
 7.51 p.m.—Studio item.
 7.55 p.m.—Mr. and Mrs. Jas. Campbell:
 Steel guitars: Duets.
 8.5 p.m.—News items.
 8.10 p.m.—Studio items.
 8.15 p.m.—Miss Sylvia Churchill, mezzo so-
 prano: Selected.
 8.22 p.m.—Miss Eiline O'Connor:
 Songs at the Piano.
 8.26 p.m.—Mr. Douglas Rae, tenor:
 "Kashmiri Song."
 8.33 p.m.—Miss Mabel Ramsbotham:
 Violin solo, Selected.
 8.40 p.m.—Mr. and Mrs. James Campbell:
 Steel guitar duet: Selected.
 8.48 p.m.—Miss Sylvia Churchill, mezzo so-
 prano: "Love's Wish."
 8.55 p.m.—Mr. Douglas Rae, tenor:
 Selected.
 9 p.m.—Weather forecast.
 9.2 p.m.—Dance music.
 9.30 p.m.—Close down.

3LO, MELBOURNE

Wednesday.

MORNING SESSION.

- 7.15 a.m.—"Herald" Morning Session.
 8.15 a.m.—Close down.

MIDDAY SESSION.

- 12 noon.—Melbourne Observatory Time Signal.
 12.1 p.m.—Metal Prices received by the Aus-
 tralian Mines and Metals Association from
 the London Stock Exchange this day.
 British Official Wireless News from Rugby.
 Reuter's and the Australian Press Associa-
 tion cables. "Argus" news service.
 12.20 p.m.—JOE ARONSON AND HIS SYN-
 CO-SYMPHONISTS.
 12.30 p.m.—LEO FISHER, tenor:
 "I Arise from Dreams of Thee" (Head).
 "Casey, the Fiddler."
 12.37 p.m.—Stock Exchange Information.
 12.40 p.m.—JOE ARONSON AND HIS SYN-
 CO-SYMPHONISTS.
 1 p.m.—Melbourne Observatory Time Signal.
 "Are you careful to look both ways before
 you step off the pavement—forget, and you
 may not get the chance to remember any
 more—Safety First Always."
 1.1 p.m.—Meteorological information. Weather
 forecast and rainfall for Victoria, Tas-
 mania, South Australia and New South
 Wales. Ocean forecasts. River reports.
 1.8 p.m.—LEO FISHER, tenor:
 "Two Little Southern Songs" (King).
 "A Little Wooing" (Eisdell).
 1.15 p.m.—JOE ARONSON AND HIS SYN-
 CO-SYMPHONISTS.
 1.30 p.m.—MRS. LEO FISHER, soprano:
 "The Market" (Molly Carew).
 "Ships of Arcady" (Head).
 1.37 p.m.—JOE ARONSON AND HIS SYN-
 CO-SYMPHONISTS.
 2 p.m.—Close down.
 2.15 p.m.—Description of Trial Stakes, 6 fur-
 longs, WARRNAMBOOL RACES (Ama-
 teur Day), by "Musket," of the "Sporting
 Globe."
 2.20 p.m.—Close down.
 2.50 p.m.—Description of Hurdle Race, 2 miles
 58 yards, WARRNAMBOOL RACES (Ama-
 teur), by "Musket," of the "Sporting
 Globe."
 2.55 p.m.—Close down.

AFTERNOON SESSION.

- 3 p.m.—Melbourne Observatory Time Signal.
 3.1 p.m.—STUDIO QUARTET:
 "Les Contes d'Hoffman" (Offenbach).

- 3.10 p.m.—MRS. LEO FISHER, soprano:
 "The Valley of Laughter" (Sanderson).
 "Maori Love Song" (Wm. James).
 3.17 p.m.—REGINALD BRADLEY, violin:
 Two Japanese violin solos:
 1. "Chanson triste Japonaise" (Koscatz
 Camada).
 2. "Sarashi" (Koscatz Camada).
 3.25 p.m.—Description of Summer Handicap,
 1 mile, WARRNAMBOOL RACES (Ama-
 teur Day), by "Musket," of the "Sporting
 Globe."
 3.30 p.m.—STATION TRIO:
 "Tender Heart" (Baga).
 3.37 p.m.—LEO FISHER, tenor:
 "Songs of Araby" (Clay).
 "I hear you Calling Me" (Marshall).
 3.44 p.m.—STUDIO QUARTET:
 "The Dance of the Tumblers" from "The
 Snow Maiden" (Rimsky-Korsakov).
 3.53 p.m.—MRS. LEO FISHER:
 "Yellow Slippers."
 "The Hawk."
 Desert Love Songs (Clark).
 4 p.m.—Description of Pony Race, 6 furlongs,
 WARRNAMBOOL RACES (Amateur Day),
 by "Musket," of the "Sporting Globe."
 4.5 p.m.—LEO FISHER, tenor:
 "Lend me your Aid" (Irene).
 "Sorta Miss You" (Smith).
 4.12 p.m.—LYNCH BELLRINGERS:
 Request number.
 4.15 p.m.—STUDIO QUARTET:
 Valse Intermezzo, "Sea Maidens."
 Selection, "Samson and Delilah" (St. Saens).
 4.30 p.m.—LYNCH BELLRINGERS:
 Selected.
 4.35 p.m.—Description of Welter Handicap, 6
 furlongs, WARRNAMBOOL RACES (Ama-
 teur Day), by "Musket," of the "Sporting
 Globe."
 4.40 p.m.—"Herald" News Service.
 5 p.m.—Close down.
 5.15 p.m.—Description of Flying Handicap, 8
 furlongs, WARRNAMBOOL RACES (Ama-
 teur Day), by "Musket," of the "Sporting
 Globe."
 5.20 p.m.—Close down.

EVENING SESSION.

CHILDREN'S HOUR.

- 6 p.m.—Answers to letters and birthday greet-
 ings by "MARY MARY."
 6.20 p.m.—STUDIO QUARTET:
 "March of the Toys," from "Babes in Toy-
 land" (Herbert).
 6.27 p.m.—HOBIES: Under the auspices of
 the Numismatic Society of Victoria, E. S.
 Anthony will speak on
 "English Coins."
 6.42 p.m.—STUDIO QUARTET:
 "The Kangaroo's Picnic" (Carver).
 6.50 p.m.—"MARY MARY":
 "The Queen Bee."
 7 p.m.—Official Report of Newmarket Stock
 Sales by the Associated Stock and Station
 Agents, Bourke Street, Melbourne.
 7.5 p.m.—"Herald" News service. Weather
 synopsis. Shipping movements.
 7.12 p.m.—Stock Exchange Information.
 7.17 p.m.—Fish Market reports by J. R.
 Borrett, Lt. Rabbit prices.
 7.19 p.m.—River reports.
 7.21 p.m.—Market reports by the Victorian
 Producers' Co-operative Co., Ltd.: Poultry,
 Grain, Hay, Straw, Jute, Dairy Produce,
 Potatoes and Onions. Market reports of
 fruit by the Victorian Fruiterers' Associa-
 tion: Retail prices. Wholesale prices of
 fruit by the Wholesale Fruit Merchants'
 Association. Citrus fruits.

NIGHT SESSION.

- 7.30 p.m.—Under the auspices of the Depart-
 ment of Agriculture, A. J. GILL, Senior
 Herd Tester, will speak on
 "Children's Stock Clubs."
 7.45 p.m.—P. W. PEARCE will give a talk on
 Physical Culture:
 "Exercise in Schools."
 8 p.m.—CAPTAIN C. H. PETERS:
 "Books, Wise and Otherwise."
 "Books—Medicine for the soul"—Inscrip-
 tion over the door of the library at Thebes.

- 8.15 p.m.—Transmission from the TIVOLI
 THEATRE, Melbourne, by Permission of J.
 C. Williamson, Ltd.
 9.17 p.m.—PRAHRAN CITY BAND:
 March, "71st Infantry" (Code).
 Waltz, "Amelia."

9.25 p.m.—ONE ACT PLAY:

"THE BAILIFF'S MAN."

He—MAURICE DUDLEY.

She—MRS. MAURICE DUDLEY.

- 9.45 p.m.—PRAHRAN CITY BAND:
 "Reminiscences of Tschaiakowsky" (arr.
 Douglas).
 9.55 p.m.—MRS. LEO FISHER, soprano:
 "My Love's Grey Eyes" (Daisy McGooch).
 "Theres' a Rainbow Shining Somewhere"
 (Hemery).
 10.2 p.m.—"Argus" news service. Meteorolo-
 gical information. British Official Wire-
 less news from Rugby. Island Shipping
 movements.
 10.10 p.m.—WALTER CORNOCK, comedian:
 "With a Tear and a Laugh."
 10.17 p.m.—MRS. LEO FISHER, soprano:
 "Sometimes in My Dreams" (Guy D'Hardelot).
 "Baby O' Mine" (J. Lumsdaine).
 10.24 p.m.—LYNCH BELLRINGERS on the
 Glassophones:
 "Nearer My God to Thee."
 "Lay Me Down to Sleep."
 10.29 p.m.—PRAHRAN CITY BAND:
 Overture, "La Coquette" (Lausent).
 10.39 p.m.—LYNCH BELLRINGERS, on the
 Marimba Resonators:
 "That Certain Party."
 "Horsey."
 "Following You Around."
 10.43 p.m.—JOE ARONSON AND HIS SYN-
 COPATING SYMPHONISTS:
 "Joy Bells" (Friend).
 "Just the Same" (Donaldson).
 "Go Wash an Elephant" (Terker).
 "Nevada" (Nicholson).
 "The Birth of the Blues" (Henderson).
 "The Wind Blew Through His Whiskers
 Just the Same" (Conrad).
 11 p.m.—OUR GREAT THOUGHT:
 "Dignity consists not in possessing honors,
 but in deserving them."
 11.1 p.m.—JOE ARONSON AND HIS SYN-
 COPATING SYMPHONISTS.
 11.40 p.m.—GOD SAVE THE KING.

3AR, MELBOURNE

Wednesday.

MORNING NEWS SESSION.

11.0 a.m. to 12 noon.

MIDDAY CONCERT SESSION.

12.1 p.m.

Transmitted from Panatrophe House, 252
 Collins Street (by exclusive permission of
 Wills and Paton, Ltd.), on the Brunswick
 Panatrophe.

- 1.0 p.m.—Newmarket Stock Sales; Special
 "Snap" Report on the Progress of this
 morning's stock sales at Newmarket (by
 courtesy of John McNamara and Co.). To
 be repeated at 2.30 p.m. specially for the
 benefit of our country listeners.
 1.2 p.m.—Close Down.

MATINEE SESSION.

DANCE CONCERT.

Sports Results: During the afternoon the
 results of the Warrnambool Races and other
 information will be given as it comes to
 hand.

- 2.30 p.m.—Newmarket Stock Sales; Special
 "Snap" Progress Report direct from the
 yards (by courtesy of John McNamara and
 Co.).

- 2.30 p.m.—Studio Orchestra.
- 2.45 p.m.—Ayarz Dansonians:
Fox-Trot, "Me and My Shadow."
Fox-Trot, "Stepping on the Ivories."
Fox-Trot, "Russian Lullaby."
- 3.5 p.m.—Mr. Tom White, Saxophone:
"Saxema" (Wiedoeft).
- 3.9 p.m.—Studio Orchestra.
- 3.27 p.m.—Miss Freda Colnoun, Contralto:
"The Early Morning" (Peel).
"Break O' Day" (Sanderson).
- 3.35 p.m.—Ayarz Dansonians:
Fox-Trot, "As Long as I Have You"
(Simon).
Waltz, "What Does it Matter" (Berlin).
Fox-Trot, "I Can't Get Over a Girl Like
You" (Broones).
- 3.50 p.m.—Mr. Herbert Pettifer, Violin:
"Hungarian Dance No. 4" (Brahms).
- 3.54 p.m.—Studio Orchestra.
- 4.0 p.m.—G.P.O. Clock Says "Four."
- 4.1 p.m.—Second Weather Forecast.
- 4.3 p.m.—Announcements.
- 4.6 p.m.—Ayarz Dansonians:
Fox-Trot, "There's Everything Nice About
You" (Wendling).
Waltz, "Shalimar" (Nicholls).
Fox-Trot, "Take Your Finger Out of Your
Mouth" (Yellman).
- 4.20 p.m.—Miss Ethel Brearley, Piano:
"Chants Polonaise" (Liszt-Chopin).
- 4.24 p.m.—Studio Orchestra.
- 4.32 p.m.—Miss Freda Colhoun, Contralto:
"Spring Sang a Song" (Carne).
"Whatever Is, Is Best" (Lohr).
- 4.40 p.m.—Ayarz Dansonians.
- 4.55 p.m.—To-night's Entertainment.
- 5.0 p.m.—G.P.O. Clock Says "Five"; Close
Down.

CHILDREN'S SESSION.

- 6.30 p.m.—The Farmyard Five:

EVENING SESSION.

HOLIDAY ENTERTAINMENT.

- 7.30 p.m.—Mr. A. G. Kelson, Vice-President
of the 3AR Stamp Club—Stamp collecting
for young and old.
- 8.0 p.m.—G.P.O. Clock Says "Eight."
- 8.1 p.m.—Mr. Will Anderson, Tenor:
"The Kerry Dance."
- 8.4 p.m.—Mr. Harry Loft, Banjo:
"The Jovial Huntsman" (Morley).
"Tired Tim" (Grimshaw).
- 8.12 p.m.—Miss Beth Corrie, Contralto:
"To Music" (Schubert).
"The Rosary" (Nevin).
- 8.20 p.m.—Mr. Eric Stirling, Entertainer:
An Interlude of Fun and Fancy.
- 8.28 p.m.—The Silvertone Four:
"Isle of Somewhere" (Fearis).
"Honey, I Want Yer Now" (Coe).
- 8.36 p.m.—Mr. Alec Walker, The Australian
Bush Man:
Bird Calls of the Bush Land.
- 8.42 p.m.—Mr. Leigh Johnson, Syncopation
at the Piano:
Some Original Compositions by this Popu-
lar Australian Entertainer.
- 8.49 p.m.—Mr. Bert Palmer, Bass:
"My Old Shako" (Trotter).
- 8.53 p.m.—Miss Mavis Yeomans, Comedienne:
Song, "The Cinema Star."
Story, "Mrs. 'Arris at the Ball."
- 9.2 p.m.—Mr. John G. Stonham, Flute:
"Wind in the Trees" (Briccialdi).
- 9.9 p.m.—Mr. F. A. Currie:
"Early Victorian History" Series VI.
- 9.19 p.m.—Miss Freda Treweek, Mezzo:
Negro Spiritual: "Deep River" (Ar. Frey).
Negro Spiritual: "I Want to be Ready"
(Ar. Frey).
- 9.28 p.m.—Mr. Harry Loft, Banjo:
"The Drum Major" (Morley).
"White Coons" (Payne).
- 9.34 p.m.—The Silvertone Four:
"Carry Me Back to Old Virginia" (Bland).
"The Long Day Closes" (Sullivan).
- 9.43 p.m.—Mr. Eric Stirling, Entertainer:
Another Quaint Interlude with a Popular
Laugh Maker.
- 9.51 p.m.—Miss Beth Corrie, Contralto:
"My Dear Soul" (Sanderson).
"The Ash Grove" (Old Air), by request.
- 9.58 p.m.—Mr. Leigh Johnson, Syncopation at
the Piano.
- 10.0 p.m.—G.P.O. Clock Says "Ten."

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They are as typically fresh when you buy them as the other Ever-Ready types, but are of even sturdier construction to counteract the heavy current drain imposed on them by modern multivalve receiving sets.

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- 10.1 p.m.—Semi-Final Weather Report, especially for our country listeners.
- 10.6 p.m.—Mr. Alec Walker, Australian Bush Mimic:
Animal Imitations and Other Sounds picked up during his observation jaunts in the bush.
- 10.12 p.m.—Mr. Alex Main, Tenor:
"Parted" (Tosti).
- 10.16 p.m.—Miss Mavis Yeomans, Comedienne:
Story, "Marietta Uses Her Telephone."
Song, "Mama's Gone Young" (Weston).
- 10.24 p.m.—Mr. Will Booth, Baritone:
"Give a Man a Horse He Can Ride" (O'Hara).
- 10.28 p.m.—Mr. John G. Stonham, Flute:
"Serenade to the Stars" (Chaminade).
"Andante in F" (Molique).
- 10.36 p.m.—Miss Freda Treweek, Mezzo:
"Break, Break!" (Carey), by request.
"The Boat Song" (Harriet Ware).
- 10.44 p.m.—Mr. Alec Main and Mr. Bert Palmer:
Duet, "Come to the Fair" (Easthope Martin), by request.
- 10.48 p.m.—"Age" News Bulletin, exclusive to 3AR.
- 10.55 p.m.—To-morrow's Entertainment.
- 10.58 p.m.—Final Weather Forecast.
- 10.59 p.m.—Our Australian Good-Night Quote is from the poem, "Summer," by Johannes Carl Andersen.
- 11.0 p.m.—G.P.O. Clock Says "Eleven"; God Save the King.

4QG, BRISBANE.

Wednesday.

EARLY MORNING SESSION.

- 6.30 a.m.—Physical culture session.
- 7 a.m.—Close down.

MORNING SESSION.

- 10.30 a.m.—To-day's Social News.
- 10.40 a.m.—Music.
- 10.45 a.m.—Lecturette: "A Beauty Talk," by Dorothea Webster.
- 11 a.m.—Music.
- 11.10 a.m.—General News.
- 11.20 a.m.—Music.
- 11.30 a.m.—Close down.

MIDDAY SESSION.

- 1 p.m.—Market reports; weather information: "The Daily Mail" and "The Daily Standard" news.
- 1.30 p.m.—Lunch hour music.
- 1.58 p.m.—Standard time signal.
- 2 p.m.—Close down.

AFTERNOON SESSION.

- 2.30 p.m.—From the Studio:
Afternoon tea music.
- 4.15 p.m.—"The Telegraph" news.
- 4.30 p.m.—Close down.

EARLY EVENING SESSION.

- 6 p.m.—"Daily Standard" news; announcements.
- 6.10 p.m.—Lecturette: Nil.
- 6.30 p.m.—The Children's Hour:
Stories by "Little Miss Brisbane."
- 7 p.m.—Special news service; market reports, stock reports.
- 7.30 p.m.—Weather news; announcements.
- 7.43 p.m.—Standard time signal.
- 7.45 p.m.—Lecturette arranged by the Queensland Agricultural High School and College.

NIGHT SESSION.

- 8 p.m.—From the Studio:
A programme of Dance Music by Alf. Featherstone and his Studio Syncopators, including:

- Oriental Fox-trots:
(a) "Sahara" (Nicholls).
(b) "Moonlight on the Ganges" (Myers).
- Fox-trots:
(a) "Bouquet" (Nicholls).
(b) "Shepherd of the Hills" (Nicholls).
- Rhythmic Paraphrase:
(a) "June" (arr. by Large), introducing "Andante Cantabile" (Tschaiakowsky).
(b) "Fleur D'Amour" (Padilla).
- Fox-trots:
(a) "It All Deends on You" (De Sylva).
(b) "Just an Ivy-Covered Shack" (Davidson).
- Fox-trots:
(a) "You Need Someone to Love" (Olsen).
(b) "If You See Sally" (Kahn).
- Between dances the following will be broadcast:
Tenor solos:
(a) "The Sergeant-Major's On Parade."
(b) "What the Colonel Told the Adjutant."
Signor Corti.
Humorous item, "Sandy" teaches "Percy" the alphabet.
A description of the main motor cycling event from the Davies Park Speedway.
- 10 p.m.—"The Daily Mail" news; weather news.
Close down.

5CL, ADELAIDE.

Wednesday.

MORNING SESSION.

12 noon to 2 p.m.

AFTERNOON SESSION.

- 3 p.m.—G.P.O. Chimes.
- 3.1 p.m.—Musical numbers.
- 3.45 p.m.—Weekly Fashion Talk.
- 4 p.m.—G.P.O. Chimes.
- 4.1 p.m.—Musical numebrs.
- 4.57 p.m.—E. C. Ward and Co's stock exchange Intelligence.
- 5 p.m.—G.P.O. Chimes and close down.

EVENING SESSION.

- 6.30 p.m.—G.P.O. Chimes.
- 6.31 p.m.—Children's time.
- 7.20 p.m.—Market reports by A. W. Sandford and Co. A. E. Hall and Co. Dalgety and Co. S. A. Farmers Co-operative Union. Taylor Bros. Retail Grocer's Association. J. H. Young's special report on the tomato Market. Interstate Fruit and Produce Market Co. Ltd. S. S. Ward and Co's Stock Exchange intelligence.
- 7.25 p.m.—Extracts from "News Bulletin."
- 7.30 p.m.—Boy Scouts Corner.
- 7.45 p.m.—Fauldings talk by Mr. L. A. Ramsay.
- 7.55 p.m.—Station announcements.
- 8 p.m.—G.P.O. Chimes.
- 8.1 p.m.—Band Concert from Henley Beach Rotunda by Holdens Silver Band interspersed with vocal and Instrumental numbers, by the following artists:
K. Cornish, bass.
Gill Evans, tenor.
F. Gibbons, celo.
Chas. Carter, humorist.
Pianist, Miss Lucy Foglia.
- 9 p.m.—G.P.O. Chimes.
- 9.1 p.m.—Meteorological information.
- 9.3 p.m.—Dalgety's wheat report.
- 9.4 p.m.—Station announcements.
- 9.7 p.m.—Band Concert continued.
- 10 p.m.—G.P.O. Chimes.
- 10.1 p.m.—"Advertiser" General news service.
- 10.25 p.m.—Vocal concert continued.
- 10.30 p.m.—Relay from the Maison de Danse—Dance selections.
- 10.55 p.m.—Thursday's programme and Meteorological information.
- 11 p.m.—G.P.O. Chimes and National Anthem.

6WF, PERTH.

Wednesday.

MIDDAY SESSION.

- 12.30 p.m.—Tune in.
- 12.35 p.m.—Markets, News, and Cables.
- 1 p.m.—Time signal from Perth Observatory.
- 1.1 p.m.—Weather notes supplied by the Meteorological Bureau of Western Australia.
- 1.2 p.m.—STUDIO QUINTETTE.
- 2 p.m.—Close down.
- 3.30 p.m.—Tune in.
- 8.35 p.m.—Talk: "Shop Windows," by Junette.
- 8.55 p.m.—Orchestral music played by Hoyt's Orchestra, conducted by Mr. Harold Partington, relayed from Hoyt's Regent Theatre, William Street.
Vocal interludes from the Studio.
- 4.30 p.m.—Close down.
- 6.45 p.m.—Tune in.

THE EVENING TRANSMISSION IS BROADCAST ON 104.5 METRES OF PROGRAMME GIVEN ON 1250 METRES, COMMENCING AT 6.45 p.m.

- 6.50 p.m.—Stories for Tiny Tots by Auntie June and Uncle Duffy.
- 7.20 p.m.—Stocks, Markets, News.
- 7.45 p.m.—Sporting talk by Mr. S. B. Gravenall.
- 8 p.m.—Time signal from Perth Observatory.
- 8.1 p.m.—Weather notes supplied by the Meteorological Bureau of Western Australia.
Station announcements such as alterations to programmes, etc.

8.3 p.m.—VARIETY NIGHT.

- Musical programme from the Studio, including vocal and instrumental artists.
Orchestral music played by Hoyt's Orchestra, conducted by Mr. Harold Partington, relayed from Hoyt's Regent Theatre, William Street.
- 10 p.m.—Late news items by courtesy of "The Daily News" Newspaper Coy.
Ships within range announcement.
Weather report and forecast.
- 10.30 p.m.—Close down.

104.5 METRES TRANSMISSION.

Simultaneous broadcast on 104.5 Metres of Programme given on 1250 Metres, commencing at 6.45 p.m.

Thurs., Jan. 12

2FC, SYDNEY.

EARLY MORNING SESSION.

7 a.m. to 8 a.m.

MORNING SESSION.

- 10 a.m.—"Big Ben" and announcements.
- 10.5 a.m.—Studio music.
- 10.15 a.m.—"Sydney Morning Herald" news service.
- 10.30 a.m.—Studio music.
- 10.35 a.m.—Last minute Racing information by the 2FC Commissioner.
- 10.45 a.m.—Studio music.
- 11 a.m.—"Big Ben." Studio music.
- 11.5 a.m.—A.P.A. and Reuter's Cables.
- 11.10 a.m.—Studio music.
- 11.15 a.m.—A Reading.
- 11.30 a.m.—Close down.

MIDDAY SESSION.

- 12 noon.—"Big Ben" and announcements.
- 12.2 p.m.—Stock Exchange, first call.

12.3 p.m.—Official Weather forecast, rainfall.
 12.5 p.m.—Studio music.
 12.10 p.m.—Summary of "Sydney Morning Herald" news service.
 12.15 p.m.—Rugby Wireless News.
 12.20 p.m.—Studio music.
 12.30 p.m.—Jeanette Rooney, contralto:
 "Salaam" (Agnes Mary Lang).
 12.35 p.m.—Studio music.
 12.45 p.m.—Thelma Lansdowne, mezzo:
 "Three Fishers went Sailing" (Hullah).
 12.50 p.m.—Studio music.
 1 p.m.—"Big Ben." Weather intelligence.
 1.3 p.m.—"Evening News" midday news service.
 Producers' Distributing Society's report.
 1.20 p.m.—Studio music.
 1.28 p.m.—Stock Exchange, second call.
 1.30 p.m.—Jeanette Rooney, contralto:
 "Far across the Desert Sands" (Finden).
 1.35 p.m.—Studio music.
 1.45 p.m.—Thelma Lansdowne, mezzo:
 "The Song of the Windmill" (Travers).
 1.50 p.m.—The 2FC Racing Commissioner.
 Late Racing information.
 2 p.m.—"Big Ben." Close down.

AFTERNOON SESSION.

3 p.m.—"Big Ben" and announcements.
 3.3 p.m.—Fosse Brakell, contralto:
 "Requiem" (Sidney Homer).
 3.6 p.m.—A Reading.
 3.16 p.m.—Ethel Muller, contralto:
 "I Sometimes Wonder" (Gladys Ross).
 3.20 p.m.—Freda Fish, violinist.
 3.25 p.m.—Eileen Moreau, soprano.
 3.30 p.m.—A Talk.
 3.40 p.m.—Fosse Brakell, contralto.
 3.45 p.m.—A Pianoforte reproduction.
 3.55 p.m.—Freda Fish, violinist.
 4 p.m.—"Big Ben." Ethel Muller, contralto:
 "The Silver Ring" (Chaminade).
 4.5 p.m.—Popular records.
 4.13 p.m.—Eileen Moreau, soprano.
 4.17 p.m.—Freda Fish, violinist.
 4.23 p.m.—A Pianoforte reproduction.
 4.32 p.m.—Popular records.
 4.40 p.m.—Freda Fish, violinist.
 4.45 p.m.—Stock Exchange, third call.
 4.47 p.m.—Studio music.
 5 p.m.—"Big Ben." Close down.

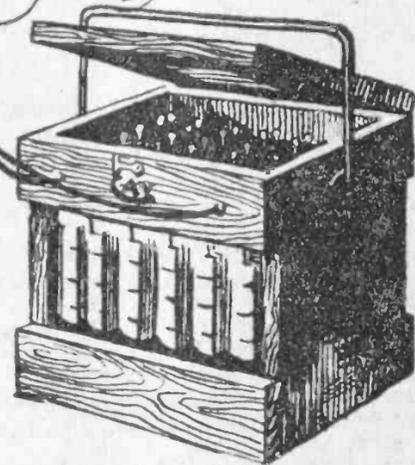
EARLY EVENING SESSION.

5.40 p.m.—The Chimes of 2FC.
 5.45 p.m.—The "Hello Man" Talks to the Children.
 6.15 p.m.—Storytime for the Young Folk.
 6.30 p.m.—The 2FC Studio Orchestra, conducted by Mr. Horace Keats.
 7 p.m.—"Big Ben." Late sporting news.
 7.10 p.m.—Dalgety's Market reports (Wool, Wheat and Stock).
 7.18 p.m.—Fruit and Vegetable Markets. P.D.S. Poultry markets.
 7.22 p.m.—Weather and Shipping news.
 7.25 p.m.—"Evening News" late news service.

NIGHT SESSION.

7.35 p.m.—Programme announcements.
 7.38 p.m.—The 2FC Studio Orchestra, conducted by Mr. Horace Keats.
 7.45 p.m.—Miss May Matthews, a member of the recent Industrial Trade Commission to America, will continue her travel talks.
 8 p.m.—"Big Ben." The 2FC Studio Orchestra, conducted by Mr. Horace Keats.
 8.15 p.m.—Madame Emily Marks, soprano:
 "Depuis le Jour" (Charpentier), with Orchestral accompaniment.
 8.20 p.m.—The 2FC Studio Orchestra, conducted by Mr. Horace Keats.
 8.32 p.m.—Wilfrid Thomas, basso:
 "Secrecy" (Hugo Wolf).
 8.35 p.m.—2FC Dance Night. Music supplied by the 2FC Dance Band, conducted by Cyril Coy.
 8.45 p.m.—Duet: Wilfred Thomas, basso, and Madame Emily Marks, soprano:
 "The Crucifix."
 8.49 p.m.—The 2FC Dance Band. Conductor, Cyril Coy.

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Battery and Wireless Sales and Service Station:
 13-15 WENTWORTH AVENUE, SYDNEY

And All Radio Dealers.

8.59 p.m.—Late Weather forecast.
 9.1 p.m.—Rus Garling in Mirth and Melody.
 9.5 p.m.—The 2FC Dance Band.
 9.15 p.m.—Louise Homfrey, Lady baritone.
 9.20 p.m.—The 2FC Dance Band.
 9.30 p.m.—Wilfrid Thomas, basso;
 "Fill a Glass" (Roger Quilter).
 9.35 p.m.—The 2FC Dance Band.
 9.43 p.m.—Madame Marks, soprano:
 "Butterflies" (Linn Seiler).
 9.46 p.m.—The 2FC Dance Band.
 9.56 p.m.—Rus Garling.
 10.2 p.m.—The 2FC Dance Band.
 10.12 p.m.—Louise Homfrey, Lady baritone.
 10.17 p.m.—The 2FC Dance Band.
 10.27 p.m.—Madame Emily Marks, soprano:
 "The First Meeting" (Grieg).
 10.30 p.m.—Late Weather forecast.
 10.31 p.m.—Wilfrid Thomas, basso:
 "Sombre Woods" (Lulli).
 10.34 p.m.—The 2FC Dance Band.
 10.44 p.m.—Louise Homfrey, Lady baritone.
 10.50 p.m.—The 2FC Dance Band.
 10.57 p.m.—Late news and announcements.
 11 p.m.—"Big Ben." The 2FC Studio Dance
 Band until 11.45 p.m. Popular records at
 intervals.
 11.45 p.m.—National Anthem.
 Close down.

2BL, SYDNEY.

Thursday.

EARLY MORNING SESSION.

8 a.m. to 9 a.m.

MORNING SESSION.

10.30 a.m.—G.P.O. Clock and chimes.
 Musical programme from Studio.
 10.40 a.m.—News from the "Daily Telegraph"
 Pictorial.
 10.50 a.m.—Musical programme from the
 studio.
 11 a.m.—G.P.O. Clock and chimes.
 Women's Session. Social Notes. Replies to
 correspondents by Mrs. Jordan.
 Talk on "Architecture" by Mr. Brogan.
 12 noon.—G.P.O. Clock and chimes.
 Special Ocean forecast and weather report.
 12.3 p.m.—Musical programme from the studio
 12.8 p.m.—Information. Mails, Shipping, and
 port directory.
 12.11 p.m.—Boats in call by wireless.
 12.13 p.m.—Fruit Market report.
 12.15 p.m.—Vegetable Market report.
 12.17 p.m.—London Metal Market report.
 12.19 p.m.—Dairy Farm and Produce Market
 report.
 12.22 p.m.—Forage Market report.
 12.24 p.m.—Fish Market report.
 12.26 p.m.—Rabbit Market report.
 12.28 p.m.—Stock Exchange report.
 12.30 p.m.—H.M.V. Gramophone recital.
 1.27 p.m.—Stock Exchange report.
 1.30 p.m.—G.P.O. Clock and chimes. Talk to
 children and special entertainment for
 Children in Hospital.
 2 p.m.—G.P.O. Clock and chimes.
 Close down.

AFTERNOON SESSION.

Racing information broadcast immediately
 after each race by courtesy of the "Sun."
 3 p.m.—G.P.O. Clock and chimes.
 Musical programme from Studio.
 3.10 p.m.—News from the "Sun."
 3.20 p.m.—Pianoforte recital from studio.
 3.30 p.m.—News from the "Sun."
 3.40 p.m.—Dungowan Dance Band, broadcast
 from Dungowan Cabaret.
 4 p.m.—G.P.O. Clock and chimes.
 News from the "Sun."
 4.8 p.m.—Musical programme from the Studio.
 4.15 p.m.—Talk on "Women of the Orient
 of all ages."
 4.30 p.m.—Dungowan Dance Band.
 4.50 p.m.—News from the "Sun."
 4.55 p.m.—Resume of nights programme.
 4.57 p.m.—Racing Resume.
 4.59 p.m.—Special Ocean forecast.
 5 p.m.—G.P.O. Clock and chimes. Close down.

EARLY EVENING SESSION.

5.45 p.m.—G.P.O. Clock and chimes.
 Children's Session.

SPECIAL COUNTRY SESSION.

6.30 p.m.—G.P.O. Clock and chimes.
 Australian Mercantile Land and Finance
 Co's report.
 Weather report and forecast by courtesy of
 Govt. Meteorologist.
 Producers Distributing Society's Fruit and
 Vegetable Market report.
 Stock Exchange reports.
 Grain and Fodder report ("Sun.")
 Dairy Produce Report ("Sun.")
 Weekly Traffic Bulletin.
 6.45 p.m.—Country News from the "Sun."
 7 p.m.—G.P.O. Clock and chimes.
 Dinner Music.
 8 p.m.—G.P.O. Clock and chimes.
 Broadcasters Topical Chorus.
 8.3 p.m.—An hour's programme presented by
 Home Recreations the Salonola Dance Or-
 chestra.
 8.13 p.m.—Miss Phyllis Atkinson, soprano.
 8.20 p.m.—The Salonola Dance Orchestra.
 8.30 p.m.—Miss Beryl Scott, songs at the
 piano.
 8.37 p.m.—The Salonola Dance Orchestra.
 8.47 p.m.—Mr. Stan Cartnell, comedian.
 8.54 p.m.—The Salonola Dance Orchestra.
 9.4 p.m.—Weather report and forecast by
 courtesy of Mr. C. J. Mares, Govt. Meteor-
 ologist.
 9.8 p.m.—Miss May Nancarrow, elocutionist.
 9.15 p.m.—Miss Edna Lister, contralto.
 9.22 p.m.—Miss Dulcie Blair, violinist.
 9.29 p.m.—Miss Phyllis Atkinson.
 9.36 p.m.—Mr. Stan Cartnell.
 9.43 p.m.—Miss Edna Lister.
 9.50 p.m.—Miss Dulcie Blair.
 9.57 p.m.—Miss May Nancarrow.
 10.4 p.m.—Miss Beryl Scott.
 10.11 p.m.—Announcements.
 10.15 p.m.—Cyril Kaye and The Wentworth
 Cafe Orchestra broadcast from the ballroom
 of The Wentworth. During intervals be-
 tween dances "Sun" news will be broadcast.
 11.30 p.m.—G.P.O. Clock and chimes.
 National Anthem.

2GB, SYDNEY

Thursday.

MORNING SESSION.

10 a.m.—Music.
 10.10 a.m.—"Good Cheer" Talk.
 10.20 a.m.—Music.
 10.30 a.m.—Happiness Talk.
 10.40 a.m.—Women's Session.
 11 a.m.—Close down.

AFTERNOON SESSION.

2 p.m.—Music.
 2.7 p.m.—Address.
 2.22 p.m.—Music.
 2.32 p.m.—Address.
 2.52 p.m.—Music.
 3 p.m.—Close down.
 5.30 p.m.—Music. Children's Session.
 6.30 p.m.—Music.
 7 p.m.—Announcements; News; Market
 reports.
 7.20 p.m.—Music.
 7.30 p.m.—Address.
 7.45 p.m.—Music.
 8 p.m.—Violin Solos by LEONARD
 BREWER.
 8.8 p.m.—Songs by GLADYS HART.
 8.15 p.m.—Address.
 8.30 p.m.—Pianoforte Solos by DOROTHY
 SPARK.
 8.37 p.m.—Songs by SAM. H. HARRIS.
 8.44 p.m.—Clarinet Solos.
 8.54 p.m.—Songs by GLADYS HART
 9.1 p.m.—Violin Solos by LEONARD
 BREWER.
 9.10 p.m.—Talk.
 9.30 p.m.—Songs by SAM. H. HARRIS.

9.37 p.m.—Serial Story.
 9.47 p.m.—Clarinet Solos.
 9.54 p.m.—Good-Night Talk.
 10 p.m.—Close down.

3LO, MELBOURNE.

Thursday.

MORNING SESSION.

7.15 a.m.—"Herald" Morning Session.
 8.15 a.m.—Close down.

MIDDAY SESSION.

12 noon.—Melbourne Observatory time signal.
 Metal prices received by the Australian
 Mines and Metals Association from the
 London Stock Exchange this day. Reuter's
 and the Australian Press Association cables.
 British official wireless news from Rugby.
 "Argus" news service.

12.20 p.m.—COMMUNITY SINGING FROM THE STUDIO:

(Conductor, G. J. Mackay), assisted by THE
 STUDIO QUARTETTE (Conductor,
 REGINALD BRADLET).

SOLOISTS.

LEO FISHER, tenor:

"By the Blue River" (Clark).
 "Two Eyes of Grey" (McGough).

MRS. FISHER, soprano:

"I Want You Beside Me" (Meale).

"Thanks be to God" (Stanley Dickson).

1.45 p.m.—Meteorological information. Wea-
 ther forecast and rainfall for Victoria,
 Tasmania, South Australia and New South
 Wales. Ocean forecast. River reports.
 Stock Exchange information.

2 p.m.—Close down.

AFTERNOON SESSION.

3 p.m.—Melbourne Observatory time signal,
 3.1 p.m.—STUDIO QUARTETTE:
 "Sea Maidens" valse Intermezzo (Gallatly).
 3.15 p.m.—ALBERT CARLISLE, tenor, by
 permission of J. C. Williamson Ltd.:
 "Ma Pari Tutt Amor."
 "Kashmiri Song" (Finden).
 3.22 p.m.—LYNCH BELLRINGERS:
 "International Melodies."
 3.26 p.m.—BERTHA JORGENSON, violin:
 "Minuet" (Popora-Kreisler).
 Selected.
 3.36 p.m.—STUDIO QUARTETTE:
 Selection, "The Barber of Seville" (Rossini).
 3.50 p.m.—CHARLES NUTTALL:
 Seeling the World, "The Falls of Niagara."
 4.5 p.m.—TASMA TIERNAN, 'cello:
 "Sonate II. Op. 5 Adagio Sostenuto"
 (Beethoven).
 4.12 p.m.—THE LYNCH BELLRINGERS:
 "Sweet Chiming Bells."
 4.15 p.m.—ALBERT CARLISLE, tenor:
 "In the Garden of To-morrow" (Deppin).
 "In the Gloaming" (Leonard).
 4.22 p.m.—STUDIO QUARTETTE:
 "Canzonetta" (Tschaiakowsky).
 4.30 p.m.—"Herald" news service.
 4.45 p.m.—EVENSONG transmitted from St.
 Paul's Cathedral.
 5.30 p.m.—Acceptances for Saturday's races
 at Aspendale.
 5.35 p.m.—Close down.

EVENING SESSION.

CHILDREN'S HOUR.

6 p.m.—Answers to letters and Birthday
 Greetings by "BILLY BUNNY."
 6.20 p.m.—ELSIE BRADSHAW:
 Songs at the Piano.
 6.27 p.m.—MISS M. SHEPHERD:
 Uncommon Tales.

6.42 p.m.—ELSIE BRADSHAW:
More Songs.
6.49 p.m.—"BILLY BUNNY":
Helen's Babies.
7 p.m.—Official report of Newmarket Stock Sales by the Associated Stock and Station Agents, Bourke Street, Melbourne.
7.5 p.m.—"Herald" news service. Weather synopsis. Shipping movements.
7.12 p.m.—Stock Exchange information.
7.17 p.m.—Fish market reports by J. R. Borrett Ltd. Rabbit prices.
7.19 p.m.—River reports.
7.21 p.m.—Market reports by the Victorian Producers' Co-operative Co. Ltd. Poultry, Grain, Hay, Straw, Jute, Dairy Produce, Potatoes and Onions. Market reports of fruit by the Victorian Fruiterers' Association. Retail prices. Wholesale prices of fruit by the Wholesale Fruit Merchants' Association. Citrus fruits.
Ballarat Pig Market reports, by the Ballarat Stock and Station Agents.

NIGHT SESSION.

7.30 p.m.—Under the auspices of the Royal Automobile Club of Victoria, The President, Mr. Alured Kelly, will speak on—"Motoring in 1928."
7.45 p.m.—CECIL KELLAWAY, now appearing in "Queen High," at the Theatre Royal, will speak to you from his dressing-room by permission of J. C. Williamson Ltd.
8 p.m.—ROD MCGREGOR will speak on—"Cricket."
8.15 p.m.—JOE ARONSON AND HIS SYNCOPATING-SYMPHONISTS:
"No Wonder I'm Happy" (Meyer).
"Blondy" (Meyer).
"Waiting for the Rainbow" (Tennent).
8.24 p.m.—LEO FISHER:
"The Girl from Henley Way" (Clark).
8.27 p.m.—JOE ARONSON AND HIS SYNCOPATING-SYMPHONISTS:
"Crazy Words Crazy Tune" (Ager).
"Following You Around" (Kahn).
"At Sundown" (Donaldson).
8.36 p.m.—MRS. LEO FISHER:
"The Piper of Live" (Molly Carew).
8.39 p.m.—JOE ARONSON AND HIS SYNCOPATING-SYMPHONISTS:
"Hello, Swanee Hello" (Coslow).
"I Wonder How I Look When I'm Asleep" (Henderson).
"A Lane in Spain" (Lewis).
8.48 p.m.—THE LYNCH BELLRINGERS, on the Glassophones:
"Because I Love You."
8.52 p.m.—JOE ARONSON AND HIS SYNCOPATING-SYMPHONISTS:
"Goodness Gracious Agnes" (Darcy).
"Forgotten" (O'Hagan).
"Blowing off Steam" (Davis).
9.1 p.m.—FREDA STEVENS:
"When I Was Young" (D'Hardelot).
9.4 p.m.—JOE ARONSON AND HIS SYNCOPATING-SYMPHONISTS:
"Just a Memory" (De Sylvia).
"You're the Flower of My Heart, Sweet Iodine" (Schuster).
"Oh, Miss Hannah" (Deppin).
9.13 p.m.—WALTER CORNOCK, comedian:
"With a Tear and a Laugh."
9.16 p.m.—JOE ARONSON AND HIS SYNCOPATING-SYMPHONISTS:
"That Song of Songs" (Moya).
"Funny Tune" (Elmer).
"Take Your Finger Out of Your Mouth" (Yellman).
9.25 p.m.—LEO FISHER, tenor:
"For You Alone" (Geehl).
9.28 p.m.—JOE ARONSON AND HIS SYNCOPATING-SYMPHONISTS:
"Positively, Absolutely" (Coslow).
"Broken Dreams" (Spitalmy).
"Ain't That a Grand and Glorious Feeling" (Terker).
9.37 p.m.—THE LYNCH BELLRINGERS, on the Glassophones:
"Forgotten."
9.41 p.m.—JOE ARONSON AND HIS SYNCOPATING-SYMPHONISTS:
"Her Have Went" (Smith).
"Baby Your Mother, She Babied You" (Morse).
"Spanish Moon" (Terese).



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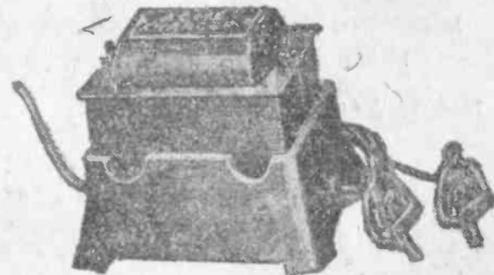
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Wireless Department, Ground Floor, New Building.

FARMER'S

Pitt, Market and George Streets.

9.50 p.m.—FREDA STEVENS:
 "Ah Through the Silver Moon" (H. Lohr).
 9.53 p.m.—JOE ARONSON AND HIS SYM-
 COPATING-SYMPHONISTS:
 "Me and My Shadow" (Jolson).
 "Underneath the Weeping Willow" (Breau).
 "In a Japanese Garden" (Nausbaum).
 10 p.m.—"Argus" news service. British
 official wireless news from Rugby. Meteorolo-
 gical information. Announcements. Sport-
 ing notes by "Olympus." Island shipping
 movements.
 10.15 p.m.—JOE ARONSON AND HIS SYM-
 COPATING-SYMPHONISTS:
 "The Harlequins Grand March" (Dixon).
 "Heaven Help a Sailor on a Night Like
 This" (Dubin).
 "Yesterday" (Harrison).
 10.24 p.m.—WALTER CORNOCK, comedian:
 "On With the Motley."
 10.27 p.m.—JOE ARONSON AND HIS SYM-
 COPATING-SYMPHONISTS:
 "The Whole World is Laughing at Me"
 (Grunden).
 "Russian Lullaby" (Berlin).
 "The Birth of the Blues" (Henderson).
 10.36 p.m.—MRS. LEO FISHER:
 "Love's a Merchant" (Molly Carew).
 10.39 p.m.—JOE ARONSON AND HIS SYM-
 COPATING-SYMPHONISTS:
 "China Town" (Yvain).
 "Go Wash an Elephant" (Terker).
 "One Summer Night" (Spier).
 10.48 p.m.—THE LYNCH BELLRINGERS:
 Waltz, "Blue Danube."
 10.57 p.m.—JOE ARONSON AND HIS SYM-
 COPATING-SYMPHONISTS:
 "Dear Little Irish Mother" (O'Brien).
 11 p.m.—OUR GREAT THOUGHT—
 "All comes from, and will go to others."
 George Herbert.
 11.1 p.m.—JOE ARONSON AND HIS SYM-
 COPATING-SYMPHONISTS:
 11.40 p.m.—GGD SAVE THE KING.

3AR, MELBOURNE

Thursday.

MORNING NEWS SESSION.

11.0 a.m. to 12 noon.

MIDDAY CONCERT SESSION.

12.1 p.m.

Transmitted from Panatope House, 252
 Collins Street (by exclusive permission of
 Wills and Paton, Ltd.), on the Brunswick
 Panatope.

1.0 p.m.—Newmarket Stock Sales; Special
 "Snap" Report on the Progress of this
 Morning's Sales at Newmarket by courtesy
 of John Macnamara and Co.). To be re-
 peated at 2.30 p.m., specially for our
 country listeners.
 1.2 p.m.—Close Down.

MATINEE SESSION.

ORCHESTRAL CONCERT.

2.30 p.m.—Newmarket Stock Sales; Special
 "Snap" Progress Report direct from the
 yards (by courtesy of John Macnamara and
 Co.).
 2.31 p.m.—Sports Results: During the after-
 noon the results of the Warrnambool Races
 and other information will be broadcast.
 2.32 p.m.—Warrnambool Races; Result of
 Breakwater Hurdle, 2 miles 58 yards.
 2.33 p.m.—Studio Orchestra.
 2.44 p.m.—Warrnambool Races: Result of
 Corinthian Handicap, 6 furlongs.
 2.45 p.m.—Miss Vera Thomson, Soprano:
 "A Spring Morning" (Late Wilson).
 "Flower Fetters" (Willoughby).
 2.53 p.m.—Studio Orchestra.
 3.11 p.m.—Mr. Herbert Pettifer, Violin:
 "Scherzino" (Raff).
 3.15 p.m.—Studio Orchestra.
 3.29 p.m.—Warrnambool Races: Result of
 Beach Steeple, 2 miles.

3.30 p.m.—Miss Vera Thomson, Soprano:
 "Waltz Song From Tom Jones" (German).
 "Robin Song" (White).
 3.38 p.m.—Studio Orchestra.
 3.52 p.m.—Mr. Ben Forbes, The Comedy Ace:
 "I Wonder How I Look When I'm Asleep"
 (Brown).
 "Chinese Moon" (Nausebaum).
 4.0 p.m.—G.P.O. Clock Says "Four."
 4.1 p.m.—2nd Weather Forecast.
 4.3 p.m.—Announcements.
 4.5 p.m.—Warrnambool Races: Results of
 Lindsay Cup, 9½ furlongs.
 4.6 p.m.—"Mademoiselle Jeunesse":
 Timely Topics, Pome Hobbies and Novel
 Notions for our lady listeners.
 4.16 p.m.—Studio Orchestra.
 4.25 p.m.—Mr. Ben Forbes, The Comedy Ace:
 "Who Takes Care of the Caretaker's
 Daughter?" (Endor).
 "I Ain't Nobody's Darling" (King).
 4.33 p.m.—Studio Orchestra.
 4.50 p.m.—Warrnambool Races: Result of
 Pony Race, 5 furlongs.
 4.53 p.m.—To-night's Entertainment.
 4.55 p.m.—Special Racing Report; Accept-
 ances and Barrier Positions for Saturday's
 Races, by G.F.R.
 5.0 p.m.—G.P.O. Clock Says "Five"; Close
 Down.

CHILDREN'S SESSION.

6.30 p.m.—Uncle Mac's Entertainment.

EVENING SESSION.

EVERYBODY'S CONCERT.

7.30 p.m.—Our Boy Scouts: Commissioner W.
 D. Kennedy, Deputy Camp Chief of Victoria,
 will give his interesting weekly notes and
 news on the Boy Scout Movement.
 7.50 p.m.—Newmarket Stock Sales; Pig
 Market Reports.
 8.0 p.m.—G.P.O. Clock Says "Eight."
 8.1 p.m.—Miss Violet Wood, Piano:
 "Waltz No. 2" (Chopin).
 "Waltz No. 6" (Chopin).
 8.7 p.m.—Mr. Horace Jno. Book, Elocutionist:
 Selections from "Pickwick Papers"
 (Dickens).
 8.15 p.m.—Mr. Alan Mitchell, Tenor:
 "Mandalay" (Hedgecock).
 "Only the River Running By" (Hopkins).
 8.22 p.m.—Miss Beatrice Phillips, Violin:
 "Pale Moon" (Logan).
 "Humoresque" (Dvorak).
 8.29 p.m.—The Donian Male Quartette:
 "Talking to the Moon" (Baskette).
 "Wake Little Kate" (Macy).
 8.37 p.m.—Miss Elyse Stewart, Soubrette:
 "B'enny, Be Yourself" (Brown).
 "How Can Any Girlie be a Good Little
 Girl?" (Fentes).
 8.45 p.m.—Miss Winnifred Mitchell, Soprano:
 "Buy My Strawberries" (Oliver).
 "Whistle and I'll Come tae Ye" (Old
 Scotch).
 8.52 p.m.—Mr. Arthur Douglas, Scottish
 Comedian:
 "Australia's Harry Lauder," in his laugh-
 able sketch:—
 "The Wedding of John McLean" (Douglas).
 9.0 p.m.—The Donians:
 Duet, "Trot Here and There" (Messenger).
 Duet, "Oh, No John!" (Sharp).
 9.8 p.m.—Mr. Norman Farmer, Flute:
 "Valse Poetique" (D. Johng).
 "Idylle" (Anderson).
 9.15 p.m.—Miss Elyse Stewart, Soubrette:
 "Billy" (Donaldson).
 "Original Tune Man" (Donaldson).
 9.23 p.m.—Dr. Geo. Payne Philpots: Editor
 of the National Health Magazine and Presi-
 dent of the Food Education Society of
 Victoria, will speak on "The Humane Eye."
 9.38 p.m.—Miss Beatrice Phillips, Violin:
 "Scherzo—Valse" (Brun).
 "Mighty Lak' a Rose" (Nevin).
 9.45 p.m.—Mr. Horace Jno. Book, Elocu-
 tionist: A Selection from "The Ballads of
 a Cheechako":
 "Clancy of the Munted Police" (Robt. W.
 Service).
 9.53 p.m.—Mr. H. Raynor Phillips, Baritone:
 "A Song and a dream" (Cadman).
 "A King's Man" (Hillman).
 10.0 p.m.—G.P.O. Clock Says "Ten."

10.1 p.m.—Semi-Final Weather Forecast,
 especially for our country listeners.
 10.2 p.m.—Yes, Australia! Know Australia!
 Vivid and Interesting News of Our Own
 Country. This one deals with Wonthaggi.
 Specially prepared for 3AR by the Editor
 of the "Wonthaggi Sentinel."
 10.15 p.m.—Miss Winifred Mitchell, Soprano:
 "One Fine Day," from Madame Butterfly
 (Puccini).
 "Song of the Hindou Merchant," from
 Sadko (Rimsky-Korsakov).
 10.22 p.m.—Mr. Norman Farmer, Flute:
 "Butterfly" (Kohler).
 "Scherzo" (Steiner).
 10.30 p.m.—Mr. Arthur Douglas, Scottish
 Comedian: The Popular Caledonian Come-
 dian in one of his merriest moods:
 "I'm Glad I'm Marrit tae the Wife" (Fyfe).
 10.37 p.m.—The Donian Male Quartette:
 "At Sundown" (Donaldson).
 "I'm Gonna Charleston Back to Charleston"
 (Handman).
 10.50 p.m.—"Age" News Bulletin, exclusive
 to 3AR.
 10.55 p.m.—To-morrow's Entertainment.
 10.58 p.m.—Final Weather Forecast.
 10.59 p.m.—Our Australian Good-Night Quote
 is from the poem, "Pioneers," by Arthur
 W. Jose.
 11.0 p.m.—G.P.O. Clock Says "Eleven"; God
 Save the King.

4QG, BRISBANE

Thursday

10.30 a.m.—To-day's Social News.
 10.40 a.m.—Music.
 10.45 a.m.—Lecturette: Garden Talk, "The
 Care of Pot Plants," by "Tecoma."
 11 a.m.—General News.
 11.20 a.m.—Music.
 11.30 a.m.—Close down.

MIDDAY SESSION.

1 p.m.—Market reports; weather information;
 "The Daily Mail" and "The Daily Standard"
 news.
 1.20 p.m.—A lunch hour address.
 1.58 p.m.—Standard time signal.
 2 p.m.—Close down.

AFTERNOON SESSION.

3.30 p.m.—A programme of music by the
 Studio Orchestra.
 4.15 p.m.—"The Telegraph" news.
 4.30 p.m.—Close down.

EARLY EVENING SESSION.

6 p.m.—"Daily Standard" news; announce-
 ments.
 6.30 p.m.—Bedtime Stories by "The Sandman."
 7 p.m.—Market reports; stock reports.
 7.30 p.m.—Weather news; announcements;
 "Daily Standard" news.
 7.43 p.m.—Standard time signal.
 7.45 p.m.—Lecturette: "Progress of Agricul-
 in Queensland," by Mr. J. F. F. Reid (Edi-
 tor, "Queensland Agricultural Journal").

NIGHT SESSION.

PART I.

8 p.m.—From the Studio:
 Nigger Minstrel Entertainment.
 Mr. 'Uggins, Mr. R. Pike.
 Mr. Bones, Mr. R. N. Watts.
 Mr. Joe, Mr. C. R. Kolb.
 Mr. Tambo, Mr. A. F. Stoddard.
 The musical numbers will include:
 "De Ole Banjo."
 "Ole Black Joe."
 "I'd Lak to Go Down South."
 "Swannee Ribber."
 "Down By Dat Ribber."
 "Good Night."

PART II.

8.45 p.m.—From the Hall of the Muses:
 An impromptu programme of music by the
 Brisbane Excelsior Band.

PART III.

9.15 p.m.—From the Studio.
 "Something different" in the way of radio interludes will be presented during the latter portion of the evening. It will be entitled "The Professor's Wedding," and will represent the winning entry in connection with the "Idea Competition" recently conducted by "The Broadcast Bulletin."

The cast will include some well-known early evening identities at 4QG.

10 p.m.—"The Daily Mail" news; weather news.
 Close down.

5CL, ADELAIDE.

Thursday.

MORNING SESSION.

12 noon to 2 p.m.

AFTERNOON SESSION.

3 p.m.—G.P.O. Chimes.
 3.1 p.m.—Musical numebrs.
 3.45 p.m.—Domestic Science talk by Mrs. Murray Coghill.
 4 p.m.—G.P.O. Chimes.
 4.1 p.m.—Musical numbers.
 4.57 p.m.—S.C. Ward and Co's. Stock Exchange Intelligence.
 5 p.m.—G.P.O. Chimes.

EVENING SESSION.

6.30 p.m.—G.P.O. Chimes.
 6.31 p.m.—Children's time.
 7.15 p.m.—Market reports by A. W. Sandford and Co. A. E. Hall and Co. Dalgety and Co. S. A Farmers Co-operative Union, Taylor Bros. Retail Grocer's Association. J. H. Young's special report on the Tomato Market. Interstate Fruit and Produce Market Co. Ltd. S.C. Ward and Co's stock exchange intelligence.
 7.25 p.m.—Extracts from "News Bulletin."
 7.30 p.m.—Popular Science talk.
 7.43 p.m.—Talk on Poultry by Mr. A. M. Whittenbury.
 7.55 p.m.—Station announcements.
 8 p.m.—G.P.O. Chimes.
 8.1 p.m.—Novelty Broadcast.
 8.20 p.m.—Overture, Studio Orchestra.
 8.30 p.m.—One Act Play, Stephen Dunks, and Gwen Hone.
 8.41 p.m.—Selection, Studio Orchestra.
 8.50 p.m.—Mezzo Solo, Beryl Counter.
 8.56 p.m.—Cornet solo, Vern Rogers.
 9 p.m.—G.P.O. Chimes.
 9.1 p.m.—Meteorological information.
 9.3 p.m.—Dalgety's wheat report.
 9.4 p.m.—Station announcements.
 9.7 p.m.—Selection, Studio Orchestra.
 9.20 p.m.—One Act Play, Stephen Dunks, and Gwen Hone.
 9.31 p.m.—Selection Studio Orchestra.
 9.40 p.m.—Musical monologue, Gwen Hone.
 9.45 p.m.—Selection, Studio Orchestra.
 9.45 p.m.—Cello solo, Geoff Goldsworthy.
 9.49 p.m.—Mezzo solo, Beryl Counter.
 9.54 p.m.—Selection, Studio Orchestra.
 10 p.m.—G.P.O. Chimes.
 10.1 p.m.—"Advertiser" news service.
 10.10 p.m.—Sporting service by "Windbag."
 10.15 p.m.—Station announcements.
 10.20 p.m.—Selections Studio Orchestra.
 10.30 p.m.—Relay from the Maison de Danse Glenelg—Dance selection.
 10.55 p.m.—Friday's programme and Meteorological information.
 11 p.m.—G.P.O. Chimes and National Anthem.

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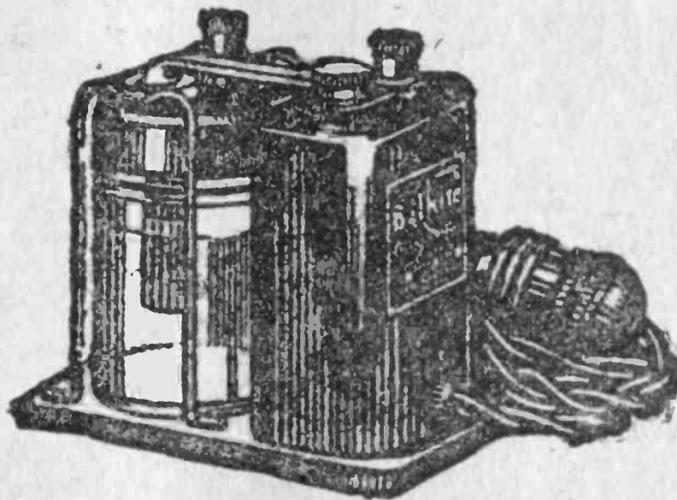
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By R. E. CORDER.



2BE WHICH has been off the air for some time owing to a fire which destroyed the Burgin Electric Co.'s plant, will recommence transmission early in the new year. The wavelength is 316 metres.

ANNIE HUGHES writes from London to 2FC. She is playing with Irene Vanbrugh in "The Woman in the Case." The part she takes is a comic character, by strange coincidence, a "Mrs. Hughes."

WHITHER BOUND: Following on the interesting announcement of a German scientist, that he had perfected a system of string or "bottling" wireless broadcast impulses or signals for future reproduction, the great Marconi has startled the world with a statement that in his opinion the song or speech of man broadcast in the ordinary way may travel indefinitely round and round the inside of the "Heaviside Layer" which surrounds the earth, to be picked up at any time and listened to. Shakespeare said, "Of the making of books there is no end." Nowadays it may be truly said that "To the limits of wireless there is no end."

LISTENING-IN to the special broadcast for women each morning has become quite a habit with a number of radio enthusiasts. A woman at Campsie says she is spurred on to do her housework before 11 o'clock each morning so that she will have the next hour free for unworried relaxation. She suggests that women listeners should do as she does—set an alarm clock for 11 and arrange to have some mending or fancy work at hand, in addition to book and pencil with which to take notes. If they do this, she says, they will bless the hour that releases them from routine work and enjoy the broadcast programmes to the utmost. The lady asked Mrs. Jordan of Station 2BL to tell her how to add the lemon flavoring to fruit salts. This information was duly broadcast.

THIS WEEK the main studio of 4QG is being dismantled for renovation and refurnishing purposes, and when finished should have the effect of improving the transmission as well as adding to the artistic side of the station's appointments.

A LISTENER FROM Cooranbong writes to 2FC complimenting them on their Sunday programmes, and suggests that Sacred Music also be included in the week-day programmes, by broadcasting a few hymns each morning and evening. Readers are invited to forward their views on the subject.

VICTORIA has now transplanted N.S.W. as the State with the largest number of amateur transmitters, according to the following figures supplied by the P.M.G.'s, Department: Victoria 133,746, N.S.W. 72,162, Queensland 25,203, S.A. 18,645, W.A. 3,911, Tasmania 3,343. The total number of licensed listeners is thus 257,050. Revenue for the period 1927-1928 has up to the present amounted to £167,971.

FROM MOSCOW to the State of Washington, U.S.A., is about 7,000 miles by air, but if one took a straight line from Moscow to Sydney and thence to the State of Washington, the distance would be something like 18,000 miles. Yet an American listening in on his broadcasting receiver a few weeks ago heard the Russian broadcaster at Moscow re-broadcast from the Sydney Station 2BL.

THIS LISTENER, Leslie L. Smith by name, had frequently heard Station 2BL, but when he picked up the Russian re-broadcast he became excited and immediately sat down and wrote a letter telling the manager of 2BL all about it. He heard a soprano singing in a language which he supposed to be Russian, "but," he says, "I am in the same fix as your announcer, I do not speak Russian." Mr. Allsop, engineer of Station 2BL, picks up the Russian station nearly every Sunday and Thursday night at his own home, and several times he has re-broadcast him from 2BL for listeners generally to hear. The Russian plays beautiful music, and talks on Bolshevism.



Mr. Hugh Taylor, exponent of Dramatic Art at 7ZL.

Friday, Jan. 13

2FC, SYDNEY.

EARLY MORNING SESSION.

7 a.m. to 8 a.m.

MORNING SESSION.

- 10 a.m.—"Big Ben" and announcements.
 10.5 a.m.—Studio music.
 10.15 a.m.—"Sydney Morning Herald" news service.
 10.30 a.m.—Studio music.
 10.35 a.m.—A Reading.
 10.45 a.m.—Studio music.
 11 a.m.—"Big Ben." Studio music.
 11.5 a.m.—A.P.A. and Reuter's Cable services.
 11.10 a.m.—Studio music.
 11.15 a.m.—A Talk on Home Cooking and Recipes by Miss Ruth Furst.
 11.30 a.m.—Close down.

MIDDAY SESSION.

- 12 noon.—"Big Ben" and announcements.
 12.2 p.m.—Stock Exchange, first call.
 12.3 p.m.—Official Weather forecast; rainfall.
 12.5 p.m.—Studio music.
 12.10 p.m.—Summary of "Sydney Morning Herald" news service. Rugby Wireless news.
 12.25 p.m.—Studio music.
 12.30 p.m.—Harry Jackson, baritone.
 12.35 p.m.—Studio music.
 12.55 p.m.—Lorraine Jarman, soprano: "Someone Brought me Daffodils" (Hady Wood).
 1 p.m.—"Big Ben." Weather intelligence.
 1.3 p.m.—"Evening News" midday news service. Producers' Distributing Society's report.
 1.20 p.m.—Studio music.
 1.28 p.m.—Stock Exchange, second call.
 1.30 p.m.—Harry Jackson, baritone.
 1.35 p.m.—Studio music.
 1.45 p.m.—Lorraine Jarman, soprano: "In a Crowded Street" (Drummond).
 1.50 p.m.—Studio music.
 2 p.m.—"Big Ben." Close down.

AFTERNOON SESSION.

- 3 p.m.—"Big Ben." and announcements.
 3.3 p.m.—The "Dulcet Three." Leader, Mr. Ewart Chapple.
 3.10 p.m.—Frank Botham, baritone: "The Gay Cavalier" (Breville Smith).
 3.13 p.m.—Anne Luciano, soprano.
 3.16 p.m.—The "Dulcet Three." Leader, Mr. Ewart Chapple.
 3.26 p.m.—Phyllis Broadbent, soprano: "I Hid My Love" (D'Hardelot).
 3.30 p.m.—Kathleen Colls, mezzo: "But Why?" (Frederic Logan).
 3.34 p.m.—The "Dulcet Three." Leader, Mr. Ewart Chapple.
 3.44 p.m.—Kathleen Horne, soprano: "Love, Here is My Heart" (Silesu).
 3.48 p.m.—Frank Botham, baritone: "Mate o' Mine" (Elliott).
 3.52 p.m.—Anne Luciano, soprano.
 3.56 p.m.—The "Dulcet Three." Leader, Mr. Ewart Chapple.
 4.6 p.m.—Phyllis Broadbent, soprano: "A Song Remembered" (Coates).
 4.10 p.m.—Kathleen Colls, mezzo: "Vale" (Kennedy Russell).
 4.14 p.m.—Popular records.
 4.24 p.m.—A Pianoforte reproduction.
 4.34 p.m.—Kathleen Horne, soprano: "Comin' thro' the Rye."
 4.38 p.m.—Studio music.
 4.45 p.m.—Stock Exchange, third call.
 4.47 p.m.—Studio music.
 5 p.m.—"Big Ben." Close down.

EARLY EVENING SESSION.

- 5.40 p.m.—The Chimes of 2FC.
 5.45 p.m.—The "Hello Man" Talks to the Children.
 6.30 p.m.—Storytime for the Young Folk.
 6.40 p.m.—Dinner music.
 7 p.m.—"Big Ben." Late Sporting news, told by the 2FC Racing Commissioner.
 7.10 p.m.—Dalgety's Market reports (Wool, Wheat, and Stock).
 7.18 p.m.—Fruit and Vegetable Markets.
 7.22 p.m.—Weather and Shipping news.
 7.26 p.m.—Late "Evening News" news service.

NIGHT SESSION.

- 7.40 p.m.—Programme announcements.
 7.45 p.m.—Graham Keit continues his series of Bridge talks.
 8 p.m.—"Big Ben." From Her Majesty's Theatre, Pitt Street, Sydney. First Act of a New Musical Comedy (by permission of J. C. Williamson, Ltd.).
 9.10 p.m.—From the Studio. Late Weather forecast.
 9.11 p.m.—Raymond Ellis, English Operatic baritone.
 9.25 p.m.—Alexander Sverjensky, Pianoforte solos.
 9.37 p.m.—"Let's go Around the World." Rev. F. H. Raward. Talk No. 6.
 9.49 p.m.—Raymond Ellis, English Operatic baritone.
 10.4 p.m.—Alexander Sverjensky, Pianoforte solos.
 10.14 p.m.—From The Ambassadors; The Ambassadors' Dance Orchestra, conducted by Mr. Al. Hammet.
 10.25 p.m.—From the Studio: Les. Maurice, popular numbers.
 10.30 p.m.—Late Weather forecast.
 10.32 p.m.—From The Ambassadors: Dance music.
 10.57 p.m.—Late news and announcements. From the Studio.
 11 p.m.—"Big Ben." From The Ambassadors: The Ambassadors' Orchestra, conducted by Mr. Al. Hammet, will play until 11.45, interspersed with vocal numbers from the Studio, by Len Maurice.
 11.45 p.m.—National Anthem. Close down.

3LO, MELBOURNE.

Friday

MORNING SESSION.

- 7.15 a.m.—"Herald" morning service.
 8.15 a.m.—Close down.

MIDDAY SESSION.

- 11.30 a.m.—Description of CROQUET, Test Matches, England v. Australia, by C. J. MILLER, from the Melbourne Croquet Club, Union Street, Windsor.
 12 noon.—Melbourne Observatory Time Signal.
 12.1 p.m.—Metal prices received by the Australian Mines and Metals Association, from the London Stock Exchange this day. British Official Wireless news from Rugby. Reuter's and The Australian Press Association cables. "Argus" news service.
 12.20 p.m.—LEO FISHER AND MRS FISHER, tenor and soprano: Solo, Mrs. Fisher: "Waters of Minnetonka" (Leurance). Solo, Leo Fisher: "Cavitana" (Gounod). Duet, "Marcheta" (Schertzinger).
 12.30 p.m.—STUDIO QUARTETTE: Selection, "The Girl of the Golden West" (Puccini).
 12.45 p.m.—Stock Exchange information.
 12.48 p.m.—LYNCH BELLRINGERS: Selections, "La Traviata."
 12.52 p.m.—STUDIO QUARTETTE: "The Rose Girl" (Goetze).

- 1 p.m.—Melbourne Observatory Time Signal. "Confucius" said: "A man exercising no forethought will soon experience present sorrow"—a modern instance of this might well be: "At all times before crossing a road, Stop, Look and Listen."

- 1.1 p.m.—LEO FISHER, tenor: "Serenade" (Schubert). "Who is Sylvia" (Schubert).

- 1.8 p.m.—Meteorological information and rainfall for Victoria, Tasmania, South Australia and New South Wales. Ocean forecasts. River reports.

- 1.15 p.m.—DOROTHY ROXBURGH, viola: Rondino: "The Sailor" (Marais). "Musetta" (Marais).

- 1.22 p.m.—LYNCH BELLRINGERS: "Juanita."

- 1.26 p.m.—STUDIO QUARTETTE: Selection, "La 'Africane'" (Meyerleer).

- 1.42 p.m.—MRS. LEO FISHER: "Bird of Love Divine" (Hady Wood). "A May Morning" (Denza).

- 1.49 p.m.—STUDIO QUARTETTE: "A Round of Country Dance Tunes" (arr. Berliner). "Stray Sunbeam" (Huerter).

- 2 p.m.—Description of CROQUET Matches, Australia v. England, at Melbourne Club, Union Street, Windsor, by Mr. C. J. MILLER, Croquet Champion of Victoria.
 2.30 p.m.—Close down.

AFTERNOON SESSION.

- 3 p.m.—Melbourne Observatory Time Signal.
 3.1 p.m.—STUDIO QUARTETTE, Romantic Suite (Kielley).

1. "Reveil D'Amour."
 2. "Pensees Troubled."
 3. "Querelle et Reconciliation."

- 3.15 p.m.—MISS FRANCES FRASER, English Shrines: "St. Paul's Cathedral."

- 3.30 p.m.—STUDIO QUARTETTE: Selection, "Girl of the Golden West" (Puccini).

- 3.40 p.m.—BOBBY PEARCE, baritone: "Up from Somerset" (Sanderson). "Mighty Lak a Rose."

- 3.47 p.m.—STUDIO QUARTETTE: "Santanna tango de Concert" (Bryan).
 3.53 p.m.—REGINALD BRADLEY, violin: "Mendelssohn Concerto—Andante."

- 4 p.m.—BOBBY PEARCE, baritone: "The Old Brigade" (Barrie). "Veteran's Song" (Adams).

- 4.7 p.m.—STUDIO QUARTETTE: Selection, "Aida" (Verdi).

- 4.30 p.m.—MRS. M. CALLAWAY MAHOOD, "The Study and Use of Colour: "Violet."

- 4.45 p.m.—"Herald" news service.

- 5 p.m.—Description of CROQUET Matches, Australia v. England, at Melbourne Club, Union Street, Windsor, by Mr. C. J. MILLER, Croquet Champion of Victoria.
 5.15 p.m.—Close down.

EVENING SESSION.

CHILDREN'S HOUR.

- 6 p.m.—Answers to Letters and Birthday Greetings by "BILLY BUNNY."

- 6.20 p.m.—BETTY BEVAN, soprano: "The Two Dolls" (Collins). "The Seaside." "Swinging."

- 6.27 p.m.—"BILLY BUNNY": "A Story for the Little Ones."

- 6.40 p.m.—BETTY BEVAN, soprano: "The Good Little Jackass." "Bunny's Adventure." "Bless You."

- 6.47 p.m.—"BILLY BUNNY": "Helen's Babies."

- 7 p.m.—Official report of Newmarket Stock Sales, by the Associated Stock and Station Agents, Bourke Street, Melbourne.

- 7.5 p.m.—"Herald" news service. Weather-synopsis. Shipping movements.

- 7.12 p.m.—Stock Exchange information.

- 7.17 p.m.—Fish Market reports by J. R. Borrett, Ltd. Rabbit prices.

7.19 p.m.—River reports.

7.21 p.m.—Market reports by the Victorian Producers' Co-operative Co., Ltd. Poultry, Grain, Hay, Straw, Jute, Dairy Produce, Potatoes and Onions. Market reports of Fruit by the Victorian Fruiterers' Association—Retail prices. Wholesale Prices of Fruit by the Wholesale Fruit Merchants' Association. Citrus Fruits.

NIGHT SESSION.

7.30 p.m.—Under the Auspices of the Department of Agriculture, L. C. BARTELS, Senior Irrigation Officer, will speak on: "Irrigated Pastures."

7.45 p.m.—COLLINGWOOD CITIZENS' BAND:
March, "Stars and Stripes."

8.0 p.m.—LEO FISHER, Tenor:
"Believe Me, If All Those Endearing Young Charms" (Moore).
"Thout Art Risen, My Beloved" (Coleridge-Taylor).

8.7 p.m.—H. K. LOVE:
"Technicalities."
Mr. Love will be glad to attend to your wireless difficulties, and we ask you to write to him for any advice that you may require."

8.17 p.m.—COLLINGWOOD CITIZENS' BAND:
Overture, "Cordelia."
"Selected."

8.30 p.m.—MRS. LEO FISHER, Soprano:
"Three Green Bonnets" (d'Hardelot).
"At Siesta Hour" (Freyne).

8.37 p.m.—W. A. SOMERSET:
"Shipwrecks in Australian Waters, No. 6."

8.52 p.m.—LYNCH BELLRINGERS:
"International Melodies."

8.57 p.m.—JESSIE IRWIN, Soprano.
"The Call of the Maytime" (Brahe).
"Lackaday" (Crampton).

9.4 p.m.—COLLINGWOOD CITIZENS' BAND:
Waltz, "A Waltz Dream."
March, "Through Bolts and Bars."

9.19 p.m.—LYNCH BELLRINGERS:
"Sweet Chiming Bells."

9.21 p.m.—WALTER CORNOCK:
"With a Tear and a Laugh."

9.29 p.m.—"DONCASTER": Mr. Frank Dexter, of the "Argus," will speak on tomorrow's Races at Ascendale.

9.52 p.m.—LEO FISHER, Tenor:
"Drink To Me Only" (Quilter).
"Nirvana" (Adams).

10.0 p.m.—LYNCH BELLRINGERS, on the Marimba Resonators:
"Come Back to Erin."
"I Want to be Happy."

10.4 p.m.—"Argus" News Service; Meteorological Information; Road Notes; British Official Wireless News from Rugby.

10.16 p.m.—COLLINGWOOD CITIZENS' BAND:
Cornet Solos:
"I Passed by Your Window."
"Down Here."
And "Selected."

10.30 p.m.—Announcements and Island Shipping Movements.

10.34 p.m.—JESSIE IRWIN, Soprano:
"Advice" (Kelly Carew).
"Una Voce Poco Fa" (Rossini).

10.40 p.m.—LYNCH BELLRINGERS:
"Last Rose of Summer."
"Swanee River."

10.45 p.m.—WALTER CORNOCK, Comedian:
"With a Tear and a Smile."

10.52 p.m.—JOE ARONSON AND HIS SYN-COPATING SYMPHONISTS:
"Are You Happy" (Yellen).
"So Blue" (De Sylva).
"The Sphinx, Just Sits, and Thinks and Thinks" (Friend).

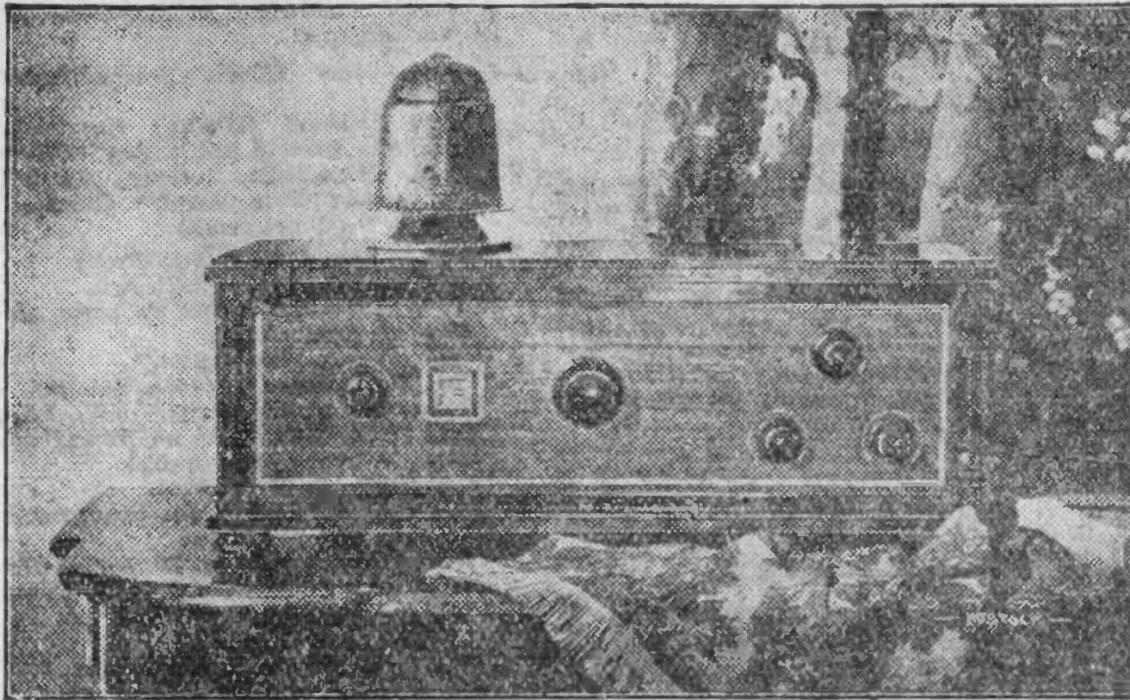
11.0 p.m.—OUR GREAT THOUGHT:

"Let no man be sorry he has done good, because others concerned with him have done evil. If a man has acted right, he has done well, though alone; if wrong, the sanction of all mankind will not justify him."—Fielding.

11.1 p.m.—JOE ARONSON AND HIS SYN-COPATING SYMPHONISTS.

11.40 p.m.—GOD SAVE THE KING.

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Radio Dept., Lower Ground Floor

DAVID JONES' SALE

Market, Castlereagh and Elizabeth Streets

3AR, MELBOURNE

Friday

MORNING NEWS SESSION.
11 a.m. to 12 noon.

MIDDAY CONCERT SESSION.
12 noon to 1 p.m.

Transmitted from Panatroe House, 252 Collins Street (by exclusive permission of Wills and Paton, Ltd.), on the Brunswick Panatroe.

1 p.m.—Newmarket Stock Sales. Special "Snap" Report on the progress of this morning's stock sales at Newmarket (by courtesy of John Macnamara and Co.). To be repeated at 2.3, especially for the benefit of our Country Listeners.
Close down.

MATINEE SESSION.

DANCE CONCERT.

2.30 p.m.—Newmarket Stock Sales. Special "Snap" Progress Report from the Yards (by courtesy of John Macnamara and Co.).
2.31 p.m.—Studio Orchestra:
Overture, "Calif of Bagdad" (Boieldieu).
2.40 p.m.—Mr. Tom White, clarinet:
"Romance" (Wieniawski).
2.44 p.m.—Ayaz Dansonians.
3.5 p.m.—Miss Ethel Brearley, piano:
"Valse Mignonne" (Palmgren).
3.9 p.m.—Studio Orchestra:
"La Feria" (Lacome).
3.24 p.m.—Mr. Alan Adcock, entertainer:
In some Songs at the Piano.
3.32 p.m.—Ayaz Dansonians.
3.55 p.m.—Mr. Herbert Pettifer, violin:
Second Movement: "F Major Sonata" (Greig).
4 p.m.—G.P.O. Clock says "Four."
4.1 p.m.—2nd Weather forecast.
4.3 p.m.—Announcements.
4.6 p.m.—Studio Orchestra:
"Hunyady Laszlo" (Ferencz).
4.21 p.m.—Mr. Alan Adcock, entertainer:
More Funny Songs at the Piano.
4.29 p.m.—Ayaz Dansonians.
4.44 p.m.—Studio Orchestra.
4.55 p.m.—To-night's entertainment.
5 p.m.—G.P.O. Clock says "Five."
Close down.

CHILDREN'S SESSION.

8.30 p.m.—The Farryard Five.

EVENING SESSION.

CAMP-FIRE CONCERT.

7.30 p.m.—"The Romance of Ice Cream." An interesting account of the strange history of frozen delicacies from Ancient Times to now-a-days by Mr. O. A. Mendelssohn, B.Sc., F.C.S., A.A.C.I., Public Analyst.
7.45 p.m.—"Field Glasses" special review for to-morrow's Races.
7.50 p.m.—Newmarket Stock Sales.
7.55 p.m.—Week-end Tourists' Guide.
8 p.m.—G.P.O. Clock says "Eight."
8.1 p.m.—Mr. Noel Bunker, baritone:
"The Floral Dance" (Moss).
"Friend o' Mine" (Sanderson).
8.8 p.m.—Mr. Walter Barker, harp:
Welsh Melodies.
8.15 p.m.—Mr. Frederick Hanton, "The Frankston Bird Mimic." One of the most astonishingly natural imitators of our furred and feathered friends of the bush and farm.
8.23 p.m.—Miss Dorothy Humphries and Mr. Ernest Sage:
Duet, "In a Garden of Roses" (Sanderson).
Duet, "Where my Caravan has Rested" (Lohr).

8.32 p.m.—Miss Gertrude Alger, violin:
One of our most distinguished concert celebrities will play:
"Romance" (Wieniawski).
"Minuetto" (Milazdre).

8.40 p.m.—Mr. Ad. Whelan, popular balladist:
A clever Australian in melodious melodies of the moment.

8.48 p.m.—Miss Eileen Pascoe-Webbe, contralto:
"Three Fishers" (Hullah) (by request).
"Love was Once a Little Boy" (Wade).

8.56 p.m.—Miss Marie Jackson, mandolin:
"Scarlet and Blue March" (Read).
"Hilarity" (Quarterman).

9.4 p.m.—"Round the Camp Fire":
Narrator, Mr. V. Upton-Brown.
Music, Story and Verse by poets and writers of Australasia:
Camp chorus, "Australia."
"The Earth-Mother" (John Sandes).
"A Legend of the Dargo" (W. Long).
Camp song, "Old Folks at Home," sung by Miss Eileen Pascoe-Webbe.
"Sold Up" (C. H. Souter).
Mr. Frederick Hanton, the Frankston mimic, will entertain the camp.
"When Mother calls to Dinner" (Uloola).
Mr. Sammy Sundown and his concertina.
"Saltbush Bill's Second Fight" (A. B. Pater-son).

Homestead Chorus, "Auld Lang Syne."

9.42 p.m.—Mr. Walter Barker, harp:
"The Harmnious Blacksmith" (Handel) (by request).

9.49 p.m.—Miss Dorothy Humphries and Mr. Ernest Sage:
Duet, "Break Deviner Light" (Allitsen).
Duet, "Eileen Allannah" (Thomas).

9.58 p.m.—Miss Gertrude Alger, violin:
"Reverie" (Edith Harry).
"Valse" (Musin).

10.5 p.m.—Weather report especially for our Country Listeners.

10.6 p.m.—Mr. Noel Bunker, baritone:
"Up from Somerset" (Sanderson).
"An Emblem" (Thompson).

10.13 p.m.—Mr. W. H. McLennan:
"Bowls."
The former international will have more merry quips and timely comment to hand to you about the game played by a man named Drake.

10.24 p.m.—Mr. Ad. Whelan, popular balladist:
Another melodious interlude of popular songs.

10.32 p.m.—Miss Marie Jackson, mandolin:
"Prelude" (Rachmaninoff).
"Minuet in G" (Beethoven) (by request).

10.40 p.m.—Miss Eileen Pascoe-Webbe, contralto:
"Your Land and Mine" (Breville-Smith).
"Absent" (Metcalf).

10.48 p.m.—The "Age" News Bulletin, exclusive to 3AR.

10.55 p.m.—To-morrow's entertainment.

10.58 p.m.—Final Weather Forecast.

10.59 p.m.—Our Australian Good-night Quote is from the poem, "The Seed and the Flower," by Mary Gilmour.

11 p.m.—G.P.O. Clock says "Eleven."
"God Save the King."

4QG, BRISBANE.

Friday.

MORNING SESSION.

10.30 a.m.—To-day's Social News.
10.40 a.m.—Music.
10.45 a.m.—Lecturette: "A Cookery Talk" by Betty Simson."
11 a.m.—Music.
11.10 a.m.—General News.
11.20 a.m.—Music.
11.30 a.m.—Close down.

MIDDAY SESSION.

1 p.m.—Market reports; weather information. "The Daily Mail" and "The Daily Standard" news.
1.20 p.m.—Lunch hour music.
1.58 p.m.—Standard time signal.
2 p.m.—Close down.

AFTERNOON SESSION.

3.30 p.m.—A programme of music from the Studio:
4.15 p.m.—"The Telegraph" News.
Weather news.
4.30 p.m.—Close down.

EARLY EVENING SESSION.

6 p.m.—"Daily Standard" news; weather information; announcements.
6.10 p.m.—A talk on Teeth: "Oral Prophylaxis," by Mr. W. G. Illingworth (Dental Surgeon).
6.30 p.m.—Bedtime stories by "The Sandman."
7 p.m.—Market reports; stock reports.
7.30 p.m.—Weather news; announcements; "Daily Standard" news.
7.43 p.m.—Standard time signal.
7.45 p.m.—A review of to-morrow's Racing.

NIGHT SESSION.

A Night of Music and Songs of the Sea.
8 p.m.—From the Studio:
Nautical Fantasia, "A Life on the Ocean" (Binding).
The Studio Orchestra.
(Conductor, Mr. A. R. Featherstone.)
Monologue, "Cargoes" (Beresford).
Mr. Tom Muller.
Bass solo, "Asleep in the Deep" (Petrie).
Mr. J. P. Cornwell.
Cornet solo, "Down to the Sea in Ships" (Seabury).
Mr. Jackson.
(Accompanied by the Studio Orchestra.)
Soprano solo, "When My Ships Come Sailing Home" (Dorel).
Miss Thelma Champion.
Choruses:
(a) "Hearts of Oak."
(b) "Sons of the Sea."
4QG Artists.
Suite of "Nautical Scenes" (Fletcher):
(a) "All Aboard."
(b) "A Sentimental Shanty."
(c) "Forecastle Frolics."
The Studio Orchestra.
Hymn, "Eternal Father."
4QG Artists.
(Accompanied by the Studio Organ).
9 p.m.—Metropolitan weather forecast.
Overture, "Plymouth Hoe" (Ansell).
The Studio Orchestra.
Monologue, "The Ship that Never Sails" (W. Lawson).
Mr. T. Muller.
Bass solo, "Hats Off to the Stoker."
Mr. J. P. Cornwell.
March, "The Old Salt" (Hildreth).
The Studio Orchestra.
Soprano solo, "The Bells of St. Mary's" (by request).
Miss Thelma Champion.
(Accompanied by Studio Orchestra and 4QG Artists.)
Some Foc'sle Melodies on the Accordeon.
Mr. J. Tyson.
Chorus, "Star of Peace."
4QG Artists.
(Soloist, Mr. J. P. Cornwell.)
Radio interlude, "Let the Lower Lights be Burning."
Bass solos:
(a) "Bay of Biscay."
(b) "Lighterman Tom."
Mr. Ernest Harper.
Chorus, "Haul on the Bowline."
4QG Artists.
March, "The Chanteyman" (Souza).
The Studio Orchestra.
10 p.m.—From the Studio:
"The Daily Mail" news.
Weather news.
Close down.

Friday, January 6, 1928.

5CL, ADELAIDE

Friday

MORNING SESSION.

12 noon to 2 p.m.

AFTERNOON SESSION.

- 3 p.m.—G.P.O. Chimes.
- 3.1 p.m.—Musical numbers.
- 4 p.m.—G.P.O. Chimes.
- 4.1 p.m.—Musical numbers.
- 4.57 p.m.—S. C. Ward and Co.'s Stock Exchange intelligence.
- 5 p.m.—G.P.O. Chimes, and close down.

EVENING SESSION.

- 6.30 p.m.—G.P.O. Chimes.
- 6.31 p.m.—Children's time.
- 7.20 p.m.—Market reports by A. W. Sandford and Co., A. E. Hall and Co., Dalgety and Co., S.A. Farmers' Co-operative Union, Taylor Bros., Retail Grocers' Association, J. H. Young's Special report on the Tomato Market. Interstate Fruit and Produce Market Co., Ltd. S. C. Ward and Co's Stock Exchange intelligence.
- 7.30 p.m.—Extracts from News Bulletin.
- 7.35 p.m.—"Windbag's" sporting service.
- 7.45 p.m.—Cricket talk by "Willow."
- 7.55 p.m.—Station announcements.
- 8 p.m.—G.P.O. Chimes.
- 8.1 p.m.—Orchestral selections from Malcolm Reid's Showrooms.
- 8.15 p.m.—Bass solo, Ted Jenkins.
- 8.19 p.m.—Orchestral selections continued.
- 8.35 p.m.—Bass solo, Ted Jenkins.
- 8.40 p.m.—Orchestral selections from Malcolm Reid's Showrooms.
- 8.50 p.m.—Bass solo, Ted Jenkins.
- 8.54 p.m.—Orchestral selections from Malcolm Reid's Showrooms.
- 9 p.m.—G.P.O. Chimes.
- 9.1 p.m.—Meteorological information.
- 9.3 p.m.—Dalgety's wheat report.
- 9.5 p.m.—Station announcements.
- 9.7 p.m.—Banjo, Mandolin and Violin entertainment, Percy Gardner.
- 9.21 p.m.—Comedy, Geo. Horton.
- 9.25 p.m.—Baritone solo, Frank McCabe.
- 9.30 p.m.—Mr. H. B. Barlow (Chief Dairy Instructor) talks on "Modern Methods of Dairying."
- 9.45 p.m.—Violin solo, Eric McLoughlin.
- 9.50 p.m.—Comedy, Geo. Horton.
- 9.55 p.m.—Baritone solo, Frank McCabe.
- 10 p.m.—G.P.O. Chimes.
- 10.1 p.m.—"Advertiser" News Service.
- 10.10 p.m.—"Windbag's" sporting service.
- 10.17 p.m.—Violin solo, Eric McLoughlin.
- 10.21 p.m.—Comedy, Geo. Horton.
- 10.25 p.m.—Baritone solo, Frank McCabe.
- 10.29 p.m.—Violin solo, Eric McLoughlin.
- 10.34 p.m.—Relay from the Maison De Danse, Glenelg: Dance selection.
- 10.55 p.m.—Saturday's programme and Meteorological information.
- 11 p.m.—G.P.O. Chimes and National Anthem.



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Advertisement of THE MULLARD WIRELESS SERVICE CO. LTD., "MULLARD HOUSE," Denmark Street, London, W.C. 2., England.

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Saturday, Jan. 14

2FC, SYDNEY

EARLY MORNING SESSION.

7 a.m. to 8 a.m.

MORNING SESSION.

- 10 a.m.—"Big Ben" and announcements.
- 10.5 a.m.—Studio music.
- 10.15 a.m.—"Sydney Morning Herald" news service.
- 10.30 a.m.—Studio music.
- 10.35 a.m.—A reading.
- 10.45 a.m.—Studio music.
- 11 a.m.—"Big Ben." A.P.A. and Reuter's Cable Services.

11.5 a.m.—A talk on Gardening by Mr. G. J. Lockley ("Redgum").
11.30 a.m.—Close down.

MIDDAY AND AFTERNOON SESSIONS.

12 noon.—"Big Ben" and announcements.
12.2 p.m.—Stock Exchange, first call.
12.3 p.m.—Studio music.
12.20 p.m.—"Sydney Morning Herald" news service.
12.32 p.m.—Rugby wireless news.
12.35 p.m.—Studio music.

NOTE: During the afternoon, direct from the course, events of the Moorefield Racing Club's Meeting will be described in the running by the 2FC Racing Commissioner.

1 p.m.—"Big Ben." Weather intelligence.
1.3 p.m.—"Evening News" midday news service.
1.20 p.m.—Studio music.
During racing intervals the following musical items will be given:
From the Crystal Palace Theatre, George Street, Sydney:
Items by the Orchestra, under the baton of Mr. Harry Cross.
From the Studio:
Douglas McKinnon, concertina items.
Tom Foggitt, novelty pianist.
4.30 p.m.—Complete sporting resume.
6 p.m.—"Big Ben." Close down.

EARLY EVENING SESSION.

5.40 p.m.—The chimes of 2FC.
5.45 p.m.—The "Hello Man" talks to the children.
6.30 p.m.—Story time for the young folk.
6.40 p.m.—Dinner music.
7 p.m.—"Big Ben." Late sporting news.
7.13 p.m.—Weather intelligence.
7.15 p.m.—"Evening News" late news service.
7.25 p.m.—Studio music.

NIGHT SESSION.

7.40 p.m.—Programme announcements.
7.45 p.m.—Elsie Peerless, soprano:
(a) "The Winds in the South" (Scott).
(b) "Coming Home" (Willeby) (request).
7.53 p.m.—Les Coney, comedian.
8 p.m.—"Big Ben."
From the Prince Edward Theatre, Castle-reagh Street, Sydney:
Items by the Prince Edward Theatre Orchestra, conducted by Albert Cazabon.
Leslie V. Harvey, at the Orchestral Organ.
8.50 p.m.—From the Studio:
Edgar Warwick, well-known English actor-manager, recently returned to Sydney, will produce a series of Short Sketches, specially written for broadcasting.
9.3 p.m.—Late weather forecast.
9.10 p.m.—From the Speedway Royal:
Results and descriptions.
9.16 p.m.—From the Studio:
Hubert Carter, tenor.
9.24 p.m.—From the Speedway Royal:
Results and descriptions.
9.34 p.m.—From the Studio:
Elsie Peerless, soprano:
(a) "The Robin's Song" (White).
(b) "Songs my Mother Sang" (Grimshaw).
9.42 p.m.—Les Coney, comedian.
9.50 p.m.—Edgar Warwick: Sketches, specially written for broadcasting.
10 p.m.—Speedway Results.
10.8 p.m.—From the Studio:
Hubert Carter, tenor.
10.16 p.m.—From the Prince Edward Theatre, Sydney:
Organ and Orchestral items.
Conductor, Albert Cazabon.
10.30 p.m.—Late weather forecast.
10.32 p.m.—From the Ambassadors:
The Ambassadors Dance Orchestra, conducted by Al Hammet.
10.57 p.m.—From the Studio:
Late news and announcements.
11 p.m.—"Big Ben."
From the Ambassadors:
The Ambassadors Dance Orchestra in popular numbers until 11.45 p.m.
11.45 p.m.—National Anthem.
Close down.

3LO, MELBOURNE.

Saturday.

MORNING SESSION.

7.15 a.m.—"Herald" news service.
8.15 a.m.—Close down.

MIDDAY SESSION.

11 a.m.—STUDIO QUARTETTE:
Selection, "San Toy."
11.15 a.m.—LEO FISHER:
"Lend me your Aid"—Irene.
"The Love Lily."
11.22 a.m.—Description of CROQUET, Test Matches, England v. Australia, by Mr. C. J. MILLER, from the Melbourne Croquet Club, Union Street, Windsor.
FROM THE STUDIO—
11.32 a.m.—LYNCH BELLRINGERS, on the Organ Chimes:
"The Blue Asation Mountains."
"Mother Machree."
11.37 a.m.—STUDIO QUARTETTE:
Selection, "Rigoletto."
11.50 a.m.—MRS. LEO FISHER:
"Song down Every Roadway" (Wood).
"Waita Poi" (Hill).
11.57 a.m.—LYNCH BELLRINGERS, on the Organ Chimes:
"Rendezvous."
12 noon.—Melbourne Observatory Time Signal.
"Do you always look behind you before stepping off the pathway. You may only require to be knocked down once. Instruct your children in such matters and to remember, Safety First Always."

12.1 p.m.—Metal prices received by the Australian Mines and Metals Association, from the Stock Exchange this day. British Official Wireless news from Rugby. Reuter's and The Australian Press Association cables. "Argus" news service.

12.20 p.m.—STUDIO QUARTETTE:
Selection, "Queen High."

12.35 p.m.—Stock Exchange information.

12.38 p.m.—ELLA RIDDELL, contralto:
"Lie there my Lute" (Hamish McCunn).
"Lang Lang Synde" (Old Scotch).

12.45 p.m.—STUDIO QUARTETTE:
Selection, "Island King."

1 p.m.—Melbourne Observatory Time Signal.
"Going Motoring? Have you overhauled your machine—no screw loose? How about yourself? Are you fit also? Now keep on remembering, 'Safety First'."

1.1 p.m.—LEO FISHER, tenor:
"Spring's Awakening" (Sanderson).
"The Wreath."

1.8 p.m.—Meteorological information. Weather forecast and rainfall for Victoria, Tasmania, South Australia and New South Wales. Ocean forecast. River reports.

1.15 p.m.—Description of CRICKET MATCH, St. Kilda v. Melbourne, at Melbourne Cricket Ground, by Mr. Rod McGregor.

1.30 p.m.—MRS. LEO FISHER, soprano:
"You'd Better Ask Me" (Lohr).
"Unless I Know" (Foster).

1.37 p.m.—STUDIO QUARTETTE:
Selection from Comic Opera.

1.47 p.m.—ELLA RIDDELL, contralto:
"The Lament of Isis" (Mantock).
"Summer in the Country" (Lohr).

1.54 p.m.—STUDIO QUARTETTE:
Selection, "Comic Opera."

2 p.m.—Description of CROQUET, Test Matches, England v. Australia, by C. J. MILLER, from the Melbourne Croquet Club, Union Street, Windsor.

2.15 p.m.—Description of Hurdle Race, 2 miles, ASPENDALE RACES, by "Musket," of the "Sporting Globe."

2.20 p.m.—Close down.

2.30 p.m.—Description of CRICKET MATCH, St. Kilda v. Melbourne, at Melbourne Cricket Ground, by Mr. Rod McGregor.

2.45 p.m.—Description of Maiden Plate, 5 furlongs, ASPENDALE RACES, by "Musket," of the "Sporting Globe."

2.50 p.m.—Description of CRICKET MATCH, St. Kilda v. Melbourne, at Melbourne Cricket Ground, by Mr. Rod McGregor.

AFTERNOON SESSION.

3 p.m.—Melbourne Observatory Time Signal.

3.1 p.m.—JOE ARONSON AND HIS SYNCOPATING SYMPHONISTS.

3.15 p.m.—Description of Aspendale Plate 6 furlongs ASPENDALE RACES by "Musket" of the Sporting Globe.

3.20 p.m.—Description of CROQUET, Test Matches, England v. Australia by C. J. MILLER, Croquet Champion of Victoria from the Melbourne Croquet Club, Union Street, Windsor.

3.30 p.m.—JOE ARONSON AND HIS SYNCOPATING SYMPHONISTS.

3.45 p.m.—Description of Aspendale Park Handicap, 1 mile, ASPENDALE RACES, by "Musket" of the Sporting Globe.

3.50 p.m.—Description of CRICKET MATCH, St. Kilda v. Melbourne at Melbourne Cricket Ground by Mr. Rod McGregor.

FROM THE STUDIO:

4 p.m.—JOE ARONSON AND HIS SYNCOPATING SYMPHONISTS.

4.15 p.m.—Description of Aspendale Purse, 7 furlongs, ASPENDALE RACES by "Musket" of the Sporting Club.

4.20 p.m.—Description of CROQUET Matches, Tests, England v. Australia by C. J. MILLER from the Melbourne Croquet Club, Union Street, Windsor.

FROM THE STUDIO:

4.30 p.m.—JOE ARONSON AND HIS SYNCOPATING SYMPHONISTS.

4.45 p.m.—Description of Jumpers Flat Race, 1¼ miles, ASPENDALE RACES by "Musket" of the Sporting Club.

4.50 p.m.—Herald News Service.

5 p.m.—Description of CRICKET MATCH, St. Kilda v. Melbourne at Melbourne Cricket Ground by Mr. Rod McGregor.

5.15 p.m.—Close down.
During the Afternoon Progress Reports will be given of the Mordialloc Carnival Swim.

EVENING SESSION.

5.50 p.m.—Sporting Results.

6 p.m.—Answers to letters and Birthday Greetings by "LITTLE MISS KOOKABURRA."

6.20 p.m.—ELSIE BRADSHAW:
"Songs at the Piano."

6.27 p.m.—"LITTLE MISS KOOKABURRA":
"Poems and Stories for the Little Ones."

6.40 p.m.—ELSIE BRADSHAW:
"More Songs at the Piano."

6.47 p.m.—"LITTLE MISS KOOKABURRA":
"The Plucky Patrol."

7 p.m.—Sporting results.

7.5 p.m.—"Herald" news service. Weather synopsis. Shipping movements.

7.12 p.m.—Stock Exchange Information.

7.17 p.m.—River reports.

7.20 p.m.—Market reports by the Victorian Producers' Co-operative Co., Ltd.: Poultry, grain, hay, straw, jug, dairy produce, potatoes and onions. Market reports off fruit by the Victorian Fruiterers' Association: Retail prices. Wholesale prices of fruit by the Wholesale Fruit Merchants' Association. Citrus fruits.

NIGHT SESSION.

7.30 p.m.—E. E. PESCOTT will speak on

"Australian Palms and Cycads."

7.45 p.m.—DR. J. A. LEACH will speak on

"Remarkable Australian Ducks."

7.58 p.m.—Results of St. Kilda Yacht Club Races.

9 p.m.—OLD TIME NIGHT.

"Come and trip it as you go

On the light fantastic toe."

SMART AND AUMONT'S BAND:

Waltz, "Merry Widow."

8.7 p.m.—DOLLY BURDETT, contralto:

"Juanita."

8.10 p.m.—SMART AND AUMONT'S BAND:

Quadrilles, "Piccadilly."

First Set.

8.25 p.m.—WALTER CORNOCK, comedian:

"Old Chestnuts."

8.32 p.m.—SMART AND AUMONT'S BAND:

Polka, "The Domino."

8.37 p.m.—DOLLY BURDETT, contralto:

"Out on the Rocks."

8.40 p.m.—SMART AND AUMONT'S BAND:

Barn Dance, "Baby Tank."

8.46 p.m.—HUGH HUXHAM, tenor:

"My Dearest Mary."

8.49 p.m.—SMART AND AUMONT'S BAND:

Alberts, "Jolly Times."

9.4 p.m.—INTERLUDE:

Description of to-night's Stadium event by Mr. Norman McCance.

Friday, January 6, 1928.

BACK TO THE STUDIO:
 9.20 p.m.—SMART AND AUMONT'S BAND:
 Schottische, "Old Memories."
 9.24 p.m.—Now we don't want you to be
 backward, there is no excuse because you
 all know them, so let us all join Mrs. Camp-
 bell in some old time Choruses.
 9.31 p.m.—SMART AND AUMONT'S BAND:
 Waltz, "Blue Danube."
 9.38 p.m.—RENN. MILLER, bass:
 "Anchored."
 9.41 p.m.—SMART AND AUMONT'S BAND:
 Lancers, "Sunshine Girl."
 9.55 p.m.—EDITH HUXHAM, soprano:
 "Beautiful Roses."
 9.58 p.m.—SMART AND AUMONT'S BAND:
 Polka Mazurka, "La Violetta."
 10.3 p.m.—HUGH HUXHAM, tenor:
 "On the Banks of Allan Water."
 10.6 p.m.—SMART AND AUMONT'S BAND:
 Barn Dance, "Back Porch."
 10.11 p.m.—Here we are—More Choruses—
 A Little Louder, Please, we can't SEE you,
 you know.
 10.18 p.m.—SMART AND AUMONT'S BAND:
 Waltz.
 10.24 p.m.—RENN. MILLER, bass:
 "The Mighty Deep."
 10.27 p.m.—SMART AND AUMONT'S BAND:
 Polka.
 10.32 p.m.—WALTER CORNOCK, comedian:
 "And then we all laughed."
 10.37 p.m.—EDITH HUXHAM, soprano:
 "Awake."
 10.40 p.m.—SMART AND AUMONT'S BAND:
 Royal Irish, "Ireland."
 10.52 p.m.—Late Sporting Results.
 11.5 p.m.—AITKEN will give a resume
 of to-night's events at the Motordrome.
 11.10 p.m.—OUR GREAT THOUGHT:
 "Every man is as God made him, and often
 a great deal worse."—Cervantes.
 11.11 p.m.—JOE ARONSON AND HIS SYN-
 CO-SYMPHONISTS.
 11.40 p.m.—"GOD SAVE THE KING."

HOW TO TEST THE "B" BATTERY

TEST dry cell "B" batteries and
 battery eliminators under load,
 advises a bulletin issued by
 Fada Radio service department.
 "Most of us engaged in the radio
 business realise the importance of
 accurate and reliable instruments in
 making tests," says the bulletin.
 "This is especially true of voltmeters,
 as those of inferior grade will not
 give the real voltage, as the reading
 may be inaccurate.
 "In testing any battery with a
 voltmeter it should be connected to
 a receiver on which it is to be used
 and tested, with the receiver turned
 on to give an accurate test of the
 actual voltage being delivered to the
 set. Occasionally batteries will test
 O.K. when not connected because
 the high grade voltmeters have a
 very low drain. When the battery is
 actually connected to the set with
 the set turned on it may prove
 defective or of insufficient power.
 "This also applies to eliminators.
 They should be tested when con-
 nected to the set with the set turned
 on, and such a reading with an
 accurate voltmeter will show what
 power is being delivered to the set."
 "A recent survey indicated that
 many dealers are not familiar with
 this fact as to the testing of bat-
 teries and eliminators set forth
 above."



For
 City Homes
 or
 Country
 Homesteads

The IGRANIC —
 SUPER-HETERODYNE SET

Is the choice of experts and discriminating
 Amateurs alike.

FROM all quarters of the country comes enthusi-
 astic testimony on behalf of Igranitic. The
 quoting of a few extracts from these testimonial
 letters will prove interesting to those who are con-
 sidering "which set shall I buy?"

From Griffith, N.S.W.:

"I have had wonderful results with the
 above receiver, and in my experience it is
 the best I have ever handled."

From Bowral, N.S.W.:

"With reference to the
 Igranitic Supersonic Hetero-
 dyne Set recently purchased
 from you, I consider this is
 a very excellent job."

From Sydney, N.S.W.:

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

The originals of these testi-
 monials may be seen upon
 application.

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 Sydney: 115 Clarence Street.
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 Brisbane: Perry House.
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 and Launceston, also from J. R. W.
 Gardam, Perth.



Price:
 £75
 according to
 Cabinet work
 Terms may be arranged

All Readers' Queries Answered Here.

A.R.B. (KOGARAH).—Q: Re circuit diagram enclosed, would you be kind enough to furnish me with the desired information? Do you consider the hook-up selective, and better than transformer coupled?; (2) Are valves used O.K., and suggest plate voltage for same? Will it cover, say from 20-100 metre band? If not, could you furnish me with something that will yield selectivity and purity of tone, which I desire.

A.: Your circuit diagram is correct, although you have the variable condensers in the wrong place. The .00015 m.f.d. should tune the secondary or grid coil, while the .0003 is best suited for reaction. You would be better off with a separate rheostat for the detector valve. Using a Radiokes Short Wave Kit, you should tune from 20 to 135 metres. See "Radio" for December, and you will get more information on short wave reception.

G.P.P. (ARTHURVILLE).—Q: I have a five valve set, but I find it difficult to tune and it has lost its kick in volume (all batteries are in good order).

A.: The particulars are too meagre for me to assist you. Write again telling me what circuit you are using, and just what valves are in use.

O.G. (BEROWRA).—Q: When the dials are reading 73 each, I get 2FC with proper volume, but on 11 each I can also get them very faint, could you tell me the reason of this. (2) I have a 4 Valve Cabinet Salonola, I suppose you know this set well, could you tell me how I could increase the strength. The only stations I can get are, day time, 2FC and 2BL; night time, 2FC, 2BL, 4QG, 2LO, 3AR. I have tried every way, but I cannot get any other stations. The earth wire is good, but the aerial, I am not too sure about, it is 23-feet high, and points NNW, and full length from machine, 80-feet (single wire). I was thinking would it be possible to put in two or three more valves. I must inform you, I know nothing about wireless.

A.: The lower reading is a harmonic, and is quite usual. Daylight reception of inter-State stations is impossible on many receivers, so don't be perturbed over this. The aerial is quite alright. The addition of further valves won't help you in daylight reception.

A.D.C. (LEWISHAM).—Q: Could I use 2 (two) AWA Transformers of 3½-1 ratio, instead of those specified; (2) Could I use a .0005 var. cond. instead of any .00035 cond?

A.: Yes, in both instances.

W.T.M. (WAVERLEY).—Q: I am desirous to know if there is any short wave receiver which can be attached to ordinary 5 valves, so as to pick up on short waves; (2) Are Tab. B Batteries suitable for 5 valve neut. set, and your opinion of their capacity to work set of size mentioned above?

A.: A short wave adaptor was described in "W.W." 9/9/27. Tab batteries are quite suitable.

J.D.B. (THEODORE).—Q: Will you kindly tell me the cause of my 6 volt. Exide battery boiling when on charge? The last couple of times I sent my battery to the Power House here, it was bubbling for over a week. The last time I went up to see how it was doing, I was surprised to see the top covered with froth. I asked the attendant the cause of it, but he did not seem to know. I tested the battery before sending it away, the reading was 1150, on its return the reading was 1275. I have a five valve Elstree Neutrodyne, and I have been experimenting with different aerials. I made a from aerial as described in "W.W." 17/6/27, but so far it has not been very successful, as I can only get ear-phone strength, I am using 4 Philips A609 valves, and a power valve Philips B 605 in the last stage. I have only 2 rheostats, one works the 2HF and the other the detector and audio valves. Should the B605 have a separate rheostat? I am not getting satisfaction from my set, and the firm I purchased it from have gone out of business. The speech at all times is good, but the music and singing is far from good, being distorted and is always accompanied by a rushing and nasty grating noise. I have tried putting a .006 condenser across the right hand terminals of the 2nd Transformer. The transformers are Emmco's 3½ to 1, and I am told if I were to take them out, and replace with 2 Ferranti, that it would improve the music and singing. Would you recommend the change? If so, what ratio would I require to get —

A.: The frothing is quite natural, but the excessive bubbling is caused by charging at too high a rate. When an Exide battery is fully charged, the hydrometer reading should be 1230 S.G., ¾ charge 1210, ½ charge 1190, ¼ discharged 1170. When the S.G. is 1150 or under, the battery is completely discharged. The charging rate on an Exide should not exceed 4 amps. The rheostat arrangement is quite alright. I suggest you experiment a bit with your loop aerial.

A TRADE SURPRISE

It will come as a surprise to many traders, to learn that Mr. A. R. Allen, for so long Manager of the Battery Department of the Clyde Engineering Co., Ltd., has resigned his position. During the period in which he was associated with that Company, he became extremely popular throughout the whole trade, and proved to be a man of energy and business foresight. In a letter to the "Wireless Weekly," Mr. Allen desires to convey his thanks to Radio Dealers and Service Stations, and to the many users of Clyde Batteries with whom he came in contact.

We may expect to hear something further of Mr. Allen in the near future, and we extend to him our good wishes for his future success.

TRANSFORMERS

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

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53 Drutt Street, SYDNEY.
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Published by Arthur William Watt, of "Astoria," Kirribilli, for the Proprietors, Wireless Newspapers Limited, 51 Castlereagh Street, Sydney; and printed by Marchant & Co. Ltd., 321 Pitt Street, Sydney.

The Editor will be glad to consider Technical and Topical Articles of interest to Australian Readers. 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 (52 issues), 13/- post free. Six months (26 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.

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WRITE TO-DAY

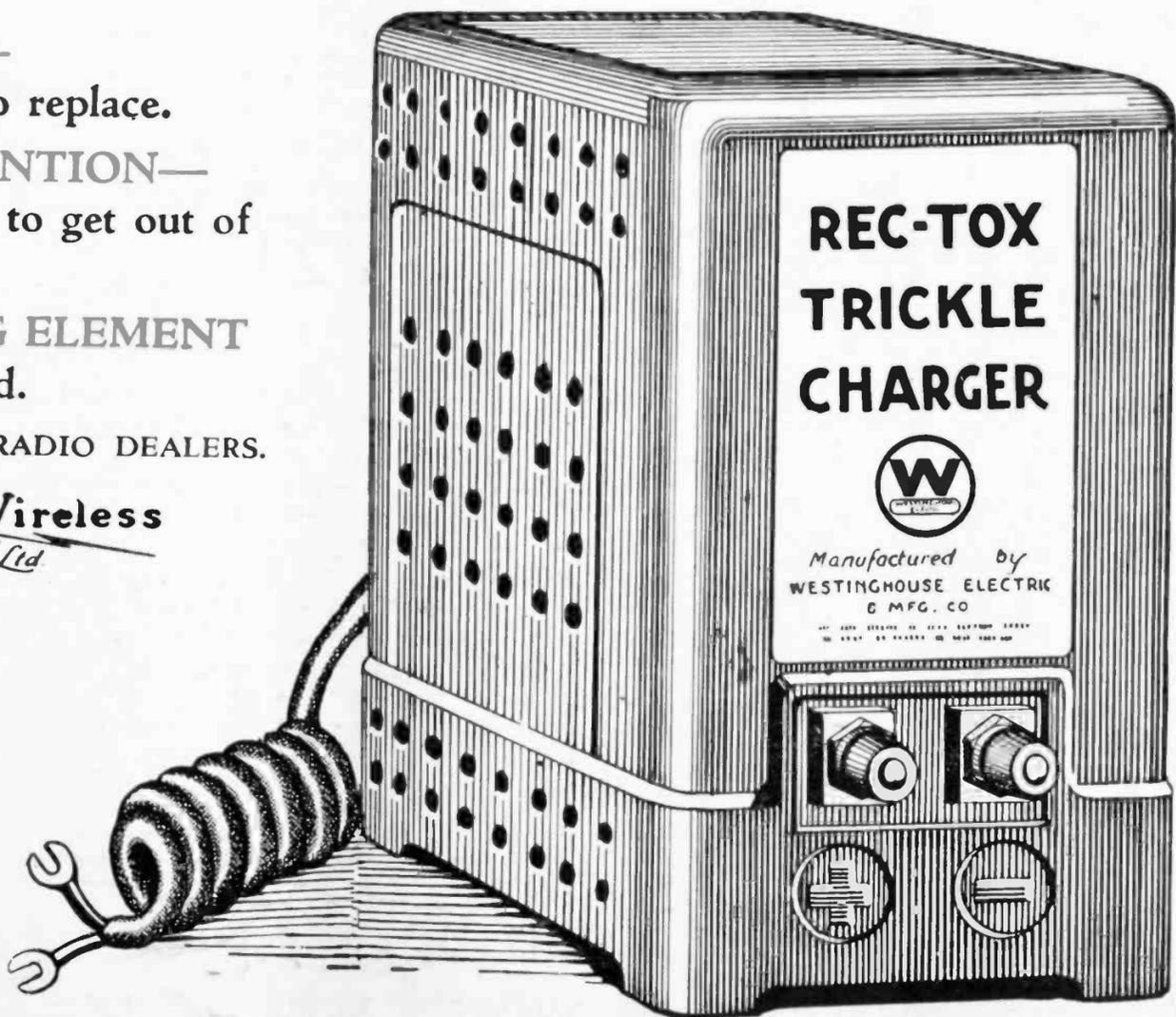
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Please send me your illustrated
folder on Rectox Trickle Chargers.

Name

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Messrs. Woodfull, Richardson, Smith and Ryder (1926 Test Team), in their Lounge at Savoy Hotel, London, where an Amplion was installed for their use.

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The World's
Standard Wireless
Loud Speaker

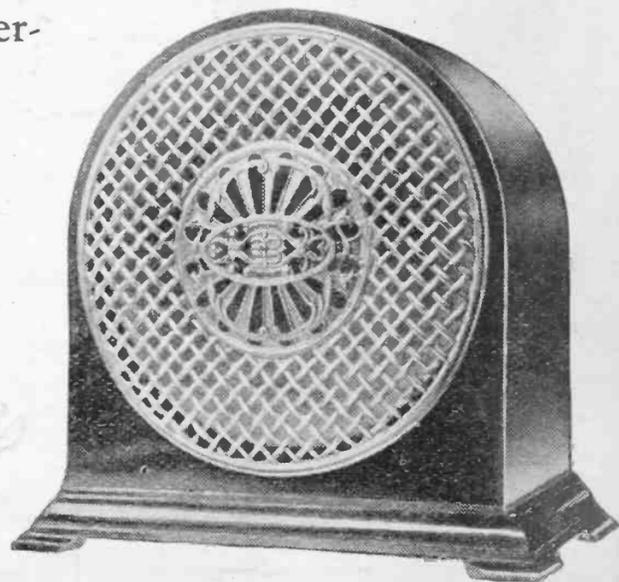
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as illustrated,
R.S. 1M.
£9/-/-

Other Amplion Models
from 25/- to £9/10/-

After strenuous days in the field during their 1926 tour, the Australian team found listening to radio a pleasant relaxation. Midst restful surroundings the Radiolux Amplion gave of its best and its perfectly natural reproduction pleased even the most critical.

At no time is radio so thoroughly enjoyable as after a day in the open air. Muscles relax, and with the body at rest, the mind is in the best condition to appreciate the entertainment radio offers.

Or the younger generation, with an unquenchable vitality, may want to dance. Radio provides the music and if the loud speaker is an Amplion, everyone is satisfied.



AMPLION, the Loud Speaker that makes listening worth while!

How the Washington Conference Allotted Wavelengths.

In view of the probable effect on Australian broadcasting of the decisions arrived at by the 400 delegates representing 45 countries, at the recent Washington Radio Conference, the following list of wavelengths allotted by the Conference is important to Australian listeners-in. The word "mobile" does not necessarily mean that the station is a portable one, but that its geographical position changes, i.e., ship stations, train stations. Government mobile means navy or military stations; Radiophare means radio beacon stations; and radiogonio means direction finding stations.

K.C.	Metres.		K.C.	Metres.	
10	30,000	) Fixed	6,675	44,944	) Fixed.
100	3,000		7,000	42,857	) Amateur.
110	2,727	) Mobile.	7,300	41,096	) Fixed (SUC3, GLM, GLK).
160	1,875	) Europe; broadcast. Other regions; fixed and mobile.	8,200	36,585	) Mobile.
194	1,546	) Europe; aerodrome fixed, aircraft mobile, and broadcast. Other regions; Government fixed and mobile, and aerodrome fixed.	8,550	35,098	) Mobile and Fixed (VWZ, GBI, GBJ, VNB).
224	1,339	) Aerodrome fixed, aircraft mobile and Government fixed.	8,900	33,708	) Fixed (GBK, CG).
285	1,053	) Radiophare.	9,500	31,578	) Broadcast.
315	952	) Aircraft mobile.	9,600	31,250	) Fixed.
350	857	) Government mobile.	11,000	27,273	) Mobile.
360	833	) Radiogonio mobile.	11,400	26,316	) Fixed (GBH, VIZ).
390	769	) Mobile.	11,700	25,641	) Broadcast.
460	652	) Mobile (excluding spark).	11,900	25,210	) Fixed (CJ, VIY).
485	619	) Mobile distress.	12,300	24,390	) Mobile.
515	583	) Government mobile (excluding spark) and radio telephone.	12,825	23,392	) Mobile and fixed
550	545	) Broadcast and mobile where it will not interfere with broadcast.	13,350	22,472	) Fixed (WAJ, GLH, GIJ, SUC3).
1,300	231	) Broadcast.	14,000	21,429	) Amateur.
1,500	200		14,400	20,833	) Fixed.
			15,100	19,868	) Broadcast.
			15,350	19,544	) Fixed (CRHA).
			16,400	18,293	) Mobile (PQS, CRHC, CRHB).
			17,100	17,544	) Mobile and fixed.
			17,750	16,901	) Broadcast.
			17,800	16,854	) Fixed GBH, CG, VWZ, GBI, VNB, GLG, GBJ, GLW, PQW, SPU).
			21,450	13,986	) Broadcast.
			21,550	13,921	) Mobile.
			22,300	13,553	) Mobile and fixed.
			23,000	13,043	) Not reserved.
			28,000	10,714	) Amateur.
			30,000	10,000	) Not reserved.
			56,000	5,357	) Amateur.
			60,000	5,000	
			Inf.	0	

NOTE.—Spark frequencies 375 (800 m.), 410 (732 m.—), 425 (706 m.—), 454 (661 m.—), 500 (600 m.), 1000 (300 m.), and 1365 (220 m.—), only.

NOTE.—Existing Beam Stations are inserted in brackets. Those which will, apparently, have to have their wavelengths changed are in black type.



The Safety Valve

Readers are urged to express their opinion on matters pertaining to broadcasting. If you have some grievance, if you have some constructive criticism to offer, here is your chance for expression—your safety valve. The editor assumes no responsibility for statements made by readers and published on this page, as opinions of correspondents do not represent our editorial policies or beliefs. Anonymous letters are not considered.

2FC UP-TO-DATE.

Dear Sir,—I would just like the opportunity to secure a small passage in your interesting paper, to comment on a letter published in your last issue, 16th December. This person wishes for better programmes on a Saturday night. Well, I felt the same way once when listening to 2BL, but I didn't write to the papers about it, I wrote to the manager of that station. A month passed, the programmes were just the same. Well I just crossed to 2FC, well that was 12 months ago, and I have never listened to any other station since. Their programmes are always up-to-date, especially on a Saturday night, when Sparklers or Revellers are on the air, why one couldn't wish for a better variety, and the happy way they carry their programmes out. And I feel quite sure I have many listeners and readers who agree with what I say, and I would very much like to see other listeners' views on this subject. Give me good old 2FC; they'll do me, any day and at any time, except horse racing, which I seldom listen to, but I don't mind as long as 2FC don't go to the dogs (Tin-Hares).

G.S.

Epping.

LOGGED 115 STATIONS.

Dear Sir,—In reply to Mr. A. L. Smith's letter in "W.W.," 22/12/27, I would like to let him know that I can pick up RFN, Moscow, 29M and LFN, Riga, 60M any night at 8 o'clock, and that the reception is very good, sometimes on loud speaker. Last night I picked up 5SW, Chelmsford, Eng., relaying 2LO, London, and the reception was perfect.

My set is a 3 valve, recently altered to low wave, and as I often see letters praising reception of 20 and 30 stations, I may state that within the last eighteen months, I have logged 115 stations authentically.

If requested, I will give a full list of same.

N. ETHERIDGE.

Bowral.

CHURCH! CHURCH! CHURCH!

Dear Sir,—Have you seen 2BL's programme for January 8th? If so, you'll probably be wondering (as I am) if the statement by this station that it is "Our desire to cater for all classes," is correct.

It is not everyone that desires church, church, church all day Sunday, yet on the date referred to, 2BL's programme consists mainly of the following items:

The morning is taken up by a Morning Church Service. At 2 o'clock, Children's Session. At 3.15, Bible Class, followed by Pleasant (?) Sunday Afternoon Service, with the Methodist Mission. Children's Service, and on top of that follows the Evening Church Service.

Why go to the extreme? Surely 2BL can arrange their programmes better than that. If they can't, well I'll get my dials fixed so that I can't tune them in by accident.

Yours, etc.,

J. H. DRONE (for the Drone Family).

Darlinghurst.

BURIED AERIAL.

Dear Sir,—Messrs. Carter, Peacock and others ask for results by other users, mine are similar to Mr. Carter's except that it will not work at all with an earth, also at times a station will only come in weakly, while all the others are strong. Sometimes it may be 2FC, then perhaps 3LO, it is not locality, as 2FC may not come in, and at the same time 2BL is very strong; the same with 3AR and 3LO. Yesterday, static was very bad, but with the underground aerial was able to get 2FC all the afternoon clearly on loudspeaker. Last night during a heavy thunderstorm, when nothing could be heard on loop, indoor or other aerials, got all the A. stations good, clear speaker strength; have done that on several occasions, in fact, without this aerial my receiver would have been out of action of an evening for the last month; with it, have not missed one. Used lead covered wire, and an Igranie Super Het. circuit.

Yours, etc.,

TOM BROWN.

Bullamon, Shallon, Queensland.

RFN.

Dear Sir,—Have noticed various references in the Press and radio journals to the wave-length of the Russian station RFN, some of which are misleading. For the information of short-wave enthusiasts who may experience difficulty in locating this station, I might state that RFN's wave-length is exactly 60 metres. He may be picked up every night except Wednesday, and occasionally on that night also. The evening session opens about 8 o'clock with a talk, which is given in the Russian language. Invariably the station, on opening, announces in English. Likewise an announcement in English is made at about 9 o'clock. On a good low-loss set the station is as easy to tune in as 2FC, whilst the music transmitted is as clear as could be wished. Another short-wave station, situated in Java, transmits an excellent programme between 10 and 11.30 on Saturday nights. I heard the station, controlled by the Dutch East Indies Laboratory, transmit a special test programme on 31 metres on Monday morning, November 28th, between 5.30 and 7.15 a.m. The volume was such that the music could be heard from the speaker 50 feet away. 2XAD is another Yank station, heard easily every Sunday morning at about 7 o'clock, generally transmitting a sporting event.

R. N. SHAW.

Wauchope.

WAVELENGTHS AGAIN.

Dear Sir,—I wish to protest very strongly against the hinted proposals that there should be another re-allotment of wavelengths among Australian broadcasting stations. It appears to me to be ridiculous that a conference of English and foreign representatives should have the power to thrust us back into the chaos from which we have just arisen. It would be different if our broadcasting stations interfered with those in other countries or vice versa. What have other readers to say?

Yours, etc.,

CHRIS. REED.

Manly.

The Signal Intensity of 3LO

By R. O. CHERRY, M.Sc.

Research Physicist, University of Melbourne

FURTHER measurements of the intensity of the broadcast signals of 3LO, Melbourne, have been made in order to discover what service listeners-in are receiving, and in order to elucidate the transmission of wireless signals. Incidentally, information is obtained by such measurements of the efficiency of the broadcasting station at Braybrook. The writer published recently a pamphlet containing an account of the measurements which he had made of signal intensity of 3LO up to a distance of eight miles from the broadcasting station. More sensitive measuring apparatus has been devised and the measurements have been extended up to 30 miles from Braybrook, and some readings have been taken up to a distance of 60 miles from the sending aerial.

Several mathematical theories of the transmission of wireless waves over the surface of the earth have been developed and it is from the results of measurements at distances up to 50 or 70 miles that tests of the validity of these theories can be obtained. Such measurements will help to elucidate, too, the cause of fading of wireless signals, a natural phenomena which causes serious trouble to listeners-in situated in parts of Victoria remote from Melbourne when receiving metropolitan stations.

The service which listeners-in are receiving from 3LO, and how it compares with standards laid down by the experts of the British Broadcasting Corporation and of the Radio Corporation of America will be first discussed, and following that the question of the transmission of the wireless waves will be referred to. Before taking up these matters a word may be said about the methods of measurement used. In the measurements up to 8 miles from the station a measuring apparatus consisting of a loop condenser and valve voltmeter was used. In these tests this simple apparatus has been made more sensitive without being made very much more elaborate. The great advantage of the apparatus is its portability and all the observations which have required the writer to travel some 1,500 miles, have been obtained using a motor cycle. The loop used is collapsible and it and the rest of the apparatus can be carried on the motor cycle.

More elaborate signal intensity measuring apparatus are generally used, such as that of the Weston

Telephone Co., which has recently been purchased by the Research Laboratory of the Postmaster-General's Department, but this apparatus requires a special motor car for its transport.

The simpler apparatus used by the writer is able to detect the signal from 4QG, Brisbane, and observe too the fading of that signal. Although it is not intended at present to study the problems of transmission at these very great distances, it is interesting to find that a simple apparatus costing but a small fraction of the larger instrument will do the same work. It has the additional advantage that, being very simply constructed, there is practically nothing to go wrong.

In order to judge the nature of the service given by a broadcasting-station to listeners-in, certain arbitrary standards have been laid down which have been taken as fairly representative of conditions prevailing in both Great Britain and America. In the previous paper by the writer, standards laid down by the Radio Corporation of America were quoted, and it is interesting to find that essentially the same figures are found to be necessary for English conditions. Since the question of these standards is all important from the listener-in's point of view, we will quote Captain Eckersley's figures, as they appeared in the "Wireless World and Radio Review":

1. Field strengths of 30 to 100 millivolts/metre. Practically a "wipe out" area as far as other stations are concerned.
2. Field strengths of 10 to 30 millivolts/metre. An "A" service area. The listener-in is practically assured of an uninterrupted service, however near—within limits—to a source of electrical disturbance.
3. Field strengths of 5 to 10 millivolt/metre. A "B" service area. Assuming a good aerial, crystal reception is satisfactory. There may be slight interference.
4. Field strengths of 2.5 to 5 millivolts/metre. A "C" service area. Interference begins to present a serious problem.
5. Field strengths below 2.5 millivolts/metre. Reception becomes unsatisfactory.

As these figures will not mean much to many readers, we will translate them into corresponding distances from the Station 3LO. These distances have been deducted from observations taken in the last two months.

The "wipe out" area will extend about 10 miles from Braybrook and will include all the western and northern suburbs of Melbourne and most of the inner suburbs to the east, as far as Elsternwick, Armadale, Kew and Ivanhoe.

An "A" service area, i.e., an uninterrupted service, will extend from 10 miles to 20 or 25 miles according to direction. The following towns are about the limit of this area:—Little River, Bacchus Marsh, Wallan, Ringwood, Dandenong and Mornington.

The "B" service area in which there is satisfactory service on a crystal set with a good aerial is further out than has yet been fully investigated, but from the readings already taken, we may say that an area within 30 or 40 miles' radius will be given this type of service. Since about 70 per cent. of the population of the State live within this area, it appears that the broadcasting station is giving a service where crystal reception can be generally satisfactory to the major portion of the population.

The boundaries of the "C" service area will probably be indefinite since hills and mountains are encountered to the west, north and east of Melbourne within 30 miles. These will have the effect of disturbing the normal distribution of field strength, introducing local peculiarities.

As mentioned above, these standards are based on continental and American experience and it is assumed that such standards will also apply to Australia.

Comparison of these distances with those for stations in other parts of the world, brings out the fact that the area giving a satisfactory service is very large for a station rated at 5 kilowatts. This result was to be expected from the first series of readings, as indicated in the earlier pamphlet.

One new and important fact that has come out of the work so far completed is the peculiar effect that hills have on the field strength distribution. From a number of observations, it appears that at the top of the hill the field strength is much greater than it is on the level ground at the base of the hill. In one case, the ratio was nearly 2.1 on a hill 300 feet high and effects of the same order of magnitude have been observed elsewhere. The theory of this effect is far from complete and more observations will be necessary before the full details have been examined. This "hill effect," as