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Auckland Radio Exhibition

A Successful Display Largely Patronised

IN an age where specialisation is the keynote of industry and invention, progress, in all branches of science in particular, is being made with such bewildering rapidity as to render cognisance of each succeeding achievement well nigh impossible. We are living in a mechanical age of limitless possibilities, the visioning of which even twenty years ago would have brought down a storm of ridicule upon the unfortunate prophet. Perhaps the most startling prophecy which could have been made, would have been the prediction of present-day radio in all its forms. Perfection of radio has been attained with increasing rapidity during the past few years, until now new developments are succeeding one another with so little delay that some means whereby the public can envisage at a glance the new improvements made, has had to be devised. The best solution to this problem is the popular exhibition such as that held last week in Auckland.



O better testimony to the growth and popularity of radio in New Zealand could be given than the exhibition organised by the Auckland Radio Dealers' Association. This was held in the Auckland Town Hall from October 30 to November 2. The exhibition was striking, not only for the quality and variety of modern radio apparatus on view, but also for the number of stalls and the obvious interest shown by the public.

Long before the opening of the doors of the Town Hall on the opening night, a long line of waiting visitors had collected, and when at about 7 p.m. the doors were opened, a continuous stream of people poured into the hall and the gallery.

The limited space before the model studio soon became filled by a crowd curious to see the interior of a broadcasting studio, and also to listen to the relayed speech of the Hon. J. B. Donald, the Postmaster-General, who, though in Wellington at the time, formally opened the exhibition. His speech was relayed by long-distance telephone, broadcast by 1YA, and picked up by receivers in the hall. By the provision of loudspeakers, the opening remarks of the Postmaster-General were clearly heard by the expectant crowd assembled at the exhibition.

The Hon. J. B. Donald's Address.

"Although I am unable to be present it gives me the greatest pleasure to be able

to participate in the opening of the exhibition," remarked the Minister. "Those of us who have possessed receiving sets for any length of time have now come to regard wireless as a matter of course and a part of our everyday lives," he continued. "Those who are listening to me, are, of course, already interested in the subject and do not need to be converted, but I hope that every one of you will try to secure fresh converts, because the more listeners there are the better the programmes that we can expect. Better programmes bring still more listeners, and I am looking forward to the effective nation-wide extension of the service. In the meantime, we can with confidence expect a higher and higher standard of entertainment, information and education."

Increase in Licenses.

ALREADY the total number of licenses for the Dominion was very close to fifty thousand. Wellington district headed the list with 19,480, and Auckland stood at 15,519 at present. If the Auckland exhibition was as successful as those held in Wellington and Dunedin, the number of Auckland licenses should show a big increase in the next few weeks.

Mr. Donald said the Post and Telegraph Department was out to do all that it possibly could to assist in the development of radio in the Dominion. Departmental telephone lines were used a great deal for the relaying of concerts between

different centres, and three long-distance toll lines were now so very efficient that the most excellent results were being obtained. The Department was at present considering means for further extending this service.

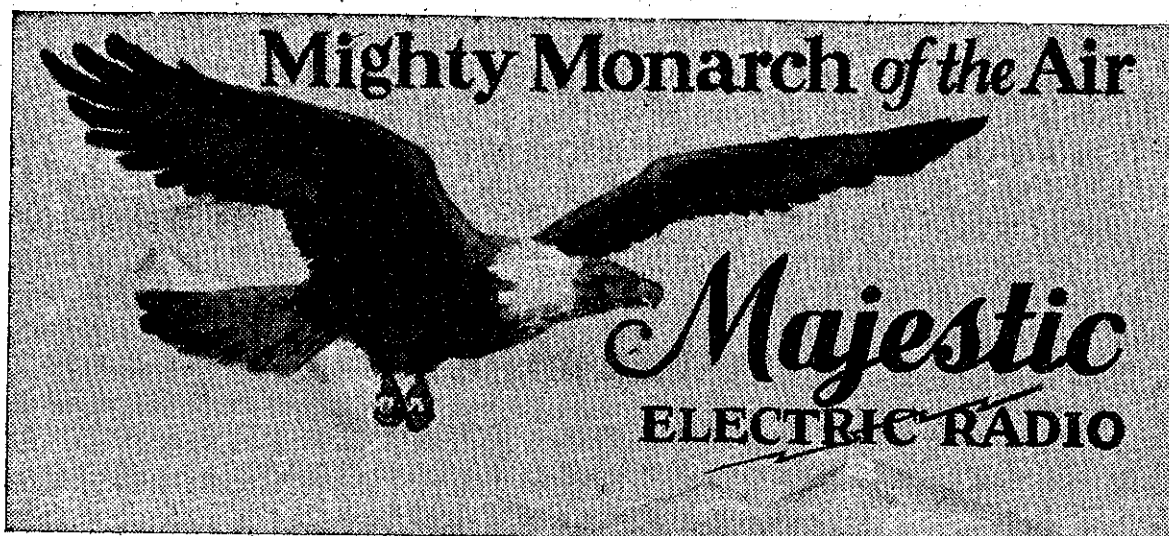
Elimination of Interference.

"I SHOULD like to express now my appreciation of the way the radio dealers have always met the Department in its desire to ensure that the sets sold would not produce interference with neighbouring listeners. All receivers, before being offered for sale, are submitted for examination, and the Department has tested well over two hundred different types. With anything like reasonable care none of these now on the market should ever cause any trouble.

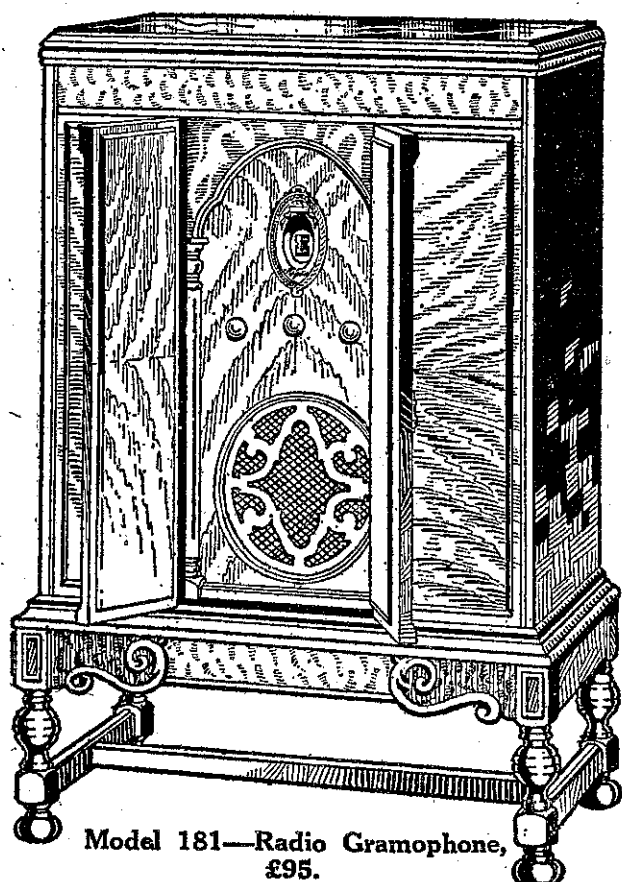
License Reduction Authorised.

"NOW I should like to say a word to the amateur transmitters. Some little time ago, when they met me in Auckland, they told me that they would appreciate a reduction in the fee charged them, and I now have pleasure in stating that I have authorised a reduction from 2 guineas to 30/-, which is the same as that charged for any other receiving set. I hope this will be an encouragement to them, because I realise that from their experiments there is always the chance of important discoveries being made."

—Continued on page 4.



at the
Christchurch Radio Exhibition
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Daily Production

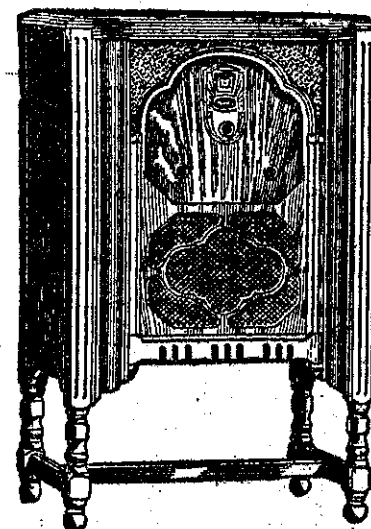
AUGUST, 1928 . . . 2,000

SEPT., 1929 . . . 7,500

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Leads in Selectivity—
Tone—Undistorted
Volume and Gets the
Distant Stations



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Radio Olympia at Christchurch Next Week

THE success of the Christchurch Exhibition is assured. It is to take place during the period of Race Carnival Week, when Christchurch is crowded with visitors for the greatest sporting attraction of the year. Usually, at this time annually, a great motor show is held, but this has lapsed for 1929 and a Radio Olympia will take its place.

The Exhibition will take place in the Choral Hall, a capacious building round three sides of which runs a gallery with seating accommodation for many hundreds of people. Beneath the gallery will be the stalls where radio dealers will exhibit every type of receiving set and display radio apparatus, old and new. The central portion of the hall will be converted into one huge lounge, where visitors to the Exhibition will be able to sit or move round at their leisure.

A very attractive colour scheme has been arranged and the whole of the place, including the stalls, will convey a very homely impression, suggesting to visitors that a radio receiving set, instead of being intended to blare raucously at the public as they pass along the footpath in front of a shop door, is really an ideal musical instrument for the home.

The lounge, or central portion of the hall, will be very comfortably furnished with easy chairs and couches on a carpeted floor. Everything has been designed to please the eye, to gratify the inherent desire for luxurious comfort and to entertain.

ENTERTAINMENT will be provided not only by the inspection of the exhibits in the various stalls, but by the special broadcast programmes which are to be presented from a model studio by 3YA. As was done in the case of the other exhibitions, the Broadcasting Company is providing nightly programmes. Very great interest attaches to the manner in which an entertainment is produced and broadcast. This will all be done in full view of the audience at the exhibition, who will thus have the opportunity of seeing, as well as hearing, the leading radio performers of Christchurch.

The evening programmes will be presented in sessions of half an hour each, with quarter-hour intervals, during which visitors will be able to move round and inspect the many exhibits. This does not mean a "tacet" for listeners, as 3YA will be on the air all

1929 will go down in broadcasting history as the year in which four Radio Exhibitions were first held in New Zealand. Following on the great success which attended the shows in Wellington, Dunedin and Auckland, Christchurch is to open its Radio Olympia next Tuesday evening.

the time; when there are no items from the Exhibition they will come from 3YA studio. In this way country listeners will be able to enjoy something "extra special" in the way of programmes. 3YA will not be observing

Bill and Aunt Pat, so well known "over the air." On Saturday, the children will be able to see Chuckle, Aunt Pat and The Birdman. The programmes to be presented will be an entertainment to both young and



Radio Ltd's. stand at the Olympia.

—C. M. Walls, Ltd., Photo.

a silent day on Tuesday, on which day the official opening of the Exhibition is taking place.

IN addition to the evening concert programmes, the children's sessions will also be broadcast from the Exhibition. These will be carried through in much the same way as are the daily ones in 3YA studio. For each of these evenings a programme of great interest has been arranged. The first will take place on Wednesday, when Mother Hubbard, Uncle Frank and Peterkin may be seen in person. On Thursday, Scatterjoy will be in charge. On Friday there will be Brother

old. There is certain to be a large attendance of juveniles in the Choral Hall when the children's sessions are on.

The Opening Night.

THE official opening of the exhibition will take place on Tuesday evening at 8 o'clock. The Hon. J. B. Donald, Postmaster-General, will speak on relay from Wellington, his remarks being reproduced on loudspeaker to the audience in the Choral Hall and broadcast by 3YA. Other speakers will be the Mayor of Christchurch, Mr. J. K. Archer, and Mr. L. B. Scott, chairman of the Exhibition Committee.

The main portion of the evening's concert will be provided by the Wools-

ton Band under conductor R. J. Estall. The evening's programme from the Exhibition will consist of concert sessions of half an hour's duration, with intervals of fifteen minutes, during which items will be broadcast from 3YA studio.

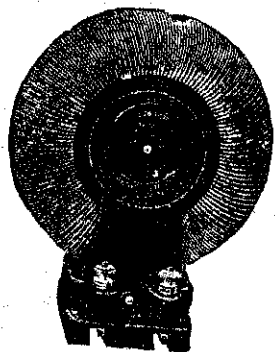
In the first session there will be two very popular items by the band, a cornet solo by Bandsman Ohlson, with band accompaniment, and two vocal numbers: "At Dawning," to be sung by Mr. Harry Francis, and "A Blackbird's Song," by Miss Myra Edmonds. Both vocalists will be accompanied by the Studio Trio.

In the next concert session, the overture "Poet and Peasant," and the fox-trot "The Wedding of the Painted Doll" will be played by the band, and there will be band accompaniment to a trombone solo played by Bandsman Williams. The band will also accompany Mr. Bernard Rennell in his song, "The Trumpeter." Mr. Arthur T. Couch will sing, with accompaniment by the Studio Trio, "Haere Tonu." Mr. H. Instone's recitation, "Married Men," will be full of dry humour.

The third session from the model studio will see the appearance of Miss Marian Woodhouse (contralto), and Mrs. Margaret Williams (humorous reciter). Mr. Rennell will sing "Cloze Props." Both singers will be accompanied by the Studio Trio. Bandsmen Annand and Ohlson, cornetists, will play a polacca, with band accompaniment. The concluding item of the evening will be the march "Dun-troon," played by the band.

Wednesday's Programme.

OPENING the programme on Wednesday evening will be Bloy's Banjo Band, the finest combination of its kind in Australasia. The band will hold the stage for twenty minutes and will give a very popular performance. From then on throughout the evening the programme will be mainly operatic. An orchestra of twenty-five players under Mr. Harold Beck will take part, playing accompaniments for the vocalists and also selections. The singers for the evening will be Madame Winnie Fraser, Miss Corrie Ashin, Miss Dulcie Mitchell, Mr. H. Blakeley, Mr. J. Graham Young and Mr. F. C. Penfold. Instrumental items with orchestral accompaniment will be played by Miss Irene Morris (violin), Mr. H. Glaysher (harp), and Mr. W. Hay (flute).



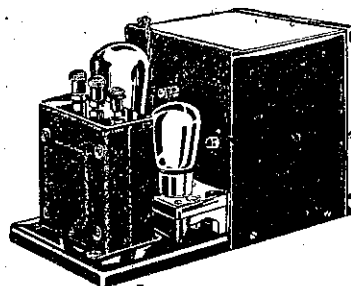
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Wellington

Auckland Radio Exhibition

Advice to Public.

"TO those who are interested, but have not yet purchased a machine, I would advise you to have a good look at all the different models exhibited. I will be extremely surprised if you cannot find something suited to your taste and pocket. All the best makes of receivers are now so good that there is no reason to postpone buying on the score that something better might be coming out soon. I would like to congratulate the radio dealers on their enterprise in holding the exhibition. I trust that it will do a great deal to popularise the use of wireless in the homes of New Zealand." The Hon J. B. Donald then declared the exhibition open.

Further Speeches.

MR. WARWICK J. SMEETON, chairman of the Radio Dealers' Association, was the next to speak. He remarked that on this occasion, the minds of many went back to an evening in 1924, when in the science room of the Auckland University the first radio exhibition was opened. When he recalled to mind the apparatus exhibited there, he could not help being impressed by the enormous progress radio had made since those early days. He remarked that the exhibition was supported by the Auckland Radio Society, the Listeners' League, and by the Society of Amateur Radio Transmitters.

THE Mayor of Auckland, Mr. George Baidon, then spoke. In reference to the remarkable growth and the improvements in radio apparatus, he said that only a few years ago, if he had prophesied that he would one day address thousands of persons by speaking into a metal box he would have been accused of seeing visions. It was only a matter of a short time when people would be able to see the person who speaks through the microphone. Mr. Baidon congratulated the dealers and especially the amateurs for the splendid exhibition.

MR. W. J. HOLDSWORTH, chairman of the Auckland Electric Power Board, said he was closely associated with broadcasting because it

Continued from Front Page

was allied with the activities of the body he presided over. "Already Japanese ladies are using radio to proclaim their charms to the world," he said. "Perhaps such a system may eventually come into vogue in New Zealand. If it did so occur, I consider all married men should be debarred from listening-in. (Applause.) There is also the old story often told by a man who says he is only going somewhere to see a 'man about a dog.' That's impossible now," said Mr. Holdsworth, "because he can just as well sit at home and get the said animal's particulars over the radio." (Laughter.)

Mr. Ball's Address.

LATER in the evening, Mr. John Ball, chief announcer of the Radio Broadcasting Company, delivered a broadcast address.

"**OUR** by no means remote forefathers would have regarded this magnificent display with which we are here surrounded as something more than wonderful," said Mr. Ball, in the course of his address. "To them it would have savoured of the supernatural. You who are listening to my voice at this moment do not require to be told that man's inventive genius has given the world nothing more marvellous than radio telephony, or wireless, as it is more commonly called."

The Miracle of Radio.

"**IT** is not generally realised," continued Mr. Ball, "that the atmosphere is crowded with a welter of inaudible music, song, and speech, rushing through space with incredible rapidity, in every conceivable direction. Out of this soundless babel of bands, orchestras, singers and speakers one is able to select and make audible the one item required."

"Literally speaking, the owner of a modern receiving set—any one of the numerous battery or all-electric type on exhibition at Auckland, can sit at home and tune in to stations all over the world. This marvellous boon, it must be noted, is not restricted to rank, class, or creed, for to-day a good and reliable radio receiving set is within reach of all. Every home in New Zealand is able to secure the entire benefits of the broadcast service for a license fee which works out at a fraction over one penny per day!"

Service for Farmers.

THE value of market reports and weather forecasts to the farmer and the pastoralist was then specially mentioned by Mr. Ball. He quoted many instances where the broadcast of a weather report had proved of inestimable value to farmers by enabling them to protect their flocks and crops from sudden storms and adverse conditions in general.

At the present time, during the shearing season, a special afternoon weather forecast is being broadcast, and representative sheep farmers have stated that this provision will, in all probability, result in the saving of hundreds, if not thousands, of sheep. Sheep, cattle, dairy, and agricultural farmers in all parts of the Dominion

have expressed grateful appreciation of all the invaluable advice that has been broadcast to them by the officers of the Department of Agriculture and by other experts.

Town Listeners catered for Also.

BESIDES this national service for the man on the land, there is also a similar one maintained for the interest and benefit of city listeners. Short talks on every conceivable subject are broadcast by doctors, scientists, lawyers, specialists, and authorities in the various realms of sport; all of whom have generously responded to the company's appeal and availed themselves of the wonderful opportunity which radio offers to render service to their fellow New Zealanders. Mr. Ball doubted if any other broadcast organisation in the world could excel that of New Zealand in the constant manifestation of this splendid spirit of community service.

Notwithstanding the present efficiency of the broadcasting service in New Zealand, the Broadcasting Company, concluded Mr. Ball, were aiming at a still higher state of perfection. He appealed to every listener to enrol at least one friend, and thus hasten the day when their ideals would be realised.

Review of Exhibition

AFTER the conclusion of the official speeches, the attention of the visitors turned to the various stalls, where radio apparatus, ranging from humble crystal receiving sets to complete transmitters, was displayed in profusion. The enthusiast was soon distinguishable from the merely casual observer. The former desired to see and to inquire about everything new, and pursued an inquisitive pilgrimage through the full range of the exhibits, of which there were ample to delight the hearts of the many radio enthusiasts present.

The large variety of exhibits called forth the praise and admiration of the many visitors, and stall attendants were kept busily engaged in everything connected with these new products. In all, there were 21 stands representing 17 firms, and although the apparatus displayed naturally possessed a certain similarity, the ingenuity of the stand-holders in engaging the attention of the public obviated any chance of monotony.

The stands were very tastefully decorated, and when combined with the artistic lighting effects, the whole presented a very attractive appearance. Numerous excellent colour schemes were perceivable, and a wide originality of design made a variety that was much appreciated. In many cases the stands were designed to represent drawing rooms, and thus the public could envisage the new receivers in their future environment.

What was perhaps the most interesting feature of the exhibition was the evidence displayed of what modern mass-production is capable of. It might be thought that such a complicated piece of apparatus as the modern multi-valve receiver would be the last

form of merchandise to be produced at the rate of hundreds per day. Yet American factories, and, to a less extent, English ones, have proved that it can be done, and the display of multi-valve receiving sets at the exhibition was a revelation in methods of modern production.

All-Electric Receivers.

PROMINENT among these were represented many fine examples of the latest important departure in radio, the all-electric receiver. These sets, which draw their power direct from the mains, were both ingenious and elaborate, but were so simple in operation that a child could manipulate them with ease. One attractive feature was common to the many and varied models on show. It has long been apparent that the radio set of to-day must be an ornament—an artistic piece of furniture in harmony with a tastefully-arranged room. Manufacturers have responded well to this demand, easily traceable to feminine influence, and the receiving sets on display were such as would grace any home.

Battery Receivers.

IN addition, some very fine examples of battery-operated sets were on display, and those who have no electric power available were able to see the very latest conceptions in battery models. The home constructor was also well provided for, as several firms specialised in this direction. The resultant display of radio components and accessories was very satisfactory, with regard to both assortment and price. In two cases the public were catered for in this section by the exhibition of examples of home-constructed sets.

AN impressive feature of the commercial sets exhibited was the imposing cabinets which housed them. The console models were principally of two types, the combined radio-gramophone and the separate radio set. The former, the prices of which ranged from £75 upwards, in most cases employed the 250 power valve in push-pull in the last stage. This arrangement results in an excellent tone, and judging from the volume of sound at times in the hall, delivers ample volume.

The smaller models of both combination and separate radio were characterised by the new 245 valve in the last stage. It will be remembered that this is the latest development in the radio world, and its reception has met with unreserved approval.

The A.C. screen-grid valve, which is now very popular, is being employed in as many as three stages—namely, detector and two radio; and the use

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of more than one of these valves in the high frequency stages successfully overcomes the selectivity problem arising from their introduction. Its use as a detector is a comparatively new innovation. By employing it as a power detector, an intermediate stage of audio frequency is rendered unnecessary. Its use in this respect is almost invariably followed by the introduction of the 245 power valve in push-pull. The number of valves employed is thus reduced to five or six, and this means less upkeep and renewal cost.

Cabinet Design.

THE cabinets are of two types, high-boy and low-boy, and are almost invariably finished in light oak. They are usually provided with three buried oak knobs which control the volume and balancing arrangements. In some cases the number of controls has been reduced to two, and in one case only one control is provided. The typical cabinet is fitted with two doors which close over the controls and speaker when the set is not in use, and the beauty and simplicity of these receivers can be realised only by those who have visited any of the recent exhibitions. The rapidly-gaining popularity of radio in New Zealand must be attributed to trouble-free all-electric receivers and handsome console cabinets.

These consoles, though obtainable in most cases through an easy system of time-payment, are beyond the means of many would-be listeners. This latter class have been catered for, however, by several firms, who have marketed a complete line of receivers, which, although not of the console type, are very acceptable in both performance and design.

New Zealand Manufactured Receivers.

IN several instances these are manufactured or assembled in this country, and it is interesting to observe just how much production is carried on in this direction in New Zealand. One firm, who made a distinctive line of battery and electric sets, was exhibiting several of their products in the course of assembly. These receivers showed the design and composition of the power-pack, the construction of the tuning coils, and the position of components and wiring. Many amateurs taking advantage of the absence at this stage of construction of the view-obstructing shields, carefully examined these exhibits to secure hints which would aid them in the construction of their own sets.

Another exhibit of locally-manufactured receivers of all types called for much praise. These have been specially designed to suit local conditions, and the New Zealand woods used in the production of the cabinets presented a pleasing change from the orthodox importations. There was one exhibit of a screen-grid all-wave set, which was designed and manufactured by a New Zealand radio engineer. This handsome little receiver, assembled neatly in a ducoed cabinet, struck an original note among the conventional types of sets on display. These and the other smaller sets previously referred to were the subject of considerable interest, and it is likely that their introduction to the exhibition will do much to stimulate radio among those who desire a small but powerful receiver.

The Home Constructor.

PRIOR to the exhibition the opinion was current that the numbers of home constructors in New Zealand was fast diminishing, but this assumption has now proved to be incorrect. Great interest was manifested by the public in the very complete range of radio components and accessories exhibited. Besides these displays there were two exhibits, on behalf of the two radio papers, of home-constructed receivers, and judging by the numbers that visited these stands and discussed the models on exhibition, there is still much activity in the hobby of home-construction.

The set around which the most interest was centred was the two-stage radio-frequency Browning-Drake. There were fortunately two exhibits of this receiver in these stands, one being the prize-winner in the competition organised by the committee, and the other, an exhibit by an Auckland constructor. The A.C. home-constructed apparatus called forth favourable comment, and many of the visitors expressed their intention of building a similar model. Another exhibit that was a centre of attraction was a home-made dynamic-cone loudspeaker.

Modern Loudspeakers.

ALTHOUGH the moving-coil speaker has proved immensely popular, the magnetic cone type has not yet been wholly displaced. In the majority of the stands could be seen models of this type, and its performance and appearance have been so improved that it is now a most desirable piece of apparatus.

The dynamic type of speaker, however, predominated, and some of the Cabinets which housed these modern speakers were almost mistakable for complete receivers. Their chief attractiveness lay in their simplicity of appearance, and this, in fact, is the dominating factor in all modern radio equipment.

The Exhibition Broadcast.

THE stage of the Town Hall was elaborately fitted up as a temporary studio, with drapings of blue and grey, armchairs, shaded lights, and the essential microphone. The studio was occupied in turn by the broadcasting choir, under the baton of Mr. Len Barnes, the Auckland Artillery Band, and by individual artists who took their turns before the magic microphone.

An interested crowd in the galleries keenly followed each item, and thoroughly enjoyed the excellent concerts which were provided each night. At intervals the broadcasting was undertaken direct from 1YA, and during these periods the sets on various stalls were tuned in so that visitors might walk round and compare respective qualities of reproduction.

The children's session was much appreciated by young and old, and the kiddies especially were delighted to watch Uncle Tom as he broadcast birthday greetings. Everyone was intensely interested to see the personalities of the children's hour, and the opinion was universally expressed that the Uncles and Aunties were as delightful in person as they are over the air.

Amateur Transmitters.

RECENT years have seen a growing tendency to use the higher frequencies, both for telephony and tele-

(Concluded on page 29.)

dominant!

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The New Zealand Radio Record

(Incorporating the "Canterbury Radio Journal.")

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N.Z. RADIO PUBLISHING CO., LTD.,
P.O. Box 1032, WELLINGTON.

WELLINGTON, FRIDAY, NOVEMBER 8, 1929.

EDITORIAL NOTES.

CONGRATULATIONS may be extended to Auckland upon the success of the Radio Exhibition held there last week. As was the case with the opening of 4YA in Dunedin, the Postmaster-General utilised the land-line facilities of the Post and Telegraph Department and opened the exhibition by speaking from his office in Wellington. The speech was transmitted satisfactorily by this means, and the Ministerial blessing bestowed upon the Exhibition. The announcement of most interest to radio enthusiasts in the Minister's speech was the statement that the license fee for amateur radio transmitters had been reduced to the level of the ordinary receiving license fee. The transmitters, who are a notable band of enthusiasts, will be grateful for this concession, as it meets the representations they have made from time to time. The opportunity was also taken by the Postmaster-General to emphasise the need of the radio service being enthusiastically supported by listeners, and every effort made to secure increased numbers. He rightly pointed out that the success of the service was dependent upon revenue, and revenue was securable only from the fees of listeners. Exhibitions such as those staged originally in Wellington and Dunedin, now held in Auckland, and to be held in Christchurch next week, will certainly play their part and spread enthusiasm for radio in the public mind.

A KINDLY service to radio was performed by "The Dominion" newspaper in drawing attention to the outstanding service afforded sheep-farmers in the present sheep-shearing season by the daily broadcast at 3.30 each afternoon of a special weather forecast. The purpose of this innovation is to supply sheep-owners with an indication of the likely course of the weather. It has sometimes happened in the past that immediately following upon sheep being turned out after being shorn, cold southerly or drenching northerly rains have come up, with detrimental effects upon the stock. Not only have the sheep suffered, with a percentage of deaths resulting therefrom, but the whole health of the flock has been affected with subsequent ill-effects on the following season's yield. Now with the aid of the Meteorological Department and the broadcast service of 2YA, it is possible for every sheep-owner equipped with a radio service to know at afternoon-tea time the trend of the weather, and arrange his actions accordingly. This service in itself certainly stands to save the country many thousands

of pounds. It is a service that is likely to be supplemented from time to time by similar consideration for other branches of primary production. The tomato-growers of Canterbury, for instance, have requested a similar service, in order that they may safeguard their crops from sudden storms.

THE Radio Olympia to be held in Christchurch, commencing on November 11, is not staged on such an ambitious scale as those of Wellington or Auckland. This is due to inability to secure a building of sufficient size. The Choral Hall has been taken for the occasion, and this gives scope for but nine stalls, compared with the larger numbers possible in both Wellington and Auckland. In spite of this slight drawback, however, it is certain, in our view, that the radio enthusiasts of Christchurch, and the interested public as well, will receive a very valuable object-lesson by a visit to the Radio Olympia. The time has been well chosen, falling in Carnival Week, and that in itself will present additional opportunity for demonstrating radio to the public. A comprehensive programme has been arranged by Station 3YA in commemoration of Olympia, and altogether listeners are assured of an interesting time, both over the air from the Radio Olympia and at the show.

1YA Programmes "Band Monday" at 3YA

Important Alteration All City Bands to Take Part

AN alteration has been made in 1YA programmes as published in the "Radio Record" last week. Instead of the entertainment advertised for Saturday November 9, a concert to be given by the Auckland Municipal Band will be relayed from the Town Hall.

Concerts from Caves

Italian Experiments

JUST about the same time that 1YA was relaying a concert from Waitomo Caves, the Italian broadcasting authorities were carrying out concert relays from similar grottos. The writer of notes in "World Radio," under date September 13, thus comments on the Italian tests:—

"Seeing the great care which is taken in the building of the modern studio with a view to securing the best possible quality in acoustics, it is somewhat surprising to find high-class symphony concerts being broadcast from a cave. Yet, I see that in the grottos of Posthumia (in the Province of Trieste), a series of such concerts is taking place at the present time. An orchestra of one hundred and twenty members, under the direction of Signor Pietro Mascagni, is apparently the mainstay of these concerts, which are obviously much more than a mere stunt. The largest of the grottos holds no fewer than seven thousand persons. Presumably this is not counting those who may elect to hang from the stalactites, or sit with tentacles on the stalagmites. Although I understand that the Italian Broadcasting Company has obtained permission to relay these concerts through Milan and Turin, it may be that the technical difficulties of relaying successfully from such a studio will prove insuperable, but otherwise the concert should certainly be worth hearing, if only for the interest of conjuring up in the mind the place from which it originates."

FROM all parts of Christchurch on Monday evening, brass bands, pipe bands, drum and fife bands, will be marching with colours flying towards the centre of the city. The rendezvous is a spot on the banks of the picturesque Avon where, on a grassy slope stands a newly-erected magnificent band rotunda.

This rotunda is a gift to the city by Mr. T. J. Edmonds, and it is to be officially opened with all the ceremony that such a gift warrants. After the speeches, each of the bands will contribute an item. It will, in reality, be "Band Monday" at 3YA.

Auckland Municipal Band

Concerts to be Broadcast

MUTUALLY satisfactory arrangements have now been effected between the Auckland City Council and the Radio Broadcasting Company concerning the right to broadcast all the musical activities of the Auckland City Council. These arrangements at the moment of our going to press have still to be confirmed by the full meeting of the City Council in progress at the time, but it is hoped and anticipated that the detailed arrangements so far made will be confirmed. In the meantime permission has been granted for the broadcast of the Municipal Band concerts from the Town Hall on November 9 and 17. The programme published in last week's "Record" as for the 9th, will, therefore, be replaced by the relay of this concert, which will be given under the conductorship of Mr. Christopher Smith.

C. R. RUSSELL M.Sc.,
M.I.R.E., A.M.I.E.E. (Lon.)
CHARTERED ELECTRICAL
ENGINEER.

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A Great Surprise**Negro Spirituals****Across the Pacific "As Others See Us"****2YA Wrestling Broadcast****1YA Has Feature Programme****New Zealand "Season" in Full Swing****Praise from Australia**

DURING the evening of Labour Day listeners to 2YA received a pleasant surprise in the form of a broadcast description of the wrestling match staged at the Town Hall, Wellington. The bout was between Clarence Eklund, light-heavy-weight champion of the world, and Walter Johannsen, similar champion of Finland, and was described in a vivid and concise manner by Mr. Drummond, the well-known announcer of 2YA.

Before the commencement of this contest, a description of the last amateur preliminary bout was given. This was between two eight-year-old twin brothers, who were, according to the amused announcer, as "slippery as two eels." Their exhibition was evidently very popular with the crowd present, as at the termination of the contests the participants were showered with coins in such profusion that the twins had great difficulty in accommodating them all.

Prior to the commencement of the professional match, Johannsen spoke a few words into the microphone to the effect that he was feeling very fit and hoped to win. Shortly after, the gong sounded, and the bout commenced. The running commentary on the match was excellent, every hold being described in such a way that listeners who knew nothing of the technicalities of wrestling (of which there are not a few) could quite easily follow the bout. A very close and exciting contest resulted in a win for Eklund by a very narrow margin.

Twice during the final round the transmission ceased for a minute or so owing to the blowing out of a fuse. This was rather unfortunate, as the contestants had both secured falls during the preceding rounds, and they were each striving desperately to gain the decision before the final gong sounded.

Apart from this incident, however, the broadcast was a very successful one; and it is to be hoped that the contest to be staged at the Town Hall in the near future between Farmer Vance and Tom Alley will be similarly broadcast.

AN outstanding event next week will be the presentation by 1YA, on Tuesday evening of a selection of the quaint Negro Spirituals or songs of the negro slaves of the Southern States of the United States of America.

The performance will be rendered by the Baptist Tabernacle Chorus Choir, of 100 voices, under the baton of Mr. Arthur E. Wilson. This choir was formed about eight or nine years; and is now considered one of the leading choirs of the Dominion. A previous performance of the "Spirituals" was given in the Baptist Tabernacle before an enthusiastic audience of 1500 people while hundreds were unable to gain admittance.

In addition to fine chorus work by mixed as well as by male and ladies' choirs, there will be numerous solos, the vocalists being Mrs. Dorothy Cox, Miss Doreen Logan, Mrs. J. Litherland, Mrs. C. Turley, Mr. Horace Reynolds and Mr. Clinton Williams. During the evening Mr. A. E. Wilson will give a short dissertation concerning negro spirituals.

The plantation songs known as "Spirituals" are the spontaneous outburst of intense religious fervour, and had their origin chiefly in camp meetings, revivals, and other religious exercises. They were never "composed," but sprang into life, ready made, from the white heat of religious fervour during some protracted meeting in camp or church, as the simple, ecstatic utterance of wholly untutored minds. Success in singing these folk songs is primarily dependent upon deep spiritual feeling. The voice is not nearly so important as the spirit; and then rhythm, for the Negro's soul is linked with rhythm. It is a serious misconception of their meaning and value to treat them as "minstrel" songs, and their worth is weakened unless they are done impressively, for through all these songs there breathes a hope, a faith in the ultimate justice and brotherhood of man. The cadences of sorrow invariably turn to joy, and the message is ever manifest that eventually deliverance from all that hinders and oppresses the soul will come.

A CORRESPONDENT at Cape Beale, British Columbia, who regularly listens in to 1YA and 2YA when conditions are favourable, writes under date September 14, at the commencement of what he terms his "New Zealand season," up to which date reception during the northern summer had been poor. He states:—

"Of the two stations 1YA has been coming in with more strength and frequency throughout the summer. For the past few nights, however, 2YA has been steadily improving, until tonight when both stations came in with wonderful strength and clarity, quite like old times. Unfortunately there is a Japanese station very close to both 1YA and 2YA, and I have found that under certain atmospheric conditions these Japanese stations interfere considerably. To-night, I am glad to say, however, New Zealand had the upper hand, and I trust will continue to do so throughout the autumn and winter. Having kept close observation on 1YA since September, 1926, and 2YA since its opening night in July, 1927 (vide previous reports), I find that undoubtedly the best time of the year for reception of these stations is from September to about the middle of January when they begin to get freakish. This somewhat proves, does it not, that midsummer at the sending end offsets the midwinter at the receiving end, as undoubtedly reception is far better in the month of October than in December? I would add that I enjoy the programmes from both your stations immensely, and am looking forward to many pleasant nights 'in' both Wellington and Auckland during the approaching winter."

A LETTER which speaks for itself has been received by 2YA. It comes from a radio dealer in the Blue Mountains of New South Wales, and his comments on the relative merits of the broadcast programmes on both sides of the Tasman are very interesting. The letter reads:

"We have just been listening to an excellent programme relayed from Palmerston North, and wish first to congratulate New Zealand for the wonderful programmes it puts on the air, and, secondly, to endorse the remarks just made by some gentleman from Palmerston to the effect that people in Australia would be better served if their programmes were arranged by some company as in New Zealand instead of being under the Government, which we wish to add has caused no end of dissatisfaction here. As dealers in radio we have had to look round for a set which will bring in other stations than our principal Sydney ones in order to give satisfaction both to ourselves and our clients. Fortunately we have found a set which not only gives us the smaller stations in Australia's main cities but will bring in Wellington and Auckland at loud strength and without fading. This fact has proved a boon for our own enjoyment, and for business, as there is no doubt that 2YA, especially on Sunday evenings, tops the list in the quality of its programmes. We hope you keep the administration of the company as it is."

Advisory Trustees

This is the heading of an interesting folder dealing with the subject of Advisory Trustees and just issued by the Public Trust Office. It explains in a straightforward manner how one or more Advisory Trustees may co-operate with the Public Trustee in the administration of an estate of an involved or complex nature.

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Armistice Day**Appropriate Broadcasts**

ON Sunday, November 10, as well as on Monday, November 11 (Armistice Day), fitting celebrations in connection with the epoch-marking day will take place, and there will be broadcasts of an appropriate nature.

Both 2YA and 3YA are broadcasting on Sunday afternoon special services to be held by the League of Nations Union.

On Monday morning at 10.45, 2YA is relaying a service which is to be held under the auspices of the R.S.A.

All three stations which will be on the air on Monday evening will devote portion of their programmes to Armistice Day celebrations.

A Hint for Farmers**Radio Music for Cows**

OF course this comes from America, but there might be something to it. The claim is that cows like music, and when bailed up in the milking shed settle down much more comfortably for milking if they are given the benefit of a radio concert. The experiment was tried in one of the large dairies of the Detroit Creamery Company. In this shed there were over 100 cows, and when the radio music was switched on they with one movement turned their heads towards the loudspeaker. When the music was turned off the cows, which a moment before were standing quietly chewing their cuds, exhibited restlessness, tossed their heads and switched their tails. When the soft notes of "Love's Old Sweet Song" were heard, immediately the cows settled down and became motionless. The newspaper distributing the broadcast has not entered into any computation as to any extra yield given by the cows through added contentment, or indicated that the milk was any richer! Will any New Zealand farmer experiment?

Long Distance Relays Radio for Farmers High Jinks To Uncle Leo

Several More Arranged

SEVERAL more long-distance relays have been arranged by the Broadcasting Company.

On Friday, November 8, the performance of the musical play "High Jinks" to be produced by the Palmerston North Operatic Society is to be broadcast by 2YA.

On the evening of Sunday, November 17, there will be a relay from Ashburton of the service to be conducted in St. Stephen's Anglican Church (Rev. A. J. Petrie, preacher), to be followed by a concert to be given by the Ashburton Silver Band.

Boxing fans will be tuning-in to 3YA on the evening of Friday, November 22, when it is probable that a ring-side description of the H. Leckie v. Donovan boxing match in Ashburton will be broadcast. Very great interest will be taken in this return match. The broadcast will occupy about half of 3YA's programme that evening.

On Wednesday, December 4, a concert to be given by the Wanganui Choral Society is to be relayed to 2YA. Wanganui concerts are invariably excellent.

A relay from Otorohanga to 1YA is fixed for Friday, December 6. The concert is being organised to mark the opening of the newly renovated theatre, and a splendid programme is being arranged.

Several other relays are in view but have not been finalised yet.

A FEATURE of radio development in Canada is the extent to which certain interests develop their own radio station. For instance, one of the most important economic ventures of Canada is the growing of wheat. It is highly desirable that the farmers scattered over the prairie shall be informed of the trend of the market and other matters bearing upon their own interests. The Saskatchewan Wheat Pool, therefore, has established its own radio station CJBR, and broad-

FOR five nights during Spring Show Week in Palmerston North the Amateur Operatic Society of that town will stage the witty musical comedy "High Jinks," and on Friday, November 8, 2YA will broadcast that diverting medley of music and mirth. Listeners may rest assured of delightful entertainment in the rendering of this vivacious operetta under the direction of Mrs. J. Hulme, Mr. F. Cousins acting as stage manager, and Mr. A. J. Graham capably conducting the music. Miss. Naomi Whalley, well known

Appreciated by All

MINISTERS who broadcast from the various stations on Sundays receive many gratifying letters from listeners in all parts of New Zealand. Such a one has just come to Uncle Leo, of 1YA, otherwise the Rev. Lionel B. Fletcher, who conducted the first service broadcast in New Zealand and whose popularity does not wane. The letter in question comes from the Alexandra Home, Richmond, Nelson, and reads:—

"Although we know you quite intimately over the air, we have not yet written to you, but I thought that perhaps you would be interested to hear from us. For over twelve months, indeed, I suppose ever since you took over 1YA Sunday Children's Services, we have tuned in, and just here would like to say how very helpful and enjoyable we all think the services. This is the home for aged and indigent for the Nelson Province—similar to Costley Homes—but on much smaller scale, of course. Every Sunday night there are from twenty to thirty here, listening to your service, and many of our old folk say they prefer that hour to any during the whole week, on the wireless. Our wireless was obtained by Mr. Hunter canvassing, and the response averaged 7s. 6d. per head from 200 donors, to secure the pleasure and profit for the old folk."



MISS DORIS BINNS,
An Auckland pianist.
—S. P. Andrew, photo.



MISS MARJORIE NELSON,
A Christchurch soprano.
—Stephano Webb, photo.

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casts from this regular programmes, giving not only the essential information necessary to members but musical and other items.

throughout New Zealand for dramatic flair and brilliant performance in choral and amateur operatic work, will be in the lead; and the accomplished soprano will be supported by an expertly chosen and talented group of players, including Messrs. Remington, Secker, Eising, L. Ward, Cousins, Palmer, Mrs. M. Hansel, and Misses J. Connors, U. Hancock, E. Boon, D. Morgan; and M. Fletcher, with many dancing girls, a chorus of 70 voices, and an orchestra of 20 players. After the society's great work in the production of "Paul Jones," "The Geisha," "Dorothy," and numerous other delightful and melodious comic operas, listeners may well look forward with certainty to some entrancing hours of entertainment on the evening of Friday next.

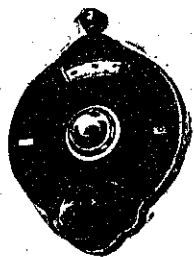
What is a "Balalaika"?

FOR the information of listeners who are curious to know what sort of an instrument is a balalaika, recordings of which have occasionally been broadcast, it may be said that a balalaika is a common Russian guitar, triangular in form, and with but three strings. These strings are tuned in different keys, which permit peculiar and pleasing effects, quite different from those produced by any other instrument. Like the mandolins and guitars, the balalaikas vary in size, some being as large as a man.

Wireless Wanderings

THE latest radio "stunt" in America is a broadcast description of the sensations experienced by a parachutist while actually making a descent. A "chin-strap" microphone is fastened in front of his mouth, while strapped around his waist is what is believed to be the smallest transmitter ever made. This has a range of ten miles, and weighs only 24lb., with the microphone included. Besides four batteries, the equipment consists of a modulating and oscillating circuit, while a switch is fitted to enable the transmitter to be turned on or off at the will of the operator. The broadcast is picked up and relayed by a powerful ground station, and it is hoped that the person describing his feelings on the occasion has strong self-control. Otherwise, should his "umbrella" fail to open, his remarks on aeronautics in general, and parachutes in particular, would probably prove too illuminating for the everyday valve filament.

AN interesting experiment in "six-fold" reception is being carried out at present by the B.B.C. in connection with trans-Atlantic programmes. One station is situated in Essex and another in Kent, the two being linked together by means of land-lines. Each station tunes in to America on three different wavelengths, the idea being that if fading affects one wavelength, both stations receive the transmission on the others. The programmes are rebroadcast, and thus the listener may receive the same station on six different wavelengths, which vary according to reception conditions.



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Trade Displays at the Christchurch Olympia

A Review of the Exhibits

FOR the past few weeks there has been much activity among the radio dealers of the Cathedral City in connection with the Radio Olympia which will be in full swing next week in Christchurch. This is the first radio exhibition to be held there, and judging by the great interest shown already by the general public, it will be an unqualified success. In fact, the opinion is current that the Olympia should be run for seven days instead of five, in order to enable everybody to attend at least once and inspect the interesting exhibits that will be on display.

An interesting feature of the Olympia will be the model studio, which is to be fitted up on the stage of the Choral Hall, where the exhibition is being held. In order to give the general public an opportunity of seeing how radio programmes are presented, a concert will be broadcast every evening from this studio until the exhibition is over.

Owing to the limited capacity of the hall, there are only nine stands, but this disadvantage is fully compensated for by the variety and originality which will be displayed by each of them. As far as possible detailed descriptions of these exhibits have been obtained, and these appear below, but unfortunately a majority of the stand-owners have not supplied the necessary information before we go to press.

A. E. STRANGE.

IN accordance with the policy pursued by this firm of catering for the home-constructor, a large portion of their stand will be devoted to radio components and accessories. As a particularly wide range of these will be exhibited, amateur radio enthusiasts will find here much of interest to them. A wide variety of Dubilier goods will also be on show, and as a speciality line, a wide selection of static con-

densers, ranging from values as high as 3000 working volts, down to the ordinary 150-volt type are to be exhibited.

Those who are interested in transmission will be well catered for, and besides a comprehensive variety of equipment for this purpose, a 150-watt transmitting valve will be displayed. For that section of the public whose main interests lie in completed receivers, an Apex six-valve set will be on exhibition; and for those who require a small, yet powerful receiver, this exhibit should satisfy their needs.

L. B. SCOTT, LTD.

L. B. SCOTT, LTD., have for some time been agents for Crosley receivers, and they are very fortunate indeed to be able to exhibit the new Unitrad set, which has just arrived in time for the Olympia. This set, which is the latest in all-electric screen-grid construction, was the sensation of the R.M.A. Convention in Chicago a few months ago, while at the recent Auckland Radio Exhibition its appearance for the first time in New Zealand created much admiration and enthusiasm amongst the listening public. Short-wave enthusiasts, home constructors and all those interested in the design of radio sets will see many new ideas incorporated in the Unitrad chassis.

The present growing demand for "radio furniture" has been well provided for by the manufacturers of the Crosley receivers, and great interest will be taken in the three new console models and the two new types of receivers which are to be exhibited. These latter receivers are a compromise between the accepted table and console models, and their recent introduction in New Zealand has proved very popular.

DIRECT SUPPLY CO.

MANY of the latest products of the Philips concern will be on exhibition at this stand, and notable among these is the popular all-electric Q.P. This receiver, which for local reception will operate efficiently without aerial or earth, has also proved ideal for use as an amplifier for a gramophone pick-up. The latest Philips moving-coil speaker and amplifier are, together with the new Philips power pack, creating much interest among the visitors.

One of the Philips products for the season is the A.C. or D.C. mains-operated 3-33. This receiver was designed in the Philips laboratories in Australia, and its simplicity and efficiency have won universal approval in that country. For those who already have sets there will be a complete range of battery chargers and eliminators; and for amateur transmitters an extensive display of Philips transmitting valves is to be exhibited.

WATKINSON'S LTD.

FOR the general public who are mainly interested in commercially-built receivers this stand will prove a great attraction. Several of the well-known Kellogg sets, both power and battery-operated, as well as a new Nora three-valve all-electric receiver, are to be exhibited. For those who already possess sets, interesting lines to be displayed include a wide range of battery eliminators and Prest-O-Lite and Columbia batteries.

Another "Olympia"

Again Held in England

TOWARDS the end of September the British Wireless Exhibition opened at Olympia, and from reports the tremendous improvements revealed in every exhibit mark the past year of radio development one of the most progressive ever experienced. This is perhaps due to the fact that nowhere has radio reached saturation point, and the limits of ingenuity, research, and general progress are by no means yet attained.

Last year saw the screen-grid valve take its proper place in the repertoire of radio, and its popularity has grown steadily since, until no amateur building himself a really first-class, up-to-date, modern receiver would dream of designing a set without considering a screened-grid valve.

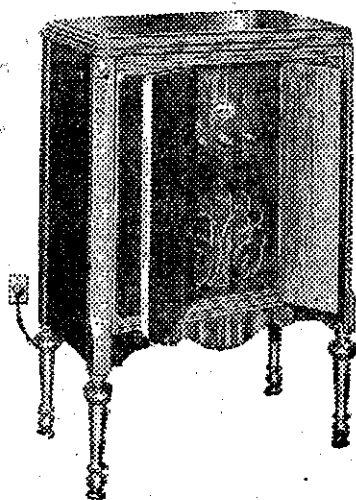
Another development during the past twelve months has been in connection with the portable set. Great improvements in design have been obvious, and with reductions in price the portable set has at last claimed its rightful popularity. At the exhibition many first-class examples of portable sets are said to have been on view, and it is stated that many people who had hitherto considered this type of set as unsuitable for efficient general use, were amazed at the extraordinary strides which have been made in the general design, particularly in the compactness and efficiency of these receivers.

Loudspeakers of all types, and moving coil models in particular, are reported as being much in evidence, and although it is practically impossible for the organisers to allow individual demonstrations, it is unfortunate that some arrangement cannot be made for a special auditorium to be hired where loudspeakers can be switched, one after another, to a regular programme, so that visitors can really have an opportunity of judging their respective merits.

From the point of view of appearance, loudspeakers have, at any rate, definitely improved, and the visitor to the exhibition should be given some sort of an opportunity of realising that not only appearance but quality has been improved almost beyond belief.

Of complete sets, mains units, and general accessories there are, as usual, a bewildering variety. In fact, it is probably doubtful whether the average visitor to the exhibition this year will be able to take in all that Olympia offers in one visit.

New Zealand, by reason of her remote situation and her small population, could not hope to have a radio exhibition half as inspiring and varied as that at Olympia; but, if all allowances were made, a comparison between a British exhibition and, for example, the one recently concluded at Auckland, would reveal the fact that, though small, New Zealand is by no means far behind any country in the world as regards radio development.



CROSLEY and RADIO

In N.Z. have grown up together and during the last six years it has been a leader in the Radio World and a remarkable example of efficiency and economy.

Extravagant advertising will sell any article for a start, but its future life depends on its merits.

To be a leader for a day is common to many—but to be a leader for years is a position only attainable by manufacturing an article that has "keeping points" rather than selling points.

The World's Greatest Radio Value

South Island Agents . . . **L. B. SCOTT Ltd.,** Box 395, Christchurch

Christchurch Olympia Questions and Answers

(Continued from page 3.)

Thursday's Entertainments.

A **SPLENDID** vocal and instrumental programme will be presented on Thursday evening. An orchestra of ten under Mr. Harold Beck will be a feature of the entertainment, playing selections of a very bright nature and accompanying the vocalists. Madame Gower Burns will be singing, also Miss Frances Hamerton, Miss Belle Renaut, Mr. L. C. Quane, Mr. Ernest Rogers, Mr. Russell Sumner, Mr. Fred A. Bullock, and Mr. T. D. Williams.

Dance Music on Friday.

THE Bailey-Marston Dance Orchestra has been engaged for Friday evening, and will set the tune for a very merry evening. Mr. Charles Lawrence, the well-known entertainer, is contributing to the vocal programme. There will be humour at the piano by Miss Lily Kinsella, tenor songs by Mr. C. R. Williamson and Mr. W. J. Trevern, a humorous pianologue by Mr. Noel Newton, jazz songs at the piano by the Joyous Duo, with ukulele accompaniment, and the Cathedral Male Quartet will be heard in part songs.

Grand Finale on Saturday.

THERE will be a rare entertainment on Saturday evening for the conclusion of the Exhibition. An orchestra of fifteen, under Mr. Harold Beck, will be contributing, and a specially bright programme has been arranged. The orchestral selections will include "Bells Across the Meadows," with chime solo by Mr. Debenham, and "Ole Smith," a medley with solo for bells, xylophone and marimba. There will also be a cornet duet, "The Two Imps," by Messrs. R. Ohlson and F. Chapman, with orchestral accompaniment. Other instrumentalists engaged for the evening are Miss Elaine Moody's Hawaiians, Theo and Frances Gunther, who will play concertina duets, and Mr. J. W. Barsby, who will play "The Ragtime Bass Player." There will be songs at the piano by the Melody Maids. Mr. Jock Lockhart will dispense much humour. Miss Mavis Ritchie and Mr. Cyril Collins will act a sketch, "A Restaurant Episode." Further humour may be expected from Mr. Geo. Titchener. The singers for the evening will include the Valencia Quartet—Mrs. Lucy O'Brien, Miss Mary Taylor, Mr. T. G. Rogers, and Mr. E. J. Johnson—whose items will be solo as well as concerted: Miss Nellie Lowe (who will sing "Danny Boy"), Mr. Robert Allison (singing "Border Ballad"), and Mr. Fred Hale (singer of popular jazz songs).

WANTED AND FOR SALE.

For column of casual advertisements see page 32.

Receiver Neutralisation.

W. N.M. (Westport) asks the following questions:—

1. How can I neutralise my factory-built receiver?

A.: If adjustments to the neutralising condensers do not affect a cure on the lower portion of the dial readings, try reducing the plate voltage on the radio frequency stages. Sometimes an additional 1 mfd. fixed condenser inserted across the B+ radio-frequency connection and the A- connection (at the receiver end of the battery cable) will stabilise a set sufficiently. For detailed method see "Listeners' Guide."

2. What causes transformers to burn out?

A.: A break in the primary winding of an audio transformer can be put down to various causes. For instance, excess plate current sometimes produced by using insufficient grid-bias may cause the trouble. A more common cause is the electrolytic decomposition of the fine wire due to dampness and also corrosion after the use of unsuitable soldering flux.

3. Is it absolutely necessary to have 135 volts on the plate of a 112-power valve, and also is 4½ volts grid bias sufficient?

A.: No, it is not absolutely necessary, although you will not be able to obtain anything like the maximum undistorted volume when using less voltage. Also 4½ volts grid bias is insufficient except when using low plate voltages. With 135 volts on the plate, a bias of -9 volts on the grid would be required.

4. Can distortion be eliminated when fading occurs?

A.: No. It is impossible to regulate either fading or distortion arising from this cause.

Battery Charging.

T. L. (Kaiwarra) has a battery charger of the vibrating type, and asks if it is adaptable for use with the B battery described previously in the "Radio Record" of "Megohm."

A.: According to the slip enclosed, the charger will charge the five blocks connected in parallel at a slightly lower rate. This is not a great disadvantage. A 60-watt lamp will give approximately a 100 m.a. charge, which would be quite suitable. There would be no advantage gained by cutting down the blocks below 24 volts each by a 60-watt lamp and follow instructions.

Short-wave Adaption.

I HAVE a four-valve receiver, using wet A and B batteries (writes W.D.A., Tarata), and I would like to know whether an efficient short-wave set could be obtained without altering the wiring of the receiver in any way.

A.: A short wave adapter would be quite suitable, and a description of how to build this unit can be found in the 1929 "Radio Listeners' Guide," but omit the bypass condenser between P of the valve and A+.

Charging B Batteries.

J. I.C. (Fiji) sends a sketch of an arrangement for charging B batteries from the 230 volt. D.C. supply, and wishes to know if it is quite suitable.

A.: Providing one or two details not mentioned in your letter are in order, the arrangement is quite suitable. Make sure that the positive of the supply connects to the positive of the battery. Also it is presumed that the B batteries to be charged are accumulators, and not the commercial dry cells.

Battery Charging from a Windmill.

THE charging of A batteries has always been a source of trouble to country listeners. "Is it possible," asks S.S. (Hawke's Bay), "to use a windmill for this purpose?"

A.: The idea is quite feasible provided that a suitable relay, which will regulate the charging rate, can be purchased or constructed. When the windmill comes to rest an automatic device will be necessary to break the circuit, otherwise the accumulator will discharge through the generator. The apparatus would have to be suitably geared to maintain the correct speed of the dynamo. This would necessitate more than an amateur mechanical or electrical knowledge.

Moving Coil v. Linen Diaphragm.

WHICH is the better for sensitivity and the ability to handle volume, asks A.S. (Khandallah), the moving coil speaker described by "Pentode" or the linen diaphragm and its adaptations by "Megohm?" I am using a three-valve regenerative receiver.

A.: A moving coil speaker has to be used with a powerful amplifier to realise its full superiority, though such speakers have been used very successfully with smaller sets. Under these circumstances it would be better to utilize the linen or silk diaphragm speaker.

2. Where can I obtain the casting for the M.C. speaker and what is the approximate cost?

A.: Precision Engineering Co. £3 10s.

3. What size baffle would be required to reproduce down to 30 cycles?

A.: At least two feet square.

4. Is a baffle required with the linen diaphragm?—No.

Auckland Exhibition

(Concluded from page 5.)

graphy, and this is easily explained by the much increased distances over which it is possible to transmit when using short wave-lengths. The exhibition had much to offer in short-wave radio equipment, both for transmission and reception.

In particular the excellent display by the New Zealand Association of Amateur Radio Transmitters was worthy of mention. On this stand quite a number of short-wave transmitters, including some portables, were exhibited. These amateur-built sets were a revelation in neatness, compactness, and efficiency, and their constructors have every reason to be proud of their handiwork.

A notable feature of this stall was the capable gratuitous service provided by the amateurs in charge for patrons of the exhibition. There was an early rush by hundreds to send radio greetings to their friends throughout the Dominion, and on the opening night the little transmitter was tapping out these messages far into the night before the big task of covering the traffic was completed. In this manner the

Children Entertained

Exhibition Features

THE Auckland Radio Exhibition catered for all, even the children. The younger ones who went along were delighted to see in person all the aunts and the uncles of Radioland. The children's sessions were conducted from the temporary studio at the Town Hall, and as the session opened at 6 o'clock each night, large crowds of young ones and their parents would gather round to hear the aunt or uncle in charge talking to his vast radio audience. On the final night a great treat was in store for all the younger generation. They were entertained by a party comprising all the aunts and the uncles of 1YA. Mirthful stories, jests, musical items all went over the air, and for an hour excitement ran high. It was certainly a very entertaining turn, and those children who were present will ever remember their first introduction to all these aunts and uncles of Radioland.

Friday afternoon was set aside for a children's party, when some 500 youngsters assembled in the concert chamber to be right royally entertained. With this very large party, keeping things moving was not the easiest task, but throughout the whole proceedings there was not one dull moment. To the delight of all those young ones present a bag of sweets and ice creams were handed out by their benevolent hosts and hostesses.

For the elder children lectures were arranged, and Mr. W. M. Dawson, A.M.E.R.E., M.I.W.T., and Mr. C. H. Taylor, B.Sc., M.I.R.E., spoke on radio topics. Mr. Dawson dealt particularly with the story of radio and how it was exemplified in the Auckland Exhibition. He told the boys of the Technical College what to look for and what was the significance of each piece of apparatus. For those who were unable to attend, this and Mr. Taylor's lecture was broadcast. Mr. Taylor concentrated mainly on the growth of electrical science and its connection with radio.

Thus from all aspects the younger generation will remember with pleasure this, Auckland's first Radio Olympia.

surprising total of over 500 messages were sent during the exhibition.

Interesting side-lines included an experimental television transmitter and an apparatus which functioned uncannily in response to a flash from an electric torch upon a photo-electric cell.

Conclusion.

ON November 2 one of the most interesting and comprehensive radio exhibitions ever held in New Zealand concluded. As we go to press it is impossible to estimate the total number of people that visited this exhibition but as a conservative estimate 6000 is quite reasonable.

With the recent similar exhibitions held at Wellington and Dunedin for the first time, the present radio year in New Zealand has proved an epoch-making one, and the phenomenal success of all three make it certain that these functions will in future be of annual occurrence.

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DX Club

Identification Wanted.

I HAVE noticed lately in the early hours of the morning that there are plenty of Australian amateurs on the air, but I am unable to hear any call-signs. Wavelength, between 200 and 300 metres (1500 and 1000 k.c.). Has any other listener heard these stations?—S. Ellis (Okato).

Stations Identified.

IN response to the appeal from Miss Dryden (Southland), I would like to say that the station she heard was ARDI, one of the whaling ships (C. A. Larsen). Re "New Chum" (Morrisville), the station heard was WLW. Also, Mr. MacSherry claims he was the first to log WLW, but I find on consulting my log that I first received this station on January 14, 1929. Date of verification card from WLW is February 28. Re Mr. K. A. Dixon (Wellington): The station heard was 2YB, 244 metres (1230 k.c.), so his set must be a little out in regard to frequency calibration.—S. Ellis (Okato).

DX Topics.

SHOULD any other listeners wish to hear Old Folk songs accompanied by piano and violin, I would advise them to tune in to 2ZF, Palmerston North. Wave-length 285 metres (1050 k.c.). Many American stations commence transmitting market reports, etc., at about 11 p.m. (N.Z. time), and these may also be of interest to listeners. I think the following just about constitutes a record: At 6.45 p.m. recently we heard 25 American stations on the loudspeaker. They were all very clear, and I think that this is the proper time to hear them. Later on we had the pleasure of listening to the Palmerston North sacred concert which was relayed by 2YA. Everyone in our household was greatly pleased with this concert, and with the clearness of reception.—C. Gowland (Gisborne).

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Power Interference.

I HEARTILY endorse the remarks of "Fair Go" (Lyall Bay), re tramway and other electrical interference. My set is a 7-valve all-electric, and it is an impossibility to bring in any station other than 2YA with even the slightest degree of satisfaction, until the trams cease running at about 11.45 p.m. I have often tried to get the other YA stations on a Wednesday night (with no visitors present, of course), but on account of the noise from the trams and several "howlers" very close to me, reception, if I may call it such, is unbearable. A few weeks ago, while endeavouring to listen to 4YA some "howler" tuned his set also to this station, with such an unearthly shriek that my infant son, who was in the room at the time, was absolutely terrified. In all my six years as a radio listener I have never heard anything to equal the electrical and "howling" interference in Lyall Bay every evening. Surely something can be done by the authorities to eliminate even some of this interference.—"Majestic" (Lyall Bay).

Politics Over the Air.

AS a frequent visitor to the gallery of the House of Representatives, I can vouch first hand for the necessity of political leaders broadcasting the views of their respective parties. Daily newspapers without exception are organs of propaganda, and only publish that which suits their political bias. Those who cannot attend the House must take what the editors think is

"good for them," or go without. It should be the right of everyone who desires to know the facts of politics to get them direct from the leaders of the principal political parties.—J.M.

Late News Service.

THE R.B.C. prides itself on the way it caters for the farmer and back-block settlers, and rightly so. The service is a godsend. A remark made by Mr. Ball (at the opening of 4YA) together with the wishes of all local listeners prompts me to suggest that the R.B.C. give, say, fifteen minutes at 9 p.m. for any news items of outstanding interest (a sort of late edition coupled with the outstanding items given at 7 p.m.). At present, at approximately 9 p.m., you give weather forecast and station announcements, taking, say, four or five minutes, so I am sure this request is reasonable. Many farmers, and city people too, are out of doors at 7 p.m. during the summer-time and I am sure if granted this innovation would give wide satisfaction. Continued success to your company, and may the licenses keep growing.—L. D. Waters (Tutaki).

Departures from Programmes.

IN connection with the relays by 2YA of the wrestling match on the evening of October 28, and of the boxing match from the Wellington Town Hall on November 1, I suggest that arrangements be made to announce such events in the weekly programmes published in your paper. On two previous occasions I wrote to the Broadcasting Company on this subject, but apparently the arrangements cannot be completed in time. I think that there may be some people with sets who, like myself, invite friends to hear a certain programme at their homes, to find that it is cut short at 9 p.m. to relay a match. Last evening I was informed that permission was only granted to 2YA at 4 in the afternoon, but surely the wrestling and boxing authorities could be asked to give permission in time for insertion in the weekly programmes, even if it were a kind of "late news" announcement, as I realise that programmes are made up a few weeks ahead of the events.—"Programmes" (Wellington).

[We sympathise with this writer, but the position is that some of the controlling authorities in events of this nature hold the view that their "gate" might be affected if prior announcement were made; hence their objection to early arrangements.—Ed.]

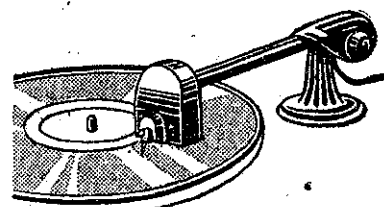
Too Much Complacency.

ONE would think, reading your paper, that broadcasting in New Zealand was now closely approaching perfection. Might I suggest that this is not altogether so? Here in Otago we have waited over three years for a modern broadcasting station. During all that time it has never been possible to rely on getting good reception in the evenings, as 3YA and 2YA are both subject to periodic distortion due to fading. However, we hoped that when the new 4YA opened, we would at last get reliable reception. Alas! We are situated only 45 miles from Dunedin, yet since the new station started there has not been one evening when reception

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from 4YA was not either partly or else completely spoiled by static. I presume that the station is operating now at full power. If so, then the power should be increased. It is scarcely creditable that the most modern station in New Zealand should have a power of only half-kilowatt. I have just read an advertisement of an American station, WLW, whose output is 50 kilowatts—100 times as much. I am aware that you will say that the R.B.C. cannot afford to erect a big station like that with only 49,000 licenses. But surely a substantial increase in the number can only be expected to follow an improved service, not precede it? The quality of 4YA's transmission has certainly improved, but that is not much use when it is drowned out by static. I think, also, that the company is overdoing the relaying of programmes. The only justification of a relay is when there is some special concert on, and then only if the relay is as good as the original in quality. Last week 4YA twice relayed ordinary evening programmes from Christchurch. I did not listen the first night, but last night the quality was very bad, in fact so bad that it sounded like a rebroadcast. In conclusion, might I say a word of appreciation for the new octet at 3YA? Some music by them or by a trio occasionally would be a pleasant change in the dinner sessions.—"X" (Hillgrove).

A Letter of Appreciation.

WE would like to thank those responsible for the splendid programme broadcast by the new 4YA station on their opening night. Its excellence could not be surpassed. The Dunedin Pipe Band deserve to be well praised for their opening skirl, which came through loudly and clearly. The speeches by the Postmaster-General and Mr. Ball, editor-announcer of the Broadcasting Company, were also well received. Wishing the 4YA's the best of luck, and hoping to hear some more pipe-band music shortly.—"Satisfied" (Westport).

Broadcasting and Education

IN England there seems to be at present a widely-expressed opinion that broadcast lessons should be given a recognised place in the school curriculum. Broadcast lessons were first introduced into schools there in 1923, and it is stated that now more than 5000 listening-in schools exist in the country. In one school a wireless set was built and erected as a result of a collection made by the children out of school hours. Parts were purchased week by week with the pennies collected, and the set was built by the children.

Arrival in America Radio and the Schneider Trophy

Elaborate Preparations Made

RADIO played an important part in the elaborate preparations which were made by the "Los Angeles Examiner" to secure, without a second's delay, a newspaper "scoop" on the arrival of the Graf Zeppelin on the Pacific coast recently. Eight land and sea planes and an airship, all fully equipped with radio, composed the aerial fleet which was chartered by the "Examiner" for this purpose.

One aeroplane flew out to sea to meet this monster dirigible, and was able to broadcast through the station owned by the "Examiner," graphic descriptions of the huge airship as she glided towards Los Angeles. Another plane broadcast further descriptions, which were picked up by the "Examiner's" short-wave station, and then rushed to the editors at their desks for preparation of special editions. After the landing of the Zeppelin, a telephony broadcast of the scene at the airport was transmitted by another plane as she circled above the huge crowd below.

Further aeroplanes were used for dispatch work and for delivering bundles of the special edition at the airport. This was so packed by a dense crowd of spectators and automobiles that quick delivery by any other means would have been impossible.

Special arrangements were also made by the National Broadcasting Company of America to broadcast a description of the arrival scenes over their nation-wide network of stations. Profiting by experience gained on the occasion of the Graf Zeppelin's first visit to America, the company's engineers abandoned all efforts to place microphones at various vantage points around the field. Instead, the announcer was equipped with a portable short-wave transmitter weighing only 24lb., which was originally developed for the use of a parachute jumper, who broadcast his sensations while falling through the air.

By means of a short-wave receiver installed inside the hangar, the announcer's running commentary on the arrival of the airship was picked up and relayed to broadcasting stations situated all over the United States.

An International Broadcast

PROBABLY the most important event in the public eye in England this year was the Schneider Trophy race, and the plans necessary for its smoothly-working organisation were the culmination of six months' continued labour and research. It is stated that without the highly-perfected condition of radio in Great Britain today, it would not have been possible to hold the event at all. Radio was used in far more ways than the mere broadcasting of a running commentary, though the latter was regarded by overseas listeners as the most important of all the various transmissions.

Upon the roof of the Ryde Pier pavilion had been erected a hut for the accommodation of the official time-keeper, judges, commentators, broadcasting engineers, and apparatus. From a news interest point of view, and it might safely be stated that this was international, everything depended upon the engineers and the apparatus located in the hut.

The public-address system used for keeping the million-odd spectators around the course accurately informed of the progress of events, was in itself a triumph of radio engineering. Though the course was 31 miles in length, and though the public were extended over an even greater distance, yet it is reported that very few of the public were out of range of the eighteen loud-speakers which were installed at some eighteen different points around the course.

A specially-reserved trunk-line carried the commentary and the accompanying incidental noises direct to Germany, where they were successfully re-broadcast from several stations. A short-wave transmission from 5SW, Chelmsford, was also broadcast for the especial benefit of overseas countries, and this was perfectly received in America, Europe, and Australia. Incidentally, a re-broadcast by 2YA, Wellington, of this international event was quite good.

The complete radio installation was by far the largest ever carried out by the Marconiphone Co. Over 200 loud-speakers and 750 valves were used, 700 of the latter being of the super-power type! Low tension requirements alone made it necessary to use 230 accumulators, while fifteen miles of wire were needed for this gigantic broadcast.

The smoothness with which the whole organisation worked was a splendid tribute to British engineers.

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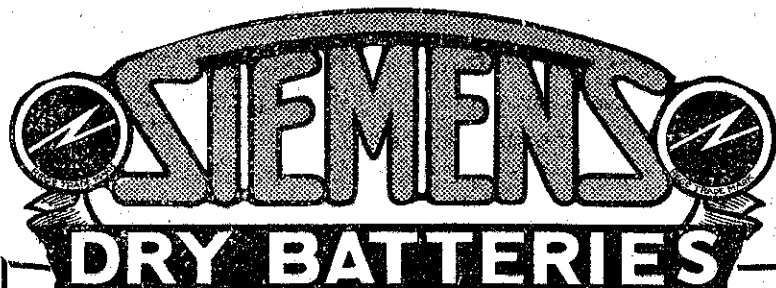
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BBROADCASTING again "scored a good win" the other night when 2YA, Wellington, broadcast an announcement that a little girl, six years of age, was missing from her home in a Wellington suburb. It appears that the child did not come home when she left the kindergarten at 3 p.m. In the evening the assistance of 2YA was invoked, and within an hour the child was safe at home again. The youngster was at the home of some other children listening in. When the announcement was made from 2YA, the kiddie was hastened off to her home.

A FRIEND who proposes to go camping during the Christmas holidays, informs "Switch" that his four-valve portable set is to go with him. He has already tested the set in the high-clad district in the vicinity of Paekakariki, and 2YA, Wellington, came in with full loudspeaker volume, although he was using only a make-shift aerial. He will be accompanied by two comrades, and they are looking forward to pleasant hours in the evening listening to 2YA.

THE vagaries of reception from long distances lately has perturbed not a few listeners, judging by the comments one hears every day. At this period of the year the "outside" stations are frequently unsatisfactory. The protracted daylight effect with the lengthening days, and the extra half-hour due to New Zealand "summer time" combine to weaken distant reception until a late hour in the evening. Some listeners are blaming their valves or their batteries, but in the majority of cases it will be found that the above reasons are the cause of weaker long-distance reception.

A SET which persisted in raising a dismal howl was brought under the writer's notice recently. The owner found that by placing his loudspeaker outside the room in which the set was located the howl was eliminated. The cause of the howl was shown to be interaction between the loudspeaker and a very sensitive detector valve. The reason was that the sound waves from the loudspeaker impinged on the glass bulb of the detector valve, causing the valve elements to vibrate. A cure was effected by slipping over the valve a small section of the inner tube of a bicycle tire. The rubber "glove" prevented the valve bulb from vibrating.

A TWISTED flex wire such as is used for an electric light extension was recently proved to be the cause of a howl from the loudspeaker of a Wellington listener. He used a long twisted flex wire to run his loudspeaker out on the lawn. A dismal howl resulted. A cure was effected by soldering a .005 mfd. fixed condenser across the flex close up to the set. The best plan is to use the proper loudspeaker cord, which can be procured up to fifty feet in length. The writer occasionally employs one of these long cords, and has not experienced any howling.

VICTORIA claims to have more licensed broadcast listeners per 100 of its population than any other country in the world. The quota per 100 of population is 7.93. This Australian State established a first-class broadcast service long before New Zealand, but the Dominion is steadily in-

creasing its quota, while Victoria has lately experienced a decrease in the number of listeners. Various explanations for the falling-off have been urged and the economical position of the State is generally blamed for the setback. Some writers contend that "saturation point" has been reached in Victoria, while others state that a return of prosperity would cause an increase in the number of licenses.

A SUBURBAN listener has told the writer that he uses two separate detector valves with his a.c. set on different occasions. One valve gives a better quality of tone on local reception while the other is more sensitive for long-distance reception. The valves are of different makes, and have been in use about the same length of time. Their listed characteristics are the same, but they differ in performance. The valve, which gives easily the better results on long-distance reception, has a harsh tone when tuned in to the local station.

A CUBA STREET (Wellington) jeweller informed "Switch" the other day that his wife had built a successful two-valve set with which they obtain at Lower Hutt good loudspeaker reception of 2YA, Wellington. He admitted that he knew nothing about wireless, but his wife became interested in it, and, buying the necessary parts, she soon built a set.

A WILLIS STREET (Wellington) radio trader showed the writer a three-valve short-wave set sent to him by a home-constructor with a request that it be rebuilt. All the parts were high-grade excepting the transformers, which were extremely tawdry. Amateur builders sometimes do not realise that good transformers are absolutely essential if the best results are desired. The transformers referred to were about the cheapest articles the writer has seen in radio.

ENGLISH magazines refer to the appearance of a new screen-grid valve which is claimed to eclipse all valves of this type yet brought out. One cannot pass judgment without knowing more about the newcomer. We have become accustomed to hearing of new wonders in radio, and sometimes their reputation is unjustified.

EXPERIMENTS in the interchange of radio programmes between the United States and Germany are now in progress. A delegation of four German radio officials went to New York, and arranged with the U.S.A. National Broadcasting Company for the tests. The German delegation manifested

chief interest in the programmes of a typically American nature. They were fascinated with the negro spiritual songs.

A WELLINGTON listener complained to the writer last week that although he had built an exponential horn loudspeaker out of the best material and with accurate observance of the measurements contained in a magazine article, the horn had proved a "dud." The horn was subjected to a close scrutiny by "Switch," and it was found that the most important feature had been overlooked—the horn was not air-tight. However, this mistake was soon rectified by the use of strong gum-paper, which was subsequently varnished, and the exponential then performed splendidly.

THE use of long leads to the C battery should be rigidly avoided in a short-wave set. "Switch" was recently shown an amateur-built short-

wave set, which persisted in emitting annoying "fringe howls." The leads to the C battery were about 18 inches in length. When the C battery was inserted inside the set so that the leads to it were only about 5 inches in length, the howls disappeared. What amateurs regard as insignificant trifles too often spoil an otherwise good job.

A WELLINGTON professional set-builder informs "Switch" that many of the amateur-built sets sent to him to examine owing to their failure, have been wrongly wired in only one detail. This, of course, is fatal, but the strangest part of his experiences is that the owners state that they have checked the circuit many times, and have found it O.K. The trouble seems to be in the diagrams which figure in many of the imported radio magazines. Sometimes they are wrong in one small particular, and frequently they are not explicit enough.

MANY Wellington sports were greatly interested in the result of the boxing contest between Ted Morgan (Olympic amateur champion) and Trowen held at Greymouth on a recent Saturday night. Owing to the closing of the telegraph offices at 9 p.m. on Saturdays, little hope was entertained of getting the result of the contest. At a late hour, however, 2YA, Wellington, supplied the result. The information was telephoned through to 2YA from Greymouth, and Morgan's father, who resides in Wellington, received the news in this manner. We have a good sporting news service from 2YA.

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Next Week's Features

1YA Features

PASTOR CAMPBELL will be the preacher at the Church of Christ on Sunday evening when the service is to be broadcast. A studio concert will follow. The contributing local artists will be Miss Molly Atkinson (soprano), Mr. R. Thompson (baritone), and Miss Rhona Spéed (elocutioniste).

ON Tuesday evening there will be a concert of "Negro Spirituals," to be followed with a gramophone lecture recital by Mr. R. W. Strong, who will entertain listeners with Acts 2 and 3 of Puccini's famous opera, "La Bohème."

HEADING the programme on Wednesday evening will be the newly-formed 1YA Orchestral Octet under Mr. Eric Waters, which will contribute a varied selection of instrumental items. Also contributing to the programme will be Mrs. Amy Milburn (soprano), Mr. Clinton Williams (baritone), and Miss Theo Halpin (pianiste). The concluding portion of the programme will be given over to a gramophone record review, when latest recordings will be presented, with interesting comments.

THE popular "Minus Fives" will again appear on Thursday evening, and will contribute a novelty programme entitled "After Dinner." This will follow the lines of the recent "Night of Convivialities," with appropriate noises and diversions. Dance music will follow until 11 p.m.

ON Friday evening, following a short concert relay from Lewis Eady's Hall, a three-act play will be presented entitled "The Witness for the Defence," by A. E. W. Mason. This play will be produced by Mrs. Zoe Bartley-Baxter, whose previous efforts "on the air" have proved such outstanding successes. Mrs. Bartley-Baxter has assembled an extremely strong cast for this production, including several

of Auckland's leading amateur actresses and actors.

SATURDAY evening's programme will be contributed to by Miss Audrey Perry (elocutioniste), Miss Gwladys Payne (soprano), who is making her first appearance at 1YA, Mr. Roy Stevenson (baritone), and Master Desmond Casey, boy soprano, whose sweet voice gained him many successes at

Sunday School, will be broadcast, the preacher on this occasion being the Rev. T. W. Vealie, the organist Miss Lillian Thawley, L.A.B., and the choir-master Mr. J. W. Buchanan.

At the conclusion of the church service a special studio presentation of the sacred cantata "The Rock of Ages" will be given by the choir of the Vivian Street Church of Christ. The choir

Orchestra under Mr. M. Dixon, provide the programme on Tuesday evening. Their items will comprise vocal solos, humorous numbers, and choruses from well-known musical comedies—altogether a bright and popular programme. From 9.30 until 11 p.m. listeners will be entertained with a "Columbia" dance programme.

ON Thursday evening the band of the first Battalion Wellington Regiment, under the conductorship of Lieut. B. J. Shardlow, will render another of their interesting programmes; the outstanding features being the selection "Rossini's Works," Tchaikowsky's "Chant Sans Paroles," Beethoven's "Minuet in G," and Pether's "Dawn of Victory." Other items to be rendered by the band include marches, waltzes, and several fox-trots. Assisting the band will be Mrs. Amy Dunn (soprano), Miss Ivy Stanton (contralto), Mr. Claude Moss (baritone), and Mr. Stewart Nelson (tenor). Miss Esme Crow will be heard in humorous elocutionary numbers. The Hutt Railway Workshops Orchestra will also contribute to the programme, their items being "The Broadway Melody," "You Were Meant for Me," from the popular talkie "Broadway Melody," "The Desert Song Waltz," and "Under the Russian Moon."



MR. ERNEST SNELL,
Baritone, a leading member of the
Auckland Amateur Operative Society.
—S. P. Andrew, photo.



MR. GEORGE WARREN,
Elocutionist, who appeared in the recent production of "Galapagos."
—S. P. Andrew, photo.

the recent Auckland Musical Competitions. Orchestral selections will be played by the 1YA Orchestral Octet under Mr. Eric Waters.

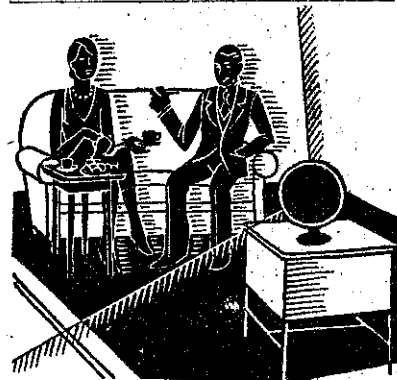
2YA Features

ON Sunday evening, the 57th Anniversary of the Trinity Methodist

will perform under the baton of Mr. W. G. Carpenter, who will have associated with him the following soloists:—Mr. S. Eaton, Miss Olive Hardwick, Mrs. R. Goldie, Miss Betty Goodwin, and Miss E. J. O'Connor. Mr. George Gray will sing Willeby's "Crossing the Bar," and the choir will also render the anthem "Send Out Thy Light."

MONDAY is Armistice Day, and in the morning a relay of the service organised by the Wellington R.S.A. will be carried out. The evening programme will be in keeping with the day. Special items will be played by the Studio Orchestra under Signor Truda, and assisting vocal artists will also render suitable items. The vocalists for the first half of the programme will be Miss Reta Grace (soprano), Mr. John Prouse (baritone), Mr. Hedley Aitken (elocutionist), Miss Hilda Chudley (contralto), and Mr. Lewis Campbell (tenor). The second half of the programme will be given by the Wellington branch of the League of Nations Union, the assisting artists being the Misses Mavis and Mona Castle, Mrs. E. Maslen (who will recite Austin Dobson's poem "Before Sedan"), Mr. R. V. Hughes and Miss Zillah Castle. The last-named will entertain with violin solos. A feature of this part of the programme will be a talk by Mr. F. L. Combs on the "Greatest Issue."

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ON Friday evening the Aerial Singers will contribute a programme of vocal gems from opera and musical comedy, a feature being the well known quartet from "Rigoletto." Other items of interest include the "Cobbler's Song" from "Chu Chin Chow," a unison song from "The Beggar's Opera," the "Habanera" from "Carmen," "The Indian Love Call" from "Rose Marie," and the tenor solo "Ah! Moon of My Delight," from Liza Lehmann's "In a Persian Garden." Mr. and Mrs. Albert Russell, the well-known entertainers, will be heard in several humorous solos and duets. The 2YA Orchestra, under Signor Truda, will play the overture to "Norma," a selection from "Rigoletto" (by request), "O Star of Eve" from "Tannhauser," the Triumphant March from "Aida," and two musical comedy numbers, "The Count of Luxembourg" and "The Spring Maid."

SATURDAY will mark the opening of "The All-Electric Exhibition" at the Town Hall, and arrangements have been completed to relay the opening ceremony and the afternoon and evening programme. The Wellington Municipal Tramways Band, under the conductorship of Mr. E. Franklin, will supply the programme on both occasions. In the evening the band will be assisted by Mr. W. Haydock (violinist), Miss Nora Gray (soprano), Mr. Ernest Short (baritone), and Mr. Dan Foley (tenor).

3YA Features

FROM Tuesday evening onwards, 3YA's programmes will be relayed from the Christchurch Olympia. Full details of these appear on page 3 of this issue.

4YA Features

EXCEPT on Monday evening, 4YA's programmes for the week will be relayed from 3YA, where special entertainments in connection with the Radio Exhibition have been arranged.

Children's Sessions

AT 1YA.

TUESDAY, NOVEMBER 12.—As well as the usual fare, Uncle George will have with him Mr. Hollinrake, who will speak on music and give illustrations.

WEDNESDAY.—Uncle Tom on deck again—opening choruses, closing choruses, and choruses in between of course. Cousins will be there, too, with items.

THURSDAY.—Peter Pan with stories and catches, Cousin Moya with her violin, and the Rev. Wilma Con-

stable will have a little chat with the kiddies.

FRIDAY.—Guess what Nod and Aunt Jean have for you this evening? Another little play, so gather round and listen in.

SATURDAY.—Cinderella has assisting her this evening some of the competition winners. Duets from Cousin Erin and Patty and solos, too.

SUNDAY.—Children's Song Service conducted by Uncle Leo, assisted by Beresford Street Sunday School.

At 2YA.

MONDAY, NOVEMBER 11:

To-night there will be a merry band of cousins who will recite, play bright music on the ukulele, and sing cheery songs. Uncle Jeff will be here, too, with the pupils of Mrs. Isobel Halligan.

TUESDAY:

A musical programme, then a talk from Miss Christmas and birthday greetings from Uncle Jim. Cousin Roma will be next with a song and one or two children's poems.

THURSDAY:

Some new cousins this evening. They will be the pupils of Miss Nora Gray. Birthday greetings will go over the air from Uncle George, and there will be stories, too.

FRIDAY:

Pupils of Miss Ivy Hoare will play for Radioland to-night, and Cousin Betty will recite a few of her delightful little poems. Brother Jack and good old Robinson will be here with birthday messages and cheery songs.

SATURDAY:

Miss Marjorie Buckeridge will bring her "Sunshine Club" to Radioland to-night. Uncle Toby and Aunt Gwen will be present, too.

SUNDAY:

The children's song service will be conducted by Uncle George, assisted by the Brooklyn Presbyterian Sunday School Choir, under Mr. R. R. Kirker.

AT 3YA.

MONDAY, NOVEMBER 11.—Ever kept silk-worms? To-night Scatterjoy will tell you all about these little creatures, and how to care for them. So when all your ear-phones are fixed, and the loud-speaker tuned in, you can expect to have an interesting hour.

WEDNESDAY.—This is the night we are all visiting the Radio Exhibition, to be held in the Choral Hall. Mother Hubbard, Uncle Frank, and Peterkin on deck, with a merry crew from the Ferry Road Convent to entertain you all. Cousins Victor and Selwyn singing, and altogether the happiest hour is promised.

THURSDAY.—Still at the Radio Exhibition, this time with Scatterjoy, Uncle John, and a party of Mrs. Frye's clever little pupils, in duets, dialogues, songs, and recitations.

FRIDAY.—And now here comes Storyman, Brother Bill, and Aunt Pat, with cousins Dawson, Ewart, Joan and Jim and Warwick. Do you know them? Just listen in and you'll remember them, and be delighted with what you hear.

SATURDAY.—The last night of the exhibition, and our party night—with Chuckle, The Birdman, Aunt Pat, Alice, and the winning choir from Woolston. And the biggest surprise of all, our ventriloquist uncle, "Syd," is bringing his sailor boy to make you laugh.

SUNDAY.—Children's Song Service, conducted by Miss H. Park, assisted by the choristers from the Anglican Sunday School.

Radio at Scotland Yard

Its Use in Criminal Hunting

ONE of the most interesting adaptations of modern wireless lies in its use for maintaining a quick, ready, and secret means of communication for police work. Wireless for police purposes is still in its infancy, but Scotland Yard engineers claim to have evolved compact and efficient installations far in advance of those in present-day use. It is now stated that Scotland Yard has the most efficient police wireless system in the world.

Scotland Yard engineers, as far back as 1921, commenced making experiments in radio transmission from motor vehicles, and it was found that though telephony was excellent for short transmissions, it was useless for distance work or for maintaining communication when the cars of the "Flying Squad" were travelling at high speeds. Consequently telephony was abandoned in favour of the Morse code, and greater range and reliability was attained. The aerials used in the first experiments were supported on the roofs of the cars, and their appearance earned for Scotland Yard vans the nickname of the "Flying Bedsteads."

The modern vans, however, are difficult to distinguish from ordinary tradesmen's delivery vans, for the sets are tucked away inside, and there is no outward indication of an aerial. These vans, together with other detachments of the Squad—"private saloons" or ordinary tourers—are patrolling London day and night, and are in constant touch with headquarters. A code message from Scotland Yard can mobilise these vans at a few seconds' notice, or can acquaint every vehicle of the Flying Squad with the news that, for example, a robbery has taken place and the thieves have made their getaway in a car. Instantly every unit of the Flying Squad in the vicinity of the robbery converges on the desired goal, reporting progress to the Yard on the way. It is a fascinating drama that is played out on the highways, and the bandits are usually aghast to see a "van from nowhere" right on their trail.

The frequency at Scotland Yard is kept secret, and for transmission purposes a police code of a specially secret character is used, in conformation with international arrangements with other police forces.

Scotland Yard's main wireless station is in constant communication with America, Canada, and Australia, and for some years now finger-prints by means of codes have been wirelessly across the world, at the request of some Dominion or some foreign Power. Recent experiments have been conducted in picture transmission, and it is probable that in the near future portraits of "wanted" or "suspected" men will be transmitted across the seas to assist in the continuous war against crime.

World Radio

RECENT experiments with a "wireless lighthouse" on the coast of Suffolk proved so successful in assisting shipping out of sight of land that the service will be maintained continuously for two months, commencing on October 20. This wireless beacon, which was designed to be of assistance to shipping and aircraft, has been particularly useful to the former, since commercial aeroplanes have their own particular systems of taking wireless bearings over the cross-Channel routes. The apparatus consists of a tower containing an electrically-controlled revolving frame aerial, which sends out certain signals to specific points of the compass in such a way that a pilot by picking up the signals can with a stopwatch gauge his bearings.

THE recently constructed airship R101 made a very successful trial flight over London a few days ago. This air monster is fully equipped with a modern transmitter and receiver, and two-way wireless communication with ground stations was maintained throughout the flight. After the R101 was safely moored, Major Scott, the commander, issued a broadcast statement from the top tower of the mooring mast to the effect that the ship in every way exceeded all expectations. General admiration was expressed by the spectators of the event at the graceful lines of this leviathan.

THE sales controller of Paramount Pictures outside the United States declared recently on his arrival in London, that in five years' time talking pictures will be broadcast. The Paramount Company, he stated, in anticipation of a closer alliance between picture production and broadcasting, have purchased half interests in the Columbia Broadcasting Corporation of America. This corporation, which has the astounding weekly audience of 120,000,000, controls fifty-three stations throughout the United States.

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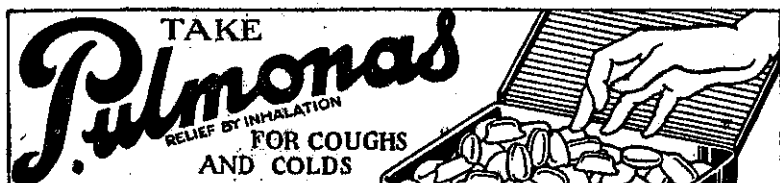
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Full Programmes for Next

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Sunday, November 10

1YA, AUCKLAND (900 KILOCYCLES)—SUNDAY, NOVEMBER 10.

- 2.0 : Afternoon session—selected studio items.
 4.0 : Literary selection by the Announcer.
 4.8 : Studio items.
 6.0 : Children's session conducted by Uncle Leo.
 6.55 : Relay of service from the Church of Christ—Preacher: Pastor Campbell.
 8.30 (approx.): Studio Concert:
 Opera Comique Orchestra, "Manon" Ballet Music (Massenet), (Parlophone 4104).
 Baritone—Mr. Reg. Thompson, "Star of Eve" (Wagner).
 Violin—Jeanne Gautier, "Chant Hindoue" (Rimsky-Korsakov) (Parlophone 2771).
 Recital to music—Miss Rhona Speed, (a) "The Roads" (Edwards); (b) "His First Long Trousers" (Mayer).
 Soprano—Miss Molly Atkinson, "Hinemoa's Love Song" (James).
 Orchestra of the Concert Colonne Symphonie, Paris, "Fantastique" (Berlioz) (Parlophone 1023).
 Baritone—Mr. R. Thompson, (a) "The Bellman" (Forsyth); (b) "The Lord is My Light" (Wooler).
 Choral—La Scala Chorus, Milan, "Tantum Ergo" (de Vittoria) (Parlophone 4085).
 Recital—Miss Rhona Speed, "The Tantalus" (Miller).
 Soprano—Miss Molly Atkinson, "The Carnival" (Molloy).
 Grand Symphony Orchestra, "Polonaise No. 1 in A" (Chopin) (Parlophone 4089).
 9.30: (approx.) Close down.

2YA, WELLINGTON (720 KILOCYCLES)—SUNDAY, NOVEMBER 10.

- 2.0 : Relay from the Town Hall of Armistice Day massed meeting. Selected studio items.
 6.0 : Children's song service, conducted by Uncle George.
 7.0 : Relay from Trinity Methodist Church, Newtown, of the 57th Sunday School Anniversary. Preacher, Rev. T. W. Vealie. Organist, Miss Lilian Thawley, L.A.B. Choirmaster, Mr. J. W. Buchanan.
 8.15: (approx.) Studio concert:
 Overture—St. Louis Symphony Orchestra, "Fingal's Cave" (Mendelssohn) (H.M.V. D1299).
 Musical Art Quartet—"Quartet in A Minor—Allegro ma non troppo" (Schubert) (Columbia 02753).
 Special studio presentation of the sacred cantata "Rock of Ages" (Pattison) by the Vivian Street Church of Christ. (Soloists: Tenor, Mr. S. Eaton; soprano, Miss Olive Hardwick; contralto, Mrs. R. Goldie; soprano, Miss Betty Goodwin; baritone, Mr. W. G. Carpenter; mezzo-soprano, Miss E. J. O'Connor.)
 Instrumental—Berlin State Opera House Orchestra, "Polonaise," No. 2 (Liszt) (H.M.V. D1625).
 Baritone—Mr. George Gray, "Crossing the Bar" (Willeby).
 Anthem—Vivian Street Church of Christ Choir, "Send Out Thy Light" (Gounod).
 Close down.

3YA, CHRISTCHURCH (980 KILOCYCLES)—SUNDAY, NOVEMBER 10.

- 2.0 : Special afternoon session:
 Three "Armistice Day Messages" by—
 Mr. R. M. Laing, M.A., B.Sc. (Member of League of Nations Union).
 Rev. W. T. Blight, B.A., B.D. Representative Ministers' Association).
 Mr. C. R. N. Mackie (Hon. Secretary National Peace Council).
 "Peace" items:
 Vocal solo—Mr. J. W. Cole, "Sound Over All Waters" (J. G. Whittier).
 Recital—"Behold Our Progress" (South).
 Esperanto Peace Item.
 Recital—Mr. R. Macfarlane, "The Seven Souls" (MS.).
 Recital—Mr. C. H. Cole, "From Journey's End" (Sherriwiff).
 5.30: Children's song service.
 6.15: Hymn chimes from studio.
 6.30: Relay of service from Oxford Terrace Baptist Church (Sunday School Anniversary). Preacher, Rev. J. Robertson, M.A. Choirmaster, Mr. O. Murray Jones. Organist, Mr. Melville Lawry.
 8.0 : Organ—Lew White, "The Palms" (Faure) (Brunswick 4276).
 Studio Instrumental Trio, "Trio in D Major—1st Movement" (Beethoven).
 9.15: (approx.) Rebroadcast of 2YA, Wellington, special studio presentation of the sacred cantata "Rock of Ages" (Pattison) by the choir of the Vivian Street Church of Christ.
 Close down.

4YA, DUNEDIN (650 KILOCYCLES)—SUNDAY, NOVEMBER 10.

- 2.0 : Town Hall chimes.
 3.1 : Selected gramophone items.
 5.30: Children's song service, conducted by Big Brother Bill.
 6.30: Relay of service from St. Paul's Anglican Cathedral. Preacher, Canon Nevill. Organist, Mr. E. Heywood, F.R.C.O.
 7.55: Weather report.
 8.5 : Relay from St. Kilda of concert by the St. Kilda Band, under the conductorship of Mr. Jas. Dixon.
 Close down.

Monday, November 11

1YA, AUCKLAND (900 KILOCYCLES)—MONDAY, NOVEMBER 11.

SILENT DAY.

2YA, WELLINGTON (720 KILOCYCLES)—MONDAY, NOVEMBER 11.

- 10.45: Relay from Town Hall of special Armistice Day Commemoration Service arranged by the Wellington Returned Soldiers' Association: Hymn—"O God Our Help in Ages Past." Prayer—Rev. H. E. K. Fry, C.F. (St. Mark's Church).
 11.0 : Observance of two minutes silence.
 "Dead March in Saul"—Mr. Bernard F. Page, City Organist.
 "Reveille" and "Last Post"—Staff Sergt.-Major Baker, N.Z. Defence Forces.
 "National Anthem."
 3.0 : Chimes of the G.P.O. clock.
 3.1 : Selected gramophone items.
 5.0 : Children's session, conducted by Uncle Jeff.
 6.0 : Dinner session—"His Master's Voice" Hour:
 Overture—London Symphony Orchestra, "Coriolan" (Beethoven) (D1409).
 'Cello—Lauri Kennedy, "Old Scotch Melody" (C1618).
 6.12: Tacet.
 6.15: Virtuoso String Quartet, (a) "Gavotte Mignon" (Thomas); (b) "Orientale" (Glazounov) (B2784).
 Organ—Edward O'Henry, (a) "Minuet in G" (Beethoven); (b) "Faust Waltz" (Gounod) (B2873).
 6.27: Tacet.
 6.30: Detroit Symphony Orchestra, "Spanish Rhapsody" (Chabrier) (E522).
 Victor Olof Sextet, (a) "Cherry Ripe" (Scott); (b) "Minuet" (Boccherini) (B2697).
 6.42: Tacet.
 6.45: Chicago Symphony Orchestra, (a) "Roses of the South" Waltz (Strauss); (b) "Wine, Women and Song" (Strauss) (D1452).
 New Light Symphony Orchestra, (a) "Spanish Dance No. 1" (Moszkowski); (b) "Spanish Serenade" (Bizet) (B2584).
 7.0 : News session, market reports and sports results.
 7.40: Lecturette—Mr. W. E. Howe, "The Work of the Sunday School Union."
 8.0 : Chimes of the G.P.O. clock.
 8.1 : Overture—2YA Orchestra, under the conductorship of Signar Truua, "Comrades in Arms" (Gruenwald).
 8.9 : Soprano—Miss Rita Grace, "Christina's Lament" (Dvorak).
 8.18: Baritone—Mr. John Prouse, (a) "Vittoria" (Carissimi); (b) "The Deathless Army" (Trotter).
 8.20: 2YA Orchestra, "Reve Angeli" (Rubinstein).
 8.28: Recital—Mr. Hedley Aitken, "The Difference" (Longstaffe).
 8.35: 'Cello—Pablo Casals, (a) "Melody in F" (Rubinstein); (b) "Traumerel" (Schumann) (D4833).
 8.48: Contralto—Miss Hilda Chudley, (a) "Fragile Things" (Montague Phillips); (b) "I shall Go Softly All My Days" (Elliot).
 8.49: Tenor—Mr. Lewis Campbell, "There's a Land" (Allitsen).
 8.53: Instrumental—2YA Orchestra, "Rakoczy March" (Liszt).
 9.0 : Weather report.
 9.2 : Armistice Day Programme by the Wellington Branch of the League of Nations Union:
 Lecturette—Mr. F. L. Combs, "The Greatest Issue."
 9.17: Violin—Miss Zillah Castle, "Ave Maria" (Schubert).
 9.21: Contralto—Miss Mona Castle, "Cradle Song" (Kreisler).
 9.25: 2YA Orchestra, "Jupiter Symphony" (Finale) (Mozart).
 9.35: Recital—Mrs. E. Maslen, "Before Sedan" (Dobson).
 9.40: Vocal duets—Misses Mavis and Mona Castle, (a) "The White Pater-noster" (Davies); (b) "Rock-a-Bye Baby" (Davies).
 9.47: Violin—Miss Zillah Castle, "Hjere Kati" (Hubay).
 9.51: Mezzo-soprano—Miss Mavis Castle, "The Mother Cossack's Lullaby" (Bachmetieff).

Week-all Stations-to Nov. 17

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- 9.55: Reading—Mr. R. V. Hughes, "The Song of the Pacifist" (Service).
 10.1 : 2YA Orchestra—"Esperance" (Tchaikowsky).
 10.8 : Contralto—Miss Mona Castle, "Let Us Have Peace" (Ball).
 10.12: 2YA Orchestra, "Entr'acte Gavotte" (Gillet).
 10.22: Close down.

3YA, CHRISTCHURCH (980 KILOCYCLES)—MONDAY, NOVEMBER 11.

- 12.0 : Results of Canterbury Jockey Club's meeting at Riccarton, interspersed with musical items from studio.
 5.0 : Children's session, conducted by "Scatterjoy."
 6.0 : Dinner session—"His Master's Voice" Hour:
 San Francisco Symphony Orchestra, "Marche Militaire (Schubert) (ED9).
 'Cello—Lauri Kennedy, "Hungarian Rhapsody" (Popper) (C1595).
 San Francisco Symphony Orchestra, (a) "Serenade" (Volkman); (b) "Flight of the Bumble Bee" (Rimsky-Korsakov). (ED9).
 6.12: Tacet.
 6.15: Piccadilly Orchestra, "The Waltz Dream" (Strauss) (B2684).
 Grand organ—G. T. Pattman, "Cavatina" (Raff) (B2695).
 New Light Symphony Orchestra, "La Poupee Valsante" (Poldini) (B2629).
 6.27: Tacet.
 6.30: International Concert Orchestra, "The Merry Widow" (Lehar) (EF9).
 Violin—Kreisler, "Liebesfreud" (Kreisler) (B985).
 Piccadilly Orchestra, "Bird Songs at Eventide" (Coates) (B1528).
 Wurlitzer organ—Reginald Foort, "A Brown Bird Singing" (Haydn Wood) (B2664).
 6.42: Tacet.
 6.45: 'Cello—Lauri Kennedy, "Londonderry Air" (arr. Kennedy) (C1618).
 Victor Concert Orchestra, "Dance of the Hours" (Ponchielli) (EF12).
 6.55: Tacet.
 7.0 : News session.
 7.15: Talk—Mr. E. J. Bell, "Book Review."
 Relay of opening ceremony of the Gift Band Rotunda, donated to Christchurch City by Mr. T. J. Edmonds.
 The bands of the city will leave various points on the outskirts of the city at 7.30 p.m., thence via Manchester Street, arriving at Rotunda at 7.55 p.m.
 7.55: "Cutting the Ribbon," by Mrs. T. J. Edmonds.
 His Worship the Mayor of Christchurch, Rev. J. Archer, will then declare the Band Rotunda open to the citizens and bands of Christchurch, after which the massed bands will play "The National Anthem."
 Speech by His Worship the Mayor, Rev. J. Archer.
 Speech by Mr. T. J. Edmonds, and the handing of the gift to the City of Christchurch.
 Speech of acceptance by Dr. H. T. J. Thacker, President of the South Island Bands Association, on behalf of the citizens and bands of Christchurch.
 Band Programme—Each of the bands will then contribute an item according to the order of the drawing.
 Close down.

4YA, DUNEDIN (650 KILOCYCLES)—MONDAY, NOVEMBER 11.

- 8.0 : Town Hall chimes.
 8.1 : Selected gramophone items.
 4.25: Sports results to hand.
 5.0 : Town Hall chimes.
 5.1 : Children's session conducted by Uncle Allan.
 6.0 : Dinner session—"His Master's Voice" Hour:
 New Light Symphony Orchestra, "Merry Wives of Windsor" (Nicolai) (C1260).
 Waltz—Marek Weber's Orchestra, "Moonlight on the Alster" (Fetras) (C1407).
 6.12: Tacet.
 6.15: Intermezzo—New Light Symphony Orchestra, "Hearts and Flowers" (Tobani) (Zonophone EF20).
 Waltz—Marek Weber's Orchestra, "Wine, Women, and Song" (Weber) (C1407).
 Wurlitzer organ—Reginald Foort, "By the Blue Hawaiian Waters" (Ketelbey) (C1459).
 6.26: Tacet.
 6.30: New Light Symphony Orchestra, "Glow Worm Idyll" (Lincke) (Zonophone EF20).
 Victor Salon Orchestra, "Indian Love Call" ("Rose Marie"—Friml) (EA186).
 Victor Salon Orchestra, "The World is Waiting for the Sunrise" (Lockhart) (EA186).

- Balalaika Orchestra, "Song of the Volga Boatmen" (Russian folksong) (EA48).
 6.43: Tacet.
 6.45: De Groot's Orchestra, "The Merry Widow" (Lehar) (B2945).
 Wurlitzer organ—Reginald Foort, (a) "Leave Me Alone," (b) "Songs My Mother Taught Me" (Dvorak) (C1459).
 6.57: Tacet.
 7.0 : News session.
 8.0 : Town Hall Chimes.
 8.1 : Overture—National Symphony Orchestra, "Martha" (Flotow) (Zonophone EF19).
 8.9 : Baritone—Mr. F. M. Tuohy, "Cobbler's Song" (Fellorton).
 8.13: Recital—Miss Anita Winkel, "Lorenzo's Eulogy to Music" ("Merchant of Venice") (Shakespeare).
 8.18: 4YA Broadcasting Trio, "Faust" Selection (Gounod).
 8.24: Soprano—Miss Mae Matheson, "Lovely Spring" (Goenen).
 8.38: 'Cello—Mr. P. J. Palmer, "Scherzo" (Van Goene).
 8.44: Tenor—Mr. H. A. Johnston, "When All Was Young" (Gounod).
 8.48: San Francisco Symphony Orchestra, "A Midsummer Night's Dream" (Mendelssohn) (H.M.V. D1627).
 8.52: Monologue and recital—Miss Anita Winkel, (a) "The Admiral's Orders" (Townsend), (b) West Wind" (Masefield).
 9.3 : 'Cello—Mr. P. J. Palmer, "Serenade Espagnole" (Glazounov).
 9.8 : Weather report.
 9.10: Special Armistice Day programme by the 4YA Harmonists, assisted by the 4YA Broadcasting Trio:
 Opening chorus—"It's a Long Way to Tipperary" (Williams).
 9.14: Mezzo-soprano—Miss Mollie Andrews, "Little Grey Home in the West" (Lohr).
 9.17: March—Symphony Orchestra and Chorus, "Carmen" (Bizet) (H.M.V. D1047).
 9.21: Baritone and chorus—"Take Me Back to Dear Old Blighty" (Scott).
 9.25: Soprano—"Roses of Picardy" (Wood).
 9.29: 4YA Broadcasting Trio, "Marche Militaire" (Schubert).
 9.35: Baritone and chorus—"Pack Up Your Troubles" (Powell).
 9.38: Tenor—"The Rose of No Man's Land" (Brennan).
 9.42: Military Band—H.M. Coldstream Guards, "1812 Overture" (Tchaikowsky) (H.M.V. C1369).
 9.50: Soprano and chorus—"Keep the Home Fires Burning" (Novello).
 9.53: Baritone and chorus—"The Lads in Blue" (Dacre).
 9.56: Mezzo-soprano and chorus—"Somewhere in France, Dear Mother" (Clerq).
 9.59: Full chorus—"The Red, White, and Blue" (trdtl.).
 10.2 : "Last Post" and "Reveille."
 Close down.

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Tuesday, November 12

1YA, AUCKLAND (900 KILOCYCLES)—TUESDAY, NOVEMBER 12.

- 3.0 : Afternoon session—Selected studio items.
 4.0 : Literary selection by the Announcer.
 4.8 : Studio items.
 4.25 : Sports results to hand.
 5.0 : Children's session, conducted by Uncle George.
 6.0 : Dinner session—"Columbia" Hour:
 Selection B.B.C. Wireless Symphony Orchestra, "H.M.S. Pinafore" (Sullivan) (Regal G30023).
 Milan Symphony Orchestra, "Aida—Prelude and Introduction" (Verdi) (0726).
 6.13 : Tacet.
 6.15 : Pianoforte—Ignaz Friedman, "Berceuse" (Chopin) (04346).
 Milan Symphony Orchestra, "La Tosca—Prelude Act 3" (Puccini) (Regal G310019).
 6.27 : Tacet.
 6.30 : Classic Symphony Orchestra, "The Barber of Seville" Overture (Rossini) (Regal G310019).
 Violin—Efrem Zimbalist, "Liebesleid" (Kreisler) (L4221).
 6.43 : Tacet.
 6.45 : New Queen's Hall Orchestra, "Finlandia" (Sibelius) (02889).
 B.B.C. Wireless Military Band, "Dance of the Tumblers" ("The Snow Maiden") (Rimsky-Korsakov) (02893).
 6.57 : Tacet.
 7.0 : News and market reports.
 7.40 : Talk—Madame Edith Baird, "Artistic Physical Development."
 8.0 : Chimes.
 8.1 : Special presentation of Negro Spirituals by the Auckland Baptist Tabernacle Chorus Choir, under the conductorship of Mr. Arthur E. Wilson.
 Chorus—Choir, "Carry me back to Old Virginny" (Bland).
 Talk—Mr. A. E. Wilson, "Notes on the 'Spirituals'."
 Chorus—Choir, "I'm Rolling" (Arrg. Burleigh).
 Vocal solo—Mrs. Dorothy Cox, "Keep a Inchin' Along" (Arrg. Burleigh).
 Male chorus—"My Lord's Writin' all de Time" (Arrg. Burleigh).
 Ladies' Chorus—"Nobody Knows de Trouble I've Seen" (Arrg. Burleigh).
 Vocal solo—Miss Doreen Logan, "My Lord, What a Morning" (Arrg. Burleigh).
 Chorus—Choir, "Heav'n" (Arrg. Burleigh).
 Vocal solo—Mr. Clinton Williams, "Somebody's Knockin' at Your Door" (Arrg. Burleigh).
 Male chorus—"Oh, Didn't it Rain" (arr. Burleigh).
 Vocal solo—Mrs. J. Litherland, "Crucifixion—He Never Said a Mumblin' Word" (arr. Burleigh).
 Recital—Miss Marjorie Rush, "O Black and Unknown Bards" (arr. Burleigh).
 Chorus—Choir, "Swing Low, Sweet Chariot" (arr. Burleigh).
 Vocal solo—Mrs. C. Turley, "Let us Cheer the Weary Traveller" (arr. Burleigh).
 Male chorus—"Roll de Ole Chariot Along" (arr. Burleigh).
 Ladies' chorus—"Balm in Gilead" (arr. Burleigh).
 Vocal solo—Mr. Horace Reynolds, "The Gospel Train" (arr. Burleigh).
 Chorus—Choir, "Steal Away to Jesus" (arr. Burleigh).
 9.30 : (approx.) : Gramophone Lecture-Recital—Mr. R. W. Strong, "La Bohème" (Puccini) (Acts 2 and 3) (H.M.V. Records C1516/21).
 10.10 : Close down.

2YA, WELLINGTON (720 KILOCYCLES)—TUESDAY, NOVEMBER 12.

- 3.0 : Chimes of the G.P.O. clock.
 3.1 : Selected gramophone items.
 4.30 and 4.50 : Sports results to hand.
 5.0 : Children's session, conducted by Uncle Jim.
 6.0 : Dinner Session—"Columbia" Hour:
 J. H. Squire Celeste Actet, "Everybody's Melodies" (Arrgd. Sear) (02896).
 Violin—Efrem Zimbalist, "Old Vienna Waltz" (Kreisler), (04221).
 6.12 : Tacet.
 6.15 : Moreau—Plaza Theatre Orchestra, (a) "The Busy Bee" (Bendix);
 (b) "My Lady Dainty" (Hesse) (01438).
 Cello—W. H. Squire, "The Broken Melody" (Van Bie) (014180).
 Organ—Frederick Curzon, "Just for Old Time's Sake" (De Sylva) (Regal G20475).
 6.28 : Tacet.
 6.30 : Columbia Symphony Orchestra, "March of the Toys" (Herbert) (02651).
 New Symphony Orchestra, "Hydropaten Waltz" (Gungl) (02672).
 Violin—Efrem Zimbalist, "Zapateado" (Sarasate) (04221).
 6.42 : Tacet.
 6.45 : Waltz—New Concert Orchestra, "Jolly Fellows" (Volsteddt) (02672).
 Cello—W. H. Squire, "Silver Threads Among the Gold" (Danks, arrgd. Squire) (04178).
 Waltz—Eddie Thomas' Collegians, "Beautiful Ohio" (Earl) (02651).
 7.0 : News session, market reports and sports results.

- 7.40 : Lecturette—Representative Agriculture Department, "For the Man on the Land."
 8.0 : Chimes of the G.P.O. clock.
 Special programme presented by "The Strollers" Radio Party:
 Overture—2YA Salon Orchestra, under the conductorship of Mr. Mat Dixon, "Mascaniello" (Anber).
 8.9 : Soprano—"Primavera" (Tirindelli).
 Baritone—"The anger" ("Rio Rita" (Tierney).
 A few hints on "Boxing" or "The Manly Art of Self-Defence."
 Soubrette—"She's Got a Great Big Army of Friends" (Siegel).
 Chorus—"When All My Little Ships Come Sailing Home" (Kern).
 8.24 : Instrumental—2YA Salon Orchestra, "Ballet Egyptian" (Luigini).
 8.34 : Tenor—"A Love Nest For Two" (Lohr).
 Soubrette—"The Wedding of the Painted Doll" (Brown).
 Instrumental—2YA Salon Orchestra, Request Number.
 Patter.
 Vocal duet—Soprano and baritone, "Only a Rose" ("The Vagabond King") (Friml).
 Humour—"Under the Bazunka Tree" (Smith-Lee).
 9.0 : Weather report.
 9.2 : Instrumental—2YA Salon Orchestra (a) "Chanson Sans Paroles" (Tschalkowsky); (b) "Melodie" (Tschalkowsky).
 9.10 : Baritone—"Yeomen of England" (German).
 Soprano—"Huguette Waltz" ("The Vagabond King") (Friml).
 Humorous duo—"After All" (Hylton).
 Instrumental—2YA Salon Orchestra, "Wolga Gypsies" (Spialek).
 Tenor—"A Little White House" (Hanley).
 Chorus—"In Far Echoes" ("Belle of New York") (Kerker).
 9.30 : "Columbia" Dance Programme:
 Foxtrot—Lombardo's Royal Canadians, "I'm Still Caring" (Valee) (01560).
 Foxtrot—Ipana Troubadours, "Building a Nest for Mary" (Rose) (01617).
 Foxtrot—Lombardo's Royal Canadians, "After Thinking It Over" (Davis) (01560).
 Foxtrot—Ipana Troubadours, "I Used to Love Her in the Moonlight" (Lewis) (01617).
 Waltz—Eddie Thomas' Collegians, "Billie" (Henderson), (01584).
 9.45 : Pianoforte duet—Jean Wiener and Clement Doucet, "Why Do I Love You" (Kern) (01563).
 Foxtrot—Piccadilly Players, "I'll Always be Mother's Boy" (01639).
 Foxtrot—Wallace's Campus Boys, "Jericho" (Robin) (01586).
 Tango—Mark Hopkin's Hotel Orchestra, "Senorita" (Weeks) (01584).
 Waltz—Andy Sanella's Trio, "Evangeline" (Rose) (01630).
 10.0 : Tenor—Milton Watson, "Heart O' Mine" (Rose) (01569).
 Foxtrot—Fred Rich's Orchestra, "Why Can't You?" (De Sylva) (01565).
 Foxtrot—Piccadilly Players, "There'll Be You and I" (01639).
 Slow foxtrot—Piccadilly Players, "Bogey Wall" (Wallace) (01567).
 Waltz—Paul Whiteman's Orchestra, "Cognette" (Berlin) (07021).
 10.15 : Vocal duet—Layton and Johnstone, "Do Something" (Green) (01645).
 Foxtrot—Paul Specht's Orchestra, "The Things That Were Made For Love" (Tobias) (01561).
 Foxtrot—Wallace's Campus Boys, "I've Got a Feeling I'm Falling" (Link) (01586).
 Foxtrot—Ipana Troubadours, "Old-Fashioned Lady" (Silver) (01561).
 Waltz—Stellar Dance Band, "Marie" (Berlin) (Regal G20486).
 10.30 : Humour—Harry Hensley, "Misery Farm" (Wallis) (Regal G20501).
 Foxtrot—Ernie Golden's Orchestra, "That's Her Now" (Yellen) (01559).
 Foxtrot—Ben Selvin's Orchestra, "The One in the World" (Little) (01594).
 Waltz—Paul Whiteman's Orchestra, "Roses of Yesterday" (Berlin) (07014).
 Waltz—Paul Whiteman's Orchestra, "My Angeline" (Wayne), (07020).
 10.45 : Pianoforte duet—Jean Wiener and Clement Doucet, "Can't Help Lovin' Dat Man" (Kern) (01563).
 Foxtrot—Fred Rich's Orchestra, "Used To You" (de Sylva) (01565).
 Foxtrot—Ernie Golden's Orchestra, "She's Got Great Ideas" (Tobias) (01559).
 Waltz—Piccadilly Players, "Lisette" (Major), (01569).
 Waltz—The Cavaliers, "My Dear" (Kahn) (01646).
 11.0 : Close down.

3YA, CHRISTCHURCH (980 KILOCYCLES)—TUESDAY, NOVEMBER 12.

- 12 Noon : Results of Metropolitan Trotting Club's Meeting at Addington.
 Opening night Christchurch Radio Exhibition. Programme by the Woolston Band, under the conductorship of Mr. R. J. Estall, and assisting artists, broadcast on relay from the Christchurch Radio Exhibition, Choral Hall.
 8.0 : Opening speeches: Hon. J. B. Donald, Postmaster-General (relayed from Wellington).
 Rev. J. K. Archer, Mayor of Christchurch.
 Mr. L. B. Scott, chairman, Christchurch Radio Exhibition Committee.
 March—Band, "Martial Moments" (arrgd. Winter).
 Tenor with instrumental accompaniment—Mr. Harry Francis and Studio Instrumental Trio, "At Dawning" (Cadman).
 Cornet solo with band accompaniment, Bandsman R. Ohlson, "Redcap" polka (Moss).
 Mezzo-soprano with instrumental accompaniment—Miss Myra Edmonds and Studio Instrumental Trio, "A Blackbird's Song" (Sanderson).

Humoresque—Band, "Slidin' Thro' the Rye" (Truman).
The following items will be broadcast from the Studio, Gloucester Street:—

Mandolin Band—Cirilo Mandolinistico, (a) "Serenade" ("Les Millions d'Arlequin") (Drigo); (b) "Carmen—Intermezzo" (Bizet) (Columbia 0089).

Xylophone and Orchestra—G. Bennett and Bournemouth Orchestra, "Geg Whiz!" (Brook) (Columbia 02755).

Duet for two piccoloes—Jean and Pierre Gennin, "Rippling Streams" (Gennin) (Columbia 02575).

Weather report.

Continuation of programme from Choral Hall:

Overture—Band, "Poet and Peasant" (Suppe).

Baritone solo with band accompaniment—Mr. Bernard Rennell, "The Trumpeter" (Dix).

Trombone solo with band accompaniment—Bandsman W. Williams, "Prize Song" ("The Mastersingers of Nuremberg") (Wagner).

Recital—Mr. H. Instone, "Married Men" (arrgd. Instone).

Tenor with instrumental accompaniment—Mr. Arthur T. Couch and Instrumental Studio Trio, "Haere Tonu" (R. A. Horne).

Foxtrot—Band, "The Wedding of the Painted Doll" (Brown).

Return to the Studio, Gloucester Street for the following items:

Cornet solo—Jas. Compton, "Because" (Teschemaker) (Columbia 01169).

Whispering solo—Little Jack Little, "What D'Ya Say?" (de Sylva) (Columbia 01362).

Rio Marimba Orchestra—"My Isle of Golden Dreams" (Medley Waltz) (Blaufluss) (Columbia 02685).

Continuation of programme from Choral Hall:

Contralto with instrumental accompaniment—Miss Marian Woodhouse and Studio Instrumental Trio, "The Worldly Hope Men Set Their Hearts Upon" (Lehmann).

Polacca for two cornets with band accompaniment—Bandsmen Annand and R. Ohlson, "Two Julietts" (Ord Hume).

Humorous recitals—Mrs. Margaret Williams, (a) "The Lantern Lecture" (Roberts); (b) "A Bedtime Story" (Wish Wynne).

Baritone with instrumental accompaniment—Mr. Bernard Rennell and Studio Instrumental Trio, "Close Props" (arrgd. Baynes).

March—Band, "Duntroon" (Code).

Return to the Studio for the following concluding items:

Novelty—Xylo-Rimba Orchestra, "Along Miami Shore" (Waltz), (Warren) (Regal G20328).

Bass—Malcolm McEachern, "You Along O' Me" (O'Reilly) (Columbia 01174).

Waltzes—Rio Marimba Serenaders, (a) "Paree" (Padilla); (b) "Dolores" (Waldteufel) (Regal G20344).

Baritone—Edgar Coyle, (a) "The Jolly Miller" (trdtl.); (b) "The Farmer's Boy" (trdtl.) (Columbia 01532).

Wurlitzer organ—Milton Charles, (a) "Cheerle Beerie Be" (Wayne); (b) "At Sundown" (Donaldson).

Sheffield Orpheus Male Voice Choir, (a) "The Lincolnshire Poacher" (trdtl.); (b) "There is a Tavern in the Town" (trdtl.) (Columbia 01175).

Close down.

4YA, DUNEDIN (650 KILOCYCLES)—TUESDAY, NOVEMBER 12.

3.0 : Town Hall chimes.

3.1 : Selected gramophone items.

4.25 : Sports results to hand.

5.0 : Children's session conducted by Uncle George.

6.0 : Dinner session—"Columbia" Hour:

Suite—Ketelbey's Concert Orchestra, "In a Fairy Realm" (Ketelbey): (1) The Moonlit Glade, (2) The Queen Fairy Dances, (3) Gnomes' March (02694-5).

6.12 : Tacet.

6.15 : Columbia Symphony Orchestra, "March of the Bojaren" (Halvorsen) (02622).

'Cello—Gaspar Cassado, "Melodie Arabe" (Glazounov) (03579).

New Queen's Hall Light Orchestra, "Wood Nymphs" (Coates) (02591).

6.26 : Tacet.

6.30 : New Queen's Hall Light Orchestra, "Summer Days' Suite (Coates): (1) In a Country Lane, (2) On the Edge of the Lake, (3) At the Dance (02590-1).

6.42 : Tacet.

6.45 : J. H. Squire's Celeste Octet, "Memories of Mendelssohn" (arrgd. Sear) (02838).

Orchestra—Columbia Symphony Orchestra, "Bridal Procession" (Grieg) (02622).

6.57 : Tacet.

7.0 : News session.

8.0 : Special programme from Christchurch Radio Exhibition on relay from 3YA, Christchurch.
Close down.

4.25 : Sports results to hand.

5.0 : Children's session, conducted by Uncle Tom.

6.0 : Dinner session—"Columbia" Hour:

Paul Whiteman's Orchestra, "Liebestraum" (Liszt) (07510).

Band of the Garde Republicaine de France, "The Two Pigeons" (Messager): (1) Entrance of Tziganes; (2) Scene and March of the Two Pigeons (02924).

6.13 : Tacet.

6.15 : Band of the Garde Republicaine de France "The Two Pigeons" (Messager): (1) Hungarian Dance; (2) Theme and Variations (02925).

Organ—Emil Velazco, "By the Waters of Minnetonka" (Lieurance) (01332).

6.27 : Tacet.

6.30 : Jean Lensen's Orchestra, (a) "The Clock is Playing" (Blaauw); (b) "Chanson Bohemienne" (Baldi) (01102).

Royal Hawaiian Band Glee Club, "Liliu E" (Kaulia) (01282).

Cornet—Jack Mackintosh, "Facilita" (Hartmann) (Regal G20525).

6.43 : Tacet.

6.45 : Court Symphony Orchestra, "Tyrolean Echoes" (Stehl) (171).

'Cello—W. H. Squire, "The Sally Gardens" (Hughes) (L1977).

Symphony Orchestra, "The Singer's Joy" (Strauss) (02665).

6.57 : Tacet.

7.0 : News and market reports.

7.40 : Talk—Madame Mabel Milne, "Health and Diet."

8.0 : Chimes.

8.1 : 1YA—Orchestral Octet, "Boheme" Selection (Puccini, arrgd. Godfrey).

8.11 : Baritone—Mr. Clinton Williams, "To You" (Speaks).

8.15 : Pianoforte—Miss Theo Halpin, (a) "Valse, Op. 69, No. 1" (Chopin), (b) "Valse, Op. 70, No. 1" (Chopin).

8.21 : 1YA Orchestral Octet, "Keltic Suite" (Foulds): (1) Gathering of the Clans, (2) Lament, (3) Call.

8.29 : Soprano—Mrs. Amy Milburn, "Villanelle" (Del'Acqua).

8.33 : Violin—Miss Ina Bosworth, "Variations in F Major" (Tartini).

8.37 : 1YA Orchestral Octet, "Four Indian Love Lyrics" (Woodforde-Finden).

8.46 : Baritone—Mr. Clinton Williams, (a) "Blow, Blow, Thou Winter Wind" (Sarjeant), (b) "Her Rose" (Speaks).

8.53 : Pianoforte—Miss Theo Halpin, (a) "Nocturne in F Sharp" (Chopin), (b) "Trois Ecossaises" (Chopin).

9.0 : Weather report.

9.2 : 1YA Orchestral Octet, "Polonaise in A" (Chopin-Pagel).

9.12 : Soprano—Mrs. Amy Milburn, (a) "Killarney" (Balfe), (b) "Kashmiri Song" (Woodforde-Finden).

9.19 : 1YA Orchestral Octet, "Rosamunde Ballet Music" (Schubert).

9.27 : Gramophone Record Review, "A Commentator."

10.0 : Close down.

2YA, WELLINGTON (720 KILOCYCLES)—WEDNESDAY, NOVEMBER 13.

SILENT DAY.

3YA, CHRISTCHURCH (980 KILOCYCLES)—WEDNESDAY, NOV. 13.

12.0 : Results of Canterbury Jockey Club's meeting at Riccarton, interspersed with studio items.

5.0 : Children's session, conducted by Mother Hubbard, Uncle Frank and Peterkin, relayed from the Radio Exhibition, Choral Hall.

6.0 : Dinner session—"Columbia" Hour:

Selection—Columbia Symphony Orchestra, "Faust" (Gounod) (02708).

Duet for two piccoloes—Jean and Pierre Gennin, "Rippling Streams" (Gennin) (02575).

6.12 : Tacet.

6.15 : Mandolin Band, "La Traviata—Prelude Act 1" (Verdi) (02566).

'Cello with organ—W. H. Squire, "Ave Verum" (Mozart, arrgd. Squire)

6.45 : Violin—Albert Sammons, "Elegie" (Massenet) (02687).

J. H. Squire Celeste Octet, "Polonaise—Mignon" (Thomas) (02749).

6.27 : Tacet.

6.30 : Mengelberg's Concertgebouw Orchestra, "Valse Serenade" (Tschairowsky) (04234).

Organ—G. T. Pattman, "Liebestaume" (Liszt) (01003).

Columbia Symphony Orchestra, "Idilio" (Lack) (01076).

6.42 : Tacet.

6.45 : Violin—Albert Sammons, "Elegie" (Massenet) (02687).

Bournemouth Municipal Orchestra, "Don Giovanni" Selection (Mozart) (Regal G30012).

6.55 : Tacet.

7.0 : News session.

8.0 : Presentation of programme from the Radio Exhibition, Choral Hall:

8.1 : Banjo band—Bloy's Banjo Band, (a) March, "Torchlight Parade" (Bulch); (b) "Silver Threads Among the Gold" (arrgd. Bloy); (c) "Plantation Medley" (arrgd. Bloy); (d) "Medley One-Step" (arrgd. Bloy).

8.21 : Soprano with instrumental accompaniment—Miss Corrie Aslin, "Roberto to Che Adoro" (Meyerbeer).

8.25 : Tenor with instrumental accompaniment—"The Pipes of Pan" (Elgar).

8.28 : Instrumental—Grand Opera Orchestra (under the conductorship of Mr. Harold Beck), "Czardas" ("Coppelia") (Delibes).

Return to the studio for the following items:

'Cello—Pablo Casals, "Moment Musical" (Schubert) (H.M.V. DA776).

Tenor with orchestra—Browning Mummery, "E Lucevan le Stelle" ("La Tosca") (Puccini) (H.M.V. B2724).

Chorus—Light Opera Company, "Rose Marie" Vocal Gems (Friml) (H.M.V. C1205).

Wednesday, November 13

1YA, AUCKLAND (900 KILOCYCLES)—WEDNESDAY, NOVEMBER 13.

3.0 : Afternoon session—Selected studio items.

4.0 : Literary selection by the Announcer.

4.8 : Studio items.

- Continuation of programme from Radio Exhibition, Choral Hall:
- 8.45: Instrumental—Grand Opera Orchestra, "Barber of Seville" Overture (Rossini).
- 8.49: Baritone with instrumental accompaniment—Mr. J. Graham Young, "Myself when Young" ("In a Persian Garden") (Lehmann).
- 8.53: Harp solo—Mr. W. Glaysner, Welsh Melody, "Love's Fascination" (Thomas).
- 8.56: Soprano with violin and organ accompaniment—Madame Winnie Fraser, "Ave Maria" (Mascheroni).
- Soprano with instrumental accompaniment—Madame Winnie Fraser, "Solveig's Song" ("Peer Gynt" Suite) (Grieg).
- 9.2: Weather report.
- 9.4: Tenor with instrumental accompaniment—Mr. Harold Prescott, "La Donna E Mobile" ("Rigoletto") (Verdi).
- 9.7: Violin solo with orchestral accompaniment—Miss Irene Morris, "Meditation" ("Thais") (Massenet).
- 9.11: Vocal duet—Salon Duo, "Trot Here, Trot There" ("Veronique") (Messager).
- 9.14: Contralto with instrumental accompaniment, "Waiata Poi" (Hill).
- 9.17: Grand Opera Orchestra, "Dance of the Archers" ("Prince Igor") (Borodin).
- Return to studio for the following items:
- 'Cello—Pablo Casals, "Le Cygne" (Saint-Saens) (H.M.V. DA776).
- Chorus—Light Opera Company, Gems from "The Desert Song" (Harcach) (H.M.V. EB7).
- Victor Salon Orchestra, "Indian Love Call" ("Rose Marie") (Friml) (H.M.V. EA186).
- Continuation of programme from Radio Exhibition, Choral Hall:
- 9.30: Baritone with instrumental accompaniment—Mr. Fred C. Penfold, "Prologue—I Pagliacci" (Leoncavallo).
- 9.34: Instrumental—Grand Opera Orchestra, (a) "Intermezzo" ("Cavalleria Rusticana") (Mascagni); (b) "March" ("Tannhauser") (Wagner).
- 9.40: Soprano with instrumental accompaniment—Madame Winnie Fraser, (a) "O Love from Thy Power" ("Samson et Delilah") (Saint-Saens); (b) "O Mio Babbini Caro" ("Gianni Schicchi") (Puccini).
- 9.47: Flute solo—Mr. W. Hay, "La Tarantella" (Evans).
- 9.50: Tenor with instrumental accompaniment, "Ah, Moon of My Delight" ("In a Persian Garden") (Lehmann).
- 9.53: Vocal quartet—Salon Quartet, "Gossip Joan" (Hampshire folk song) (traditional).
- 9.56: Instrumental—Grand Opera Orchestra, (a) "Barcarolle" ("Tales of Hoffman") (Offenbach); (b) "Carmen—Overture" (Bizet).
- 10.0: The following concluding items will be broadcast from the studio:
- Chorus with orchestra—Light Opera Company, Gems from "No, No, Nanette" (Youmans) (H.M.V. C1205).
- 10.4: International Concert Orchestra, (a) "The Spanish Dancer" (Di Crlara); (b) "My Treasure" (Becucci) (H.M.V. EF7).
- 10.12: Chorus—Light Opera Company, Vocal Gems from "Hit the Deck" (Youmans) (H.M.V. C1433).
- 10.20: Selection—Piccadilly Orchestra, "The Waltz Dream" (Strauss) (H.M.V. B2684).
- 10.26: Chorus—Light Opera Company, Gems from "The Student Prince" (Romberg) (H.M.V. EB7).
- 10.30: Close down.

4YA, DUNEDIN (650 KILOCYCLES)—WEDNESDAY, NOVEMBER 13

- 8.0: Town Hall chimes.
- 8.1: Selected gramophone items.
- 4.25: Sports results to hand.
- 5.0: Children's session, conducted by Aunt Anita.
- 6.0: Dinner Session—"Parlophone" Hour:
- Selection—Edith Lorand Orchestra, "The Vagabond King" (Friml) (E10601).
- Waltz—Dajos Bela Orchestra, "The Swallows" (Strauss), (A4010).
- 6.12: Tacet.
- 6.15: Selection—Frank Westfield's Orchestra, "Chu Chin Chow" (Norton) (A2678).
- Piano and Orchestra—Raie da Costa and Orchestra, "When Day is Done" (de Sylva) (A4041).
- Wurlitzer organ—Leslie Harvey, "Absent" (Metcalf) (A2728).
- 6.29: Tacet.
- 6.30: Waltzes—Dajos Bela Orchestra, (a) "O Spring, How Fair Thou Art" (Lincke); (b) "Songs D'Amour Apres Le Bal" (Czilbulka) (E10602).
- Dajos Bela Orchestra—"Humoresque" (Dvorak) (E10559).
- 6.42: Tacet.
- 6.45: Dance orchestra—Dorsey Brothers Orchestra, "Was it a Dream?" (Coslow) (A2567).
- Wurlitzer Organ—Leslie Harvey, "Until" (Sanderson) (A2728).
- Waltz—Dajos Bela Orchestra, "Faust" (Gounod) (A4010).
- 6.55: Tacet.
- 7.0: News session.
- 8.0: Special Radio Exhibition programmes on relay from 3YA, Christchurch.
- 10.30: "Brunswick" Dance Programme:
- Foxtrot—Carl Fenton's Orchestra, "Maybe—Who Knows" (Tucker) (4421).
- Foxtrot—Gerunovich's Roof Garden Orchestra, "Am I Blue?" (Clarke) (4429).
- Foxtrot—Carl Fenton's Orchestra, "What a Day!" (Woods) (4421).
- Waltz—Gerunovich's Roof Garden Orchestra, "Let Me Have My Dreams" (Clarke) (4429).

- 10.42: Tenor—Chester Gaylord, "Sing a Little Love Song" (Conrad) (4448).
- Foxtrot—Hal Kemp's Orchestra, "In the Hush of the Night" (Lerner) (4424).
- Foxtrot—Montmartre Orchestra, "Tip-Toe Thru The Tulips With Me" (Dubin) (4419).
- Foxtrot—Hal Kemp's Orchestra, "Where Are You, Dream Girl?" (4424).
- Foxtrot—Montmartre Orchestra, "Painting the Clouds With Sunshine" (Dubin) (4419).
- Waltz—Brunswick Concert Orchestra, "Mexicali Rose" (Stone) (4426).
- 11.0: Close down.

Thursday, November 14

1YA, AUCKLAND (900 KILOCYCLES)—THURSDAY, NOVEMBER 14.

- 3.0: Afternoon session—Studio items arranged by Messrs. Lewis Eady, Ltd.
- 4.30: Close down.
- 5.0: Children's session conducted by Peter Pan.
- 6.0: Dinner session—"Parlophone" Hour:
- Parlophone Dance Orchestra, "The Skaters" Waltz (Waldteufel) (A2648).
- Pianoforte—Raie da Costa, "Ol' Man River" (Kern) (2757).
- Vocal duet—Ana Hato and Deane Wauretini, "Hoki, Hoki" (2800).
- Massed Military Bands, "Cadets March" (2743).
- 6.13: Tacet.
- 6.15: Orchestra of the Concerts Colonne, Paris, "Symphonie Fantastique" (Berlioz) (1023).
- Hawaiian—Queenie and David Kaili, "Hawaiian Lullaby" (Kaili) (2809).
- 6.27: Tacet.
- 6.30: Dajos Bela Orchestra, "Vienna Blood" (Strauss) (4095).
- Royal Music-Makers, "Can't Help Lovin' Dat Man" (Kern) (2756).
- Grand Symphony Orchestra, "Polonaise No. 1 in A" (Chopin) (4089).
- 6.42: Tacet.
- 6.45: Edith Lorand Orchestra, (a) "Minuet" (Boccherini), (b) "Toreador and Andalouse" (Rubinstein) (4108).
- Massed Military Bands, "Gladiator's Farewell" (Blankenburg) (2718).
- 6.57: Tacet.
- 7.0: Book review.
- 7.15: News and market reports.
- 8.0: Chimes.
- 8.1: Novelty programme presented by "The Minus Fives," "After-Dinner."
- 9.30: "Columbia" Dance Programme:
- Foxtrot—Debroy Somers' Band, "The Egg Song" (Salisbury) (01523).
- Foxtrot—Paul Specht's Orchestra, "My Annapolis and You" (Weinberg) (01539).
- Foxtrot—Harry Reser's Syncopators, "I'm Wild about Horns on Automobiles" (Gaskill) (01543).
- One-step—Debroy Somers' Band, "Shinanika Da" (Carlton) (01523).
- 9.43: Whispering pianist—Ard Gillham, "Two Little Rooms" (Tish) (01540).
- Foxtrot—Harry Reser's Syncopators, "I Got a Code in My Doze" (01554).
- Foxtrot—Leo Reisman's Orchestra, "My Castle in Spain is a Shack in the Lane" (01544).
- Foxtrot—Ted Lewis's Band, "Limehouse Blues" (Brahms) (01548).
- Waltz—Cavalliers, "Lady Divine" (Shilkret) (01543).
- Waltz—Cavalliers, "Underneath the Russian Moon" (Gusman) (01546).
- 10.2: Vocal duet—Francis Russell and Harold Williams, "Excelsior" (Balfe) (942).
- Foxtrot—Harry Reser's Syncopators, "It Ain't No Fault of Mine" (01554).
- Foxtrot—The Knickerbockers, "That's the Good Old Sunny South" (Ager) (01544).
- Foxtrot—Ted Lewis's Band, "Clarinet Marmalade" (Shields) (01546).
- Waltz—Cavalliers, By-and-By, Sweetheart" (Valentine) (01546).
- Waltz—Ben Selvin's Orchestra, "Out of the Tempest" (01367).
- 10.22: Whispering pianist—Art Gilman, "Somewhere There's Some one" (Madson) (01540).
- Foxtrot—Ipapa Troubadours, "Building a Nest for Mary" (Rose) (01617).
- Foxtrot—Ben Selvin's Orchestra, "I'm Just a Vagabond Lover" (Vallee) (01594).
- Foxtrot—Royal Canadians, "I'm Still Caring" (Vallee) (01560).
- Slow foxtrot—Ambassadors Band, "Wake Up, Oh! I'm, Wake Up" (Trent) (01595).
- 10.38: Organ—Quentin Maclean, "Flower of Love" (Axt) (01572).
- Tango—Mark Hopkins Hotel Orchestra, "Senorita" (Weeks) (01584).
- Foxtrot—Ipapa Troubadours, "I Used to Love Her in the Moonlight" (Florito) (01617).
- Foxtrot—Ben Selvin's Orchestra, "The One in the World" (Little) (01594).
- Foxtrot—Royal Canadians, "After Thinking It Over" (Davis) (01560).
- Waltz—Eddie Thomas's Collegians, "Billie" (Henderson) (01584).
- Waltz—Columbians, "Christina" (01585).
- 11.0: Close down.

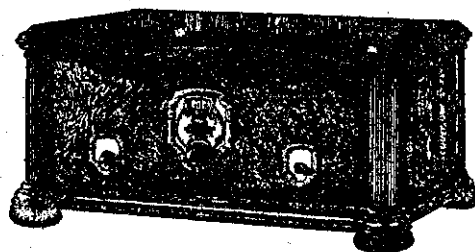
2YA, WELLINGTON (720 KILOCYCLES)—THURSDAY, NOVEMBER 14.

- 3.0: Chimes of the G.P.O. clock.
- 3.1: Selected gramophone items.



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Box 830, WELLINGTON.

- 4.30 and 4.50: Sports results to hand.
 5.0 : Children's session, conducted by Uncle George.
 6.0 : Dinner session—"His Master's Voice" Hour:
 New Symphony Orchestra. "Henry VIII. Dances" (German): (1) Shepherd's Dance; (2) Morris Dance; (3) Torch Dance (B2981).
 *Cello—Beatrice Harrison, "The Broken Melody" (Van Biene) (C1626).
 Organ—Reginald Foort, "Chanson" (Friml) (B2988).
 6.13: Tacet.
 6.15: New Light Symphony Orchestra, "Hearts and Flowers" Intermezzo (Tobani) (Zenophone EF20).
 Piccadilly Orchestra, "Song My Mother Taught Me" (Dvorak) (B2662).
 Waltz—Marek Weber's Orchestra, "My Darling" (Waldteufel) (C1630).
 6.26: Tacet.
 6.30: Jack Hylton's Orchestra, "Good Old Songs" (C1592).
 Organ—Reginald Foort, "Love's Garden of Roses" (Haydn Wood) (B2988).
 Piccadilly Orchestra, "Together" (de Silva) (B2662).
 6.44: Tacet.
 6.45: Waltz—La Vittoria Orchestra, "The Wedding of the Winds" (Hall) (Zenophone EF21).
 New Light Symphony Orchestra, "In a Clock Store" (Orth) (C1308).
 Waltz—Philadelphia Symphony Orchestra, "Blue Danube" Waltz (ED2).
 7.0 : News session, market reports and sports results.
 7.40: Lecturette—Mr. A. J. Nicholls (Representative, Hutt Valley Horticultural Society), "Gardening."
 8.0 : Chimes of the G.P.O. clock.
 Studio Concert by the Band of the 1st Battalion Wellington Regiment, under the conductorship of Lieut. B. J. Shardlow, and assisting artists:
 8.1 : March—Band, "Menhstophes" (Douglas).
 Selection—Band, "The Dawn of Victory." (Pether).
 8.16: Soprano—Mrs. Amy Dunn, "Serenata" (Toselli).
 8.20: Baritone—Mr. Claude Moss, "Route Marching" (Stock).
 8.24: Instrumental—Hutt Railway Workshops Orchestra, (a) "Broadway Melody" (Brown); (b) "You Were Meant for Me" (Brown).
 8.31: Humorous recital—Miss Esme Crow, "Two Men" (Arthurs).
 8.37: Waltz—Band, "Carolina Moon" (Davis).
 9.43: Contralto—Miss Ivy Stanton, (a) "Temple Bells" (Woodforde-Finden); (b) "Less than the Dust" (Woodforde-Finden).
 9.49: Tenor—Mr. Stewart Nelson, "At Dawning" (Cadman).
 8.53: Foxtrot—Band, "The Toy Maker's Dream" (Golden).
 8.58: Weather report.
 9.0 : Soprano—Mrs. Amy Dunn, (a) "Salaam" (Lang); (b) "O Restless Sea" (White).
 9.6 : Baritone—Mr. Claude Moss, "Sometimes in Summer" (Bennett).
 9.10: Selection—Band, "Rossini's Works" (arrgd. Round).
 9.20: Humour—Miss Esme Crow, "Miss Busy" (Anon.).
 9.26: Instrumental—Hutt Railway Workshops Orchestra, (a) "The Desert Song Waltz" (Romberg); (b) "Underneath the Russian Moon" (Kendis).
 9.33: Contralto—Miss Ivy Stanton, "Break, Break, Break" (Darley).
 9.37: Selection—Band, "Chant sans Paroles" (Tschai-kowsky).
 Minuet—Band, "Minuet in G" (Beethoven).
 9.47: Tenor—Mr. Stewart Nelson, "Castilian Lament" (Del Riego).
 9.51: Foxtrot—Band, "When I Met Connie in the Cornfield" (Tilsley).
 March—Band, "The Flying Squad" (Ord Hume).
 10.1 : Close down.

3YA, CHRISTCHURCH (980 KILOCYCLES)—THURSDAY, NOVEMBER 14

- 12.0 : Results of Metropolitan Trotting Club's meeting at Addington, interspersed with musical items from studio.
 5.0 : Children's session conducted by Scatterjoy, relayed from Radio Exhibition, Choral Hall.
 6.0 : Dinner session—"His Master's Voice" Hour:
 Royal Albert Hall Orchestra, "Carmen—Prelude Act 1" (Bizet) (H.M.V. B461).
 Wurlitzer organ—Reginald Foort, "Ballet Egyptien" (Luigini) (B2477).
 Royal Albert Hall Orchestra, "Carmen—Prelude Act 2" (Bizet) (B461).
 6.12: Tacet.
 6.15: Instrumental Trio—Kreisler, Kreisler, and Raucheisen, "Arlesienne—Intermezzo" (Bizet) (DB1166).
 Philadelphia Symphony Orchestra, "Nocturne No. 2—Fetes" (Debussy) (E507).
 Violin—Jacques Thibaud, "Valse" (Brahms) (DA866).
 6.28: Tacet.
 6.30: New Light Symphony Orchestra, "Spanish Dance No. 1" (Granados) (C1553).
 Pianoforte—Benno Moisevitch, "Grillen" (Schumann) (D1280).
 New Light Symphony Orchestra—"Spanish Dance—No. 2" (Granados) (C1553).
 6.42: Tacet.
 6.45: Violin—Jascha Heifetz, "Ave Maria" (Schubert) (DB1047).
 Marek Weber's Orchestra, "La Tosca" Potpourri (arrgd. Tavan) (C1413).
 6.55: Tacet.
 7.0 : Lecturette—Mr. D. Sidey, B.A., Canterbury Agricultural College, "Keeping Up the Wool Clip" (arrgd. by the 3YA Primary Productions Committee).

- 8.0 : Presentation of programme from Radio Exhibition, Choral Hall:
 Instrumental—Light Orchestra under the conductorship of Mr. Harold Beck, "Ballet Music" (Gounod).
 8.8 : Tenor with instrumental accompaniment—Mr. Ernest Rogers, "Macushla" (Macmurrough).
 8.12: Pianoforte—Miss Dorothy Davies, "Noel" (Gardner).
 8.16: Soprano with instrumental accompaniment—Madame Gower-Burns, "The Cuckoo" (Lehmann).
 8.20: Cello—Mr. Harold Beck and Studio Instrumental Octet, "O Star of Eve" (Wagner) (arrgd. Beck).
 8.25: Tenor with violin obbligato—"For You Alone" (Geehl).
 8.29: Studio Instrumental Octet—"Valse de la Reine" (Coleridge-Taylor).
 The following items will be broadcast from the studio:—
 Overture—National Symphony Orchestra, "Orpheus in Hades" (Offenbach) (Zenophone EF16).
 Bass—Theodor Chailapin, "How Goes It, Prince?" ("Prince Igor") (Borodin) (H.M.V. DB1104).
 Nightingales and church bells—"A Summer Night Idyll" (H.M.V. B2853).
 Continuation of programme from Radio Exhibition, Choral Hall:
 8.45: Studio Instrumental Octet, "Air and Gigue" ("Suite in D") (Bach).
 8.52: Soprano with instrumental accompaniment—Miss Frances Hamerton, "Open Thy Blue Eyes" (Massenet).
 8.55: Tenor with instrumental accompaniment—"Serenade" (Schubert).
 8.59: Weather report.
 9.1 : Studio Instrumental Trio, "Rondo from B Flat Trio" (Schubert).
 9.6 : Contralto with instrumental accompaniment—Miss Belle Renaut, "The Star Flower Tree" ("Pagoda of Flowers") (Woodforde-Finden).
 9.9 : Baritone—Mr. T. D. Williams, "Charming Chloe" (German).
 9.12: Studio Instrumental Octet, "Dance of the Sugar Plum Fairy" (Tschai-kowsky).
 9.15: The following items will be broadcast from the studio:—
 Male choral—Lay Vicars of Westminster Abbey, "Stars of the Summer Night" (Cruckshank) (H.M.V. B2781).
 Bass solo—Theodor Chailapin, "Song of the Viking Guest" (Rimsky-Korsakov) (H.M.V. DB1104).
 Philadelphia Symphony Orchestra, "Nutcracker Suite" (Tschai-kowsky): (1) Arab Dance, (2) Chinese Dance, (3) Dance of the Flutes (H.M.V. D1215).
 Continuation of programme from Radio Exhibition, Choral Hall:
 9.30: Tenor with instrumental accompaniment, (a) "Widmung" (Schumann), (b) "Ich Grolle Nicht" (Schumann), Mr. Russell Sumner.
 9.35: Studio Instrumental Octet, "Andantino" (Lemare).
 9.40: Contralto with instrumental accompaniment—Miss Belle Renaut, "Hine e Hine" (Te Rangī Pāi).
 9.44: Vocal duet with instrumental accompaniment—Melodious Duo, "Where the Violets Grow" ("The Little Sunbonnet") (Lohr).
 9.47: Studio Instrumental Trio—(a) "Minnet" (Borison), (b) "Hungarian Dance" (Brahms).
 9.52: Baritone with instrumental accompaniment, (a) "Less than the Dust," (b) "Till I Wake" ("Four Indian Love Lyrics") (Woodforde-Finden).
 Soprano with instrumental accompaniment—Miss Frances Hamerton, "Now the Lark is Up" ("Dorothy's Wedding Day") (Lane Wilson).
 9.59: Instrumental—Light Orchestra under the conductorship of Mr. Harold Beck, "Entr'acte and Valse" (Delibes).
 10.0 (approx.) The following concluding items will be broadcast from the studio:—
 Bass-baritone—Peter Dawson, (a) "Bush Silence," (b) "Bush Night Song," (c) "Land of Who Knows Where?" (James) (H.M.V. C1428).
 10.4: Royal Opera Orchestra, (a) "Shepherd Fennels Dance" (Balfour-Gardiner), (b) "The Sleeping Beauty" (Tschai-kowsky) (H.M.V. C1469).
 10.12: Tenor—Joseph Hislop, "My Love is Like a Red, Red Rose" (tradit.) (H.M.V. DA901).
 10.15: Marek Weber's Orchestra, "Vienna by Night" (Komzak) (H.M.V. C1507).
 Male choral—Lay Vicars of Westminster Abbey, "The Little Sandman" (West) (H.M.V. B2781).
 Philadelphia Symphony Orchestra, "Rakoczy March" (Berlioz) (H.M.V. ED7).
 Close down.

4YA, DUNEDIN (650 KILOCYCLES)—THURSDAY, NOVEMBER 14.

- 8.0 : Relay of special Radio Exhibition programme from 3YA, Christchurch.
 Close down.

Friday, November 15

1YA, AUCKLAND (900 KILOCYCLES)—FRIDAY, NOVEMBER 15.

- 3.0 : Afternoon session—Selected studio items.
 4.0 : Literary selection by the Announcer.
 4.8 : Studio items.
 4.25: Sports results to hand.
 5.0 : Children's session conducted by Nod and Aunt Jean.
 6.0 : Dinner session—"His Master's Voice" Hour:
 London Symphony Orchestra, "Hulciguns March" (Wagner) (D1271).

- Violin—De Groot, "Reve d'Enfant" (Ysay) (C903).
 6.13: Tacet.
 6.15: San Francisco Symphony Orchestra, "Valse de Concert" (Glazounov) (D1492).
 Pianoforte—Meyer Marcelle, "Ragtime" (Stravinsky) (D1063).
 6.27: Tacet.
 6.30: Violin—De Groot, "Chanson Triste" (Tschalkowsky) (C903).
 Royal Albert Hall Orchestra, "Fetes" (Debussy) (D1000).
 6.42: Tacet.
 6.45: Pianoforte—Meyer Marcelle, "Navarra" (Albeniz) (D1063).
 Symphony Orchestra, "The Planets" (Holst) (D1129).
 6.57: Tacet.
 7.0: News and market reports.
 8.0: Chimes.
 8.1: Presentation of the Three-act Play "The Witness for the Defence" (A. E. W. Mason) by the Auckland Dramatic Players.
 Overture—New Queen's Hall Light Orchestra, "The Little Minister" (MacKenzie) (Columbia 02587).
 Act 1—"The Witness for the Defence" (Mason).
 Entr'acte—New Queen's Hall Light Orchestra, "Wood Nymphs" (Coates) (Columbia 0259).
 Act 2—"The Witness for the Defence" (Mason).
 Entr'acte—H.M. Grenadier Guards Band, "Barcarolle" (Tschalkowsky) (Columbia 02677).
 Act 3—"The Witness for the Defence" (Mason).
 Band of H.M. Grenadier Guards, "Cleopatra" (Mancinelli) (Columbia 02565).
 10.0: Close down.

2YA, WELLINGTON (720 KILOCYCLES)—FRIDAY, NOVEMBER 15.

- 3.0: Chimes of the G.P.O. clock.
 3.1: Selected gramophone items.
 4.0 and 4.50: Sports results to hand.
 5.0: Children's session, conducted by Big Brother Jack.
 6.0: Dinner Session—"Columbia" Hour:
 Capitol Theatre Orchestra, "Orpheus in the Underworld" (Offenbach) (Regal G20384).
 Band of H.M. Grenadier Guards, "Nell Gwynn Dances" (German):
 1. Country Dance. 2. Pastoral Dance (01329).
 6.12: Tacet.
 6.15: Classic Symphony Orchestra, "Carmen" selection, (Bizet, arr. De Groot) (Regal G30000).
 B.B.C. Wireless Military Band, "Dance of the Tumblers" ("The Snow Maiden") ((Rimsky-Korsakov) (02893).
 6.27: Tacet.
 6.30: Plaza Theatre Orchestra, "Belle of New York" selection (Kerker) (Regal G30016).
 Band of H.M. Grenadier Guards, "Nell Gwynn Dances" (German):
 Merry-makers' Dance (01330).
 Organ—Quentin McLean, "I Kiss Your Hand, Madame" (Erwin) (01572).
 6.44: Tacet.
 6.45: Milan Symphony Orchestra, "Il Matrimonio Segreto" (Cimarosa) (02877).
 Budapest Philharmonic Orchestra, "Rakoczy March" (Berlioz), (02729).
 7.0: News session, market reports and sports results.
 7.40: Lecturette—Mr. R. Howard Taylor, "Care of the Feet."
 8.0: Chimes of the G.P.O. clock.
 8.1: Overture—2YA Orchestra, under the conductorship of Signor A. P. Truda, "Norma" (Bellini).
 8.9: Soprano—Miss Jeanette Briggs, L.A.B., "Indian Love Call" ("Rose Marie") (Friml).
 8.13: Pianoforte—Miss Dorothy Innes, (a) "Tango" (Henderson); (b) "Romance in F Sharp" (Schumann).
 8.20: Vocal quartet—Ariel Singers, "Fairest Daughter of the Graces" ("Rigoletto" (Verdi).
 8.24: 'Cello with organ—W. H. Squire, "The Prize Song" ("The Mastersingers of Nuremberg") (Wagner) (04267).
 8.28: Humour—Mr. and Mrs. Albert Russell, (a) "I'm a Devil When I'm Annoyed" (Hastings); (b) "Wilderness" (Kumer).
 8.35: Humour—Selection—2YA Orchestra, "Rigoletto" (Verdi) (By Request).
 8.43: Bass—Mr. J. M. Caldwell, "The Cobbler's Song" ("Chu Chin Chow") (Norton).
 8.47: Unison song—Ariel Singers, "Youth's the Season Made for Joy" ("Beggar's Opera") (Gay).
 8.51: Instrumental—2YA Orchestra, (a) "O Star of Eve" ("Tannhauser") (Wagner), (b) "Aida" march (Verdi).
 8.59: Weather report.
 9.1: Tenor—Mr. Roy Hill, "Ah! Moon of My Delight" (Lehmann).
 9.5: Columbia Light Opera Company, vocal gems from "Lilac Time" (Schubert-Clutsam) (Columbia 02823).
 9.13: Musical comedy selection—2YA Orchestra, "Count of Luxembourg" (Lehar).
 9.21: Vocal duet—Misses Jeanette Briggs and Ngaire Coster, "Di Conforto Un Raggio So Lo" ("La Vestale") (Mercandante).
 9.25: Humour—Mr. and Mrs. Albert Russell, (a) "Never Mind What the Doctors Say" (Low), (b) "Auto-Suggestion" (Jackson).
 Vocal duet—Mr. and Mrs. Albert Russell, "Olde-De-O" (Reubens).

- 9.32: Band of the Garde Republicaine, "Carmen—Entr'acte" (Bizet) (02747).
 9.40: Mezzo-contralto—Miss Ngaire Coster, "Habanera" ("Carmen") (Bizet).
 9.44: Violin—Efrem Zimbalist, "Zapateado" (Sarasate) (Columbia 04221).
 9.48: Vocal quartet—Ariel Singers, "The Stars That Above Us Are Shining" ("Preciosa") (Weber).
 9.52: Musical comedy selection—2YA Orchestra, "The Spring Maid" (Reinhardt).
 10.0: Close down.

3YA, CHRISTCHURCH (980 KILOCYCLES)—FRIDAY, NOVEMBER 15.

- 12.0: Results of Metropolitan Trotting Club's meeting at Addington, interspersed with studio items.
 5.0: Children's session, conducted by Aunt Pat and Brother Bill, relayed from Radio Exhibition, Choral Hall.
 6.0: Dinner session—"Columbia" Hour:
 New Concert Orchestra, "Hydropaten Waltz" (Gungl) (02672).
 'Cello—W. H. Squire, "Silver Threads Among the Gold" (Danks, arrgd. Squire) (04178).
 New Concert Orchestra, "Jolly Fellows" (Bruder) (02672).
 6.12: Tacet.
 J. H. Squire Celeste Octet, "Two Eyes of Grey" (McGeoch) (01213).
 Wurlitzer organ—G. T. Pattman, "Firefly" (Nichols) (01348).
 J. H. Squire Celeste Octet, "I Love the Moon" (Rubens) (01213).
 Accordion and guitar—Charles Magnante, "Beautiful Days" (Magnante) (Regal G20405).
 6.27: Tacet.
 6.30: New Queen's Hall Orchestra, "In a Country Lane" (Coates) (02590).
 Organ—G. T. Pattman, "Andantino" (Lemare) (9135).
 New Queen's Hall Orchestra, "On the Edge of the Lake" (Coates) (02590).
 6.42: Tacet.
 6.45: Violin—Albert Sammons, "Meditation" (Massenet) (02687).
 London Theatre Orchestra, "Lilac Time" (Schubert-Clutsam) (02699).
 6.55: Tacet.
 7.0: News session.
 8.0: Presentation of programme from Radio Exhibition, Choral Hall:
 Dance Music—Bailey-Marston Dance Orchestra, "You Were Meant for Me" (Brown).
 8.4: Tenor—Mr. C. R. Williamson, (a) "Love's Garden of Roses" (Haydn Wood); (b) "I Heard You Singing" (Coates).
 8.10: Saxophone—Mr. Les Marston, "Saxarella" (Les Marston).
 8.14: Songs at piano—Mr. Charles Lawrence, "Songs, Happy and Snappy" (MS.).
 8.21: Dance music—Bailey-Marston Dance Orchestra, "Broadway Melody" (Brown).
 8.25: Humour at piano—Miss Lily Kinsella, "The Umpteen Serial Picture" (Alcop).
 8.29: Dance music—Bailey-Marston Dance Orchestra, "Louise" (Robin).
 Return to studio for the following items:
 Contralto and male quartet—Sophie Braslau, "Old Folks at Home" (Forster) (Columbia 04215).
 Hawaiian—Ferrer's Sextet, (a) "Under the South Sea Palms" (Johnson); (b) "Moana Chimes" (Columbia 3525).
 Baritone—Harold Williams, "The Skipper of the Mary Jane" (Henry) (Columbia 01446).
 8.45 (approx.): Continuation of programme from Radio Exhibition:
 Dance Music—Bailey-Marston Dance Orchestra, "I Wanna Go Places" (Whiting).
 8.49: Tenor—Mr. W. J. Trewern, "I'll Sing Thee Songs of Araby" (Clay).
 8.53: Humorous pianologue—Mr. Noel Newson, "Musicians and How they Musish" (Gregson).
 8.57: Dance music—Bailey-Marston Dance Orchestra, (a) "That's You Baby" (Conrad); (b) "Breakaway" (Conrad).
 9.5: Part song—Cathedral Male Quartet, (a) "Like Apple Blossoms" (Lloyd); (b) "They Kissed, I Saw Them Do It" (Hawley).
 9.15 (approx.): Return to the studio for the following items:
 Humorous sketch—Michael Casey and company, "Casey Addresses his Comrades in Arms" (Casey) (Columbia 01396).
 Organ—Frederick Curzon, (a) "Sonny Boy" (De Sylva); (b) "For Old Times Sake" (De Sylva) (Regal G20475).
 Baritone—Alex Whitson, (a) "The Adorable Outcast" (Hayes); (b) "When Loves Comes Stealing" (Rapee) (Columbia 01215).
 Continuation of programme from Radio Exhibition, Choral Hall:
 9.30: Dance music—Bailey-Marston Dance Orchestra, (a) "Old Man Sunshine" (Warren); (b) "One Alone" (Romberg).
 9.38: Jazz songs at piano with ukulele—Joyous Duo, (a) "There's a Rainbow round my Shoulder" (Jolson); (b) "Can't Help Lovin' Dat Man" (Kern).
 9.44: Dance music, Bailey-Marston Dance Orchestra, "Ten Little Miles from Town" (Kahn).
 9.58: Male choral—Cathedral Male Quartet, (a) "Bird Songs at Eventide" (Coates); (b) "The Little Irish Girl" (Lohr).
 9.54: Songs at piano—Mr. Charles Lawrence, "Songs, Old and New" (MS.).
 10.0: Dance music—Bailey-Marston Dance Orchestra, (a) "The One that I Love Loves Me" (Turk); (b) "Wedding of the Painted Doll" (Tucker).

- 10.15: The following concluding dance items will be broadcast from the studio by the Bailey-Marston Dance Orchestra:
- "Blossoms" (Dietrich).
 - "Sweethearts on Parade" (Lombardo).
 - "The Desert Song" (Romberg).
 - "I've Never Seen a Smile like Yours" (Johnson).
 - "Doin' the New Low Down" (Field).
 - "Don't be Like That" (Warren).
 - "Dream Mother" (Burke).
 - "In Old Tia Juana" (Steele).
 - "Laughing Marionette" (Gilbert-Collins).
- 11.0: Close down.

4YA, DUNEDIN (650 KILOCYCLES)—FRIDAY, NOVEMBER 15.

- 3.0: Town Hall chimes.
- 3.1: Selected gramophone items.
- 4.25: Sports results to hand.
- 5.0: Town Hall chimes.
- 5.1: Children's session, conducted by Aunt Sheila.
- 6.0: Dinner session—"His Master's Voice" Hour: Selection—Kaufman's Orchestra, "The Gipsy Baron" (Strauss) (C1898).
- Waltz—La Vittoria Orchestra, "Wedding of the Winds" (Hall) (Zonophone EF21).
- 6.12: Tacet.
- 6.15: Piccadilly Orchestra, "If Only I Had You" (Davies) (B2713).
- Piccadilly Orchestra, "Tolita" (Ferrete) (B2713).
- Hawaiian—Kolomoku's Honoluluans, "Alohe-oe" (Liluokalani) (Zonophone EF23).
- Piccadilly Orchestra, "Charmaine" (Rapee) (B2526).
- 6.27: Tacet.
- 6.30: New Mayfair Orchestra, "This Year of Grace" (Coward) (EB37).
- Waring's Orchestra, "Ah! Sweet Mystery of Life" (Herbert) (EB37).
- Hawaiian—Kolomoku's Honoluluans, "Three O'Clock in the Morning" (Robledo) (Zonophone EF23).
- 6.42: Tacet.
- 6.45: Victor Concert Orchestra, (a) "Minuet in G" (Paderewski); (b) "Amaryllis" (Ghys) (EA240).
- Piccadilly Orchestra, "Bird Songs at Eventide" (Coates) (B2528).
- Waltz—International Concert Orchestra, "Blue Danube" (Strauss) (Zonophone EF21).
- 6.57: Tacet.
- 7.0: News session.
- 8.0: Special Radio Exhibition Programme on relay from 3YA, Christchurch.
- Close down.

Saturday, November 16

1YA, AUCKLAND (900 KILOCYCLES)—SATURDAY, NOVEMBER 16.

- 3.0: Afternoon session—Selected studio items.
- 4.0: Literary selection by the Announcer.
- 4.8: Studio items.
- 4.25: Sports results to hand.
- 4.30: Close down.
- 5.0: Children's session conducted by Cinderella.
- 6.0: Dinner session—"His Master's Voice" Hour: Philadelphia Symphony Orchestra, "Waltz of the Flowers" (Tschalkowsky) (D1216).
- 'Cello—Lauri Kennedy, "Londonderry Air" (arrgd. Kennedy) (C1618).
- 6.13: Tacet.
- 6.15: Waring's Pennsylvanians, "A Love Tale of Alsace Lorraine" (Davis) (EA561).
- Organ—Edwin H. Lemare, "Chant de Bonhuer" (Lemare) (Zonophone EE93).
- Vocal duet—Paul Robeson and Lawrence Brown, "Witness" (arrgd. L. Brown) (B2727).
- International Concert Orchestra, "Lazy Pete" (Werner) (Zonophone 5221).
- 6.28: Tacet.
- 6.30: International Concert Orchestra, (a) "La Spagnola" (di Chiara), (b) "My Treasure" (Becucci) (Zonophone EF15).
- Organ—Reginald Goss-Custard, "Madrigal" (Lemare) (C1345).
- 6.42: Tacet.
- 6.45: Royal Opera Orchestra, "1812 Overture" (Tschalkowsky) (C1280-1).
- 6.57: Tacet.
- 7.0: News and market reports, sports results.
- 8.0: Chimes.
- 8.1: Overture—1YA Salon Orchestra, "Pink Lady" Selection (Caryll).
- 8.11: Baritone—Mr. Roy Stephenson, (a) "The Little Ships" (Loughborough), (b) "Comrades of Mine" (James).
- 8.18: Vocal duet—Dora Maughan and Walter Fehl, "Eggs, Toast, and Coffee" (H.M.V. B3000).
- 8.21: Boy soprano—Master Desmond Casey, "Beneath Thy Window" (di Capua).
- 8.25: Instrumental—1YA Salon Orchestra, "Russian Dances" Nos. 1 and 2 (Bortkiewicz).

- 8.33: Recital—Miss Audrey Perry, "Mary, Queen of Scots" (Bell).
- 8.38: Accordion—Fomeen Trio, "Oriental One-step" (Zonophone EE162).
- 8.44: Soprano—Miss Gwladys Payne, "Carmencita" (Lane).
- 8.48: Instrumental—1YA Salon Orchestra, (a) "Valse Caprice" (Locker); (b) "Tin Soldiers" (Cock).
- 8.58: Weather report.
- 9.0: Band of H.M. Coldstream Guards, "The Mad Major" (Alford) (B1645).
- 9.6: Baritone—Mr. R. Stephenson, "The Wolf" (Shield).
- 9.10: Whistling—W. Lynton, "Students' Revels" (Lynton) (Zonophone 43).
- 9.13: Boy soprano—Master D. Casey, (a) "The Birds Go North Again" (Willeby), (b) "Do You Know My Garden?" (Haydn Wood).
- 9.20: Instrumental—1YA Salon Orchestra, "The Doll's House" (Engleman).
- 9.30: Recitals—Miss Audrey Perry, (a) "Choosing a Maid" (Anon.), (b) "The Three Gifts" (Weatherley).
- 9.37: Vocal duet—Dora Maughan and Walter Fehl, "That's Just What I Thought" (H.M.V. B3000).
- 9.43: Mezzo-soprano—Miss G. Payne, (a) "The Last Rose of Summer" (Moore), (b) "I've Been Roaming" (Horn, arrgd. Moffatt).
- 9.50: Instrumental—1YA Salon Orchestra, Latest Novelties.
- 10.0: "His Master's Voice" Dance Programme: Foxtrot—Arcadians Dance Orchestra, "In Old Vienna" (Nicholls) (Zonophone 5216).
- Foxtrot—Nat Shilkret's Orchestra, "My Varsity Girl" (Bryan) (EA472).
- Foxtrot—Bert Firman's Orchestra, "Playground in the Sky" (Downling) (Zonophone EE108).
- Barn dance—Bert Firman's Orchestra, "My Lady Dainty" (Hesse) (Zonophone 5118).
- 10.13: Violin—Fritz Kreisler, "Deep in My Heart, Dear" (Romberg) (DA785).
- Waltz—Arcadians Dance Orchestra, "Just a Little Fond Affection" (Nicholls) (Zonophone 5216).
- Waltz—Jack Hylton's Orchestra, "Spanish Rose" (B5481).
- Foxtrot—Bert Firman's Orchestra, "Hooray, Hooray, It's Ray-Ray Raining" (Johnson) (Zonophone EE108).
- Foxtrot—Jack Hylton's Orchestra, "Mercenary Mary" (B2118).
- 10.32: Vocal duet—Winnie Melville and Derek Oldham, "Thinking of You" (Ruby) (EA567).
- One-step—Savoy Orpheans, "Southern Memories" (C1188).
- George Olsen's Music, "Who?" (EA79).
- Foxtrot—George Olsen's Music, "What's the Use of Talking?" (B5813).
- Lancers—Bert Firman's Orchestra, "Community Lancers" (arrgd. Stodden) (Zonophone 5117-8).
- Waltz—Jack Hylton's Orchestra, "The Angelus was Ringing" (Damarrell) (B5481).
- Hilo Hawaiian Orchestra, "Sweet Hawaiian Dreams" (B2328).
- 11.0: Close down.

2YA, WELLINGTON (720 KILOCYCLES)—SATURDAY, NOVEMBER 16.

- 2.30: Relay from Town Hall of opening ceremony of Electrical Traders' Exhibition. Speakers: His Worship the Mayor, Mr. G. A. Troup, Mr. J. M. Fleming, President N.Z. Electrical Traders' Federation.
- During the afternoon a programme of the following items will be given by the Wellington Municipal Tramways Band under the conductorship of Mr. E. Franklin:
- March—"The Great Little Army" (Alford).
- Foxtrot—"Yearning" (Davis).
- Dance—"Hungarian Dance No. 1" (Brahms).
- March—"One of the Best" (Rimmer).
- Overture—"Lustspiel" (Keler Bela).
- Waltz—"Sunset on the St. Lawrence" (Heller).
- Intermezzo—"The Way to the Heart" (Lincke).
- March—"Twentieth Century" (Ord Hume).
- 5.0: Children's session, conducted by Uncle Toby and Aunt Gwen.
- 6.0: Dinner session—"Parlophone" Hour: Overture—Berlin State Opera Orchestra, "Poet and Peasant" (Süppe) (A4116).
- Waltz—Dajos Bela Orchestra, "Viennese Life" (Translateur) (A2829).
- 6.12: Tacet.
- 6.15: Waltz—Dajos Bela Orchestra, "Vienna Bon Bons" (Strauss) (A4056).
- Hawaiian—Kalama's Quartet, (a) "When Summer is Gone" (Harrison-Wilfite); (b) "Neapolitan Nights" (Kerr) (A2838).
- Organ—"The Mill in the Black Forest" (Ellenberg) (2810A).
- 6.28: Tacet.
- 6.30: Edith Lorand Orchestra, (a) "Night song" (Schramm); (b) "Venetian Bells" (Lindsay-Theimer) (E10532).
- Waltz—Dajos Bela Orchestra, "Roses of the South" (Strauss) (A4056).
- 6.42: Tacet.
- 6.45: Valse intermezzo—Edith Lorand Orchestra, "The Flowers' Dream" (Translateur) (E10570).
- Instrumental novelty—Janetzki Trio, "Sleepy Valley" (Sterling) (A2833).
- Barnabas von Geczy's Orchestra, "Flower of Love" (Dreyer) (A2820).
- 7.0: News session, market reports and sports results.
- 7.40: Lecturette—Miss Inez Connop, "Dancing."
- 8.0: Chimes of the G.P.O. clock.
- 8.1: Relay from Electrical Traders' Exhibition at the Town Hall: March—Wellington Municipal Tramways Band, "B.B. and C.F." (Hume).
- Intermezzo—Band, "In a Persian Market" (Ketelbey).
- Soprano—Miss Nora Gray, "The Enchanted Forest" (Phillips).

- Dance—Band, "Hungarian Dance No. 2 (Brahms).
Violin—Mr. W. Haydock, "Caprice Viennois" (Kreisler).
Baritone—Mr. Ernest Short, "Yeomen of England" ("Merrie England") (German).
Cornet solo with band accompaniment—Mr. W. Stevenson, "Zelda" (Code).
Waltz—Band, "Senta" (Raymond).
Weather report.
2YA Salon Orchestra, under the conductorship of Mr. M. T. Dixon, request number.
Baritone—Clem Williams, "Rainbow Man" (Dowling) (Parlophone A2834).
Organ—"St. Petersburg Sledge Drive" (Ellenberg) (Parlophone A2810).
Soprano—Jill Manners, "I'll Always be in Love with You" (Sept) (Parlophone A2835).
Selection—2YA Salon Orchestra, "The Chocolate Soldier" (Strauss).
Patrol—Wellington Municipal Tramways Band, "Jungle Drums" (Ketelbey).
Soprano—Miss Nora Gray, (a) "The Cuckoo Clock" (Grant-Schaefer); (b) "Lindy Lou" (Strickland).
March—Band, "One of the Best" (Rimmer).
Baritone—Mr. Ernest Short, "How's My Boy?" (Homer).
Grand selection—Band, "Maritana" (Wallace).
March—Band, "The Victor's Return" (Rimmer).
Programme from studio:
2YA Salon Orchestra, Dance Novelties.
10.0 : "Parlophone" Dance Programme:
Foxtrot—Baleonades Orchestra, "Sarita" (Glick-Burton) (A2533).
Foxtrot—Sam Lanin's Famous Players, "Dreaming of the Day" (Turk) (A2700).
Foxtrot—Ed. Kirkeby's Orchestra, "My Blackbirds are Bluebirds Now" (Caesar) (A2665).
Waltz—Oliver Naylor's Orchestra, "I'm Just a Vagabond Lover" (Vallee) (A2827).
10.12 : Vocal duet—Ano and Deane, "Think of Me Thinking of You" (Marvin) (A2798).
Foxtrot—Sam Lanin's Players, "Everybody Loves You" (Dubin) (A2746).
Foxtrot—Bob Stephen's Orchestra, "Up in the Clouds" (Kalmar) (A2746).
Slow foxtrot—Barnabas von Geczy's Orchestra, "When the Lilacs Bloom Again" (Doelle) (A2820).
Waltz—Gus Arnheim's Orchestra, "I Can't Do Without You" (Berlin) (A2782).
10.30 : Novelty—Janetzki Trio, "The Rainbow Man" (Dowling) (A2833).
Foxtrot—Bob Stephen's Orchestra, "Thinking of You" (Kalmar) (A2746).
Foxtrot—Gus Arnheim's Orchestra, "Glad Rag Doll" (Yellen) (A2772).
Waltz—Southern Melody Artists, "When the World is at Rest" (Davis).
Waltz—Lew Gold's Orchestra, "Forever" (Yellen) (A2757).
10.45 : Sporting review.
11.0 : Close down.

3YA CHRISTCHURCH (980 KILOCYCLES)—SATURDAY, NOVEMBER 16.

- 12 noon: Results of Canterbury Jockey Club's meeting at Riccarton, interspersed with studio items.
5.0 : Children's session, conducted by Aunt Pat, Chuckle and the Bird Man, relayed from Radio Exhibition, Choral Hall.
6.0 : Dinner Session—"Parlophone" Hour:
Berlin State Opera House Orchestra, "Iris Dances" (Mascagni) (AD012).
Violin—Fenermann, "Traumerei" (Schumann) (E10594).
Dajos Bela Orchestra, "Humoresque" (Dvorak) (E10559).
6.12 : Tacet.
6.15 : Frank Westfield's Orchestra, "Chu Chin Chow" (Selection) (Norton) (A2878).
Novelty piano solo—Raie da Costa, "Good News" (de Sylva) (A2599).
Frank Westfield's Orchestra, "Chu Chin Chow" (Selection) (Norton) (A2878).
Wurlitzer organ—Leslie Harvey, "Flower of Love" (Mendoza) (A2695).
6.27 : Tacet.
6.30 : Orchestra Mascotte, "I'd Like to Kiss the Ladies" (Lehar) (A2650).
Violin—Ormandy, "Souvenir" (Drdla) (A2627).
Orchestra Mascotte, "Siren Magic" (Waldteufel) (A2650).
Wurlitzer organ—Leslie Harvey, "Where the Shy Little Violets Grow" (Warren) (A2695).
6.42 : Tacet.
6.45 : Edith Lorand Orchestra, "The Dollar Princess" (Selection) (Fall) (E10512).
Edith Lorand Trio, "Melody in F" (Rubinstein) (E10639).
Edith Lorand Orchestra, "The Dollar Princess" (Selection) (Fall) (E10512).
6.55 : Tacet.
7.0 : News session.
7.30 : Sports results.
8.0 : Presentation of programme from Radio Exhibition, Choral Hall:
Overture—Orchestra, under conductorship of Mr. Harold Beck, "Light Cavalry" (Suppe).

- 8.7 : Vocal quartet—Valencia Quartet, "Will O' the Wisp" (Cherry).
Soprano with instrumental accompaniment—Mrs. Lucy O'Brien, "A Heart That's Free" (Robyn).
8.13 : Humour—Mr. George Titchener, Funny Stories and Water Scenes (MS).
8.20 : Concertina duet—Messrs. Theo. and Frances Gunther, "Napoleon's Last Charge" (Paul).
8.15 : Tenor and vocal quartet—Mr. T. G. Rogers and Valencia Quartet, (a) "Good Company" (Adams); (b) "Dear Little Shamrock."
8.22 : Orchestra and chimes—Soloist, Mr. Debenham, "Bells Across the Meadows" (Harpo).
8.25 : Baritone with orchestral accompaniment—Mr. Robt. Allison, "The Border Ballad" (Cowan).
8.29 : Humour at piano—Mr. Jock Lockhart, "It All Comes Out of the Rates" (Weston Lee).
Return to the Studio for the following items:
Foxtrot—Carolina Club Orchestra, (a) "Honey" (Simons); (b) "Coquette" (Berlin) (Parlophone A2784).
Vocal and whistling—Franklin, "Angela" (Franklin) (Parlophone A2600).
Kinema organ—Leslie Harvey, "There's a Rainbow" (Jolson) (Parlophone A2696).
Continuation of programme from Radio Exhibition, Choral Hall:
8.45 : Popular song—Mr. Fred Hale, "Raggin' Thro' the Rye" (Adams).
8.49 : Orchestra with solo for bells, xylophone and marimba—"Ole South" Medley (Zamecnik, arrgd. Resteaux).
Contralto with orchestral accompaniment—Miss Nellie Lowe, "Danny Boy" (Weatherley).
8.55 : Baritone with orchestral accompaniment—Mr. E. J. Johnson, "Harlequin" (Sanderson).
8.59 : Weather report.
9.1 : Hawaiian—Miss Elaine Moody's Hawaiians, (a) "Kohala March" (MS.); (b) "Hawaiian March" (MS.).
Vocal solo with guitars—"Chloe" (MS.).
9.10 : Sketch—Miss Mavis Ritchie and Mr. Cyril Collins, "A Restaurant Episode" (Lester).
Return to studio for the following items:
Pianoforte novelty—Merschel Henlere, "Tinkering with Home Sweet Home" (Henlere) (Parlophone A2643).
Male choruses—Parlophone Melody Company, "Convivial Songs" (Parlophone A2511).
Hawaiian—"Russian Lullaby" (Berlin) (Parlophone A2405).
9.35 : approx.: Continuation of programme from Radio Exhibition, Choral Hall:
Duet for two cornets—Soloists, Mr. R. Ohlson and Mr. F. Chapman, "The Two Imps" (Alford).
Bass solo—Mr. J. W. Barsby, "The Ragtime Bass Player" (Locker).
9.41 : Contralto with orchestral accompaniment, Miss Mary Taylor, "Land of Hope and Glory" (Elgar).
9.45 : Humour—Mr. George Titchener, "My Dictionary" (MS.).
9.50 : Concertina duet—Messrs. Theo. and Frances Gunther, "Heliotrope" (Lacoste).
9.53 : Songs at piano—Melody Maids, (a) "Louise" (Whiting); (b) "Honey" (Simons).
10.0 : Jazz solo—Mr. Fred Hale, "Kiss me Again" (Stanley).
10.4 : Hawaiian—Miss Elaine Moody's Hawaiians, (a) "I Do, You Know I Do" (MS.); (b) "Truthful Parson Brown" (MS.).
10.9 : Humour at piano—Mr. Jock Lockhart, "And So Say All of Us" (Weston Lee).
10.12 : Orchestra—"Zampa" (Herold).
Return to studio for the following "Brunswick" Dance Programme:
Foxtrot—Anglo Persians, "The Toyman's Dream" (Golden) (4299).
Foxtrot—Eight Radio Stars, "My Annapolis" (Weinberg) (4272).
Foxtrot—Anglo Persians, "Dance of the Paper Dolls" (Tucker) (4299).
Foxtrot—Colonial Club Orchestra, "There's a Four Leaf Clover" (Colwell) (4247).
Piano solo with trumpet—Lee Sims, "Caressing You" (Fazioli) (4339).
Foxtrot—Colonial Club Orchestra, "O What a Night to Love" (Herbert) (4247).
Foxtrot—Biltmore Hotel Orchestra, "Low Down Rhythm" (Klages) (4376).
Foxtrot—Hal Kemp's Orchestra, "When My Dreams Come True" (Berlin) (4388).
Waltz—Marimba Band, "Wonderful You" (Meskill) (4379).
Waltz—Ray Miller's Orchestra, "My Angelina" (Wayne) (4233).
Organ solo—Lew White, "Louise" (Robin) (4395).
Foxtrot—Biltmore Hotel Orchestra, "Gotta Feelin' For You" (Trent) (4376).
Foxtrot—Hal Kemp's Orchestra, "To Be In Love" (Turk) (4388).
Foxtrot—Red Nicholls' Five Pennies, "Roses of Picardy" (Wood) (4286).
Organ—Lew White, "Evangeline" (Rose) (4395).
Foxtrot—Colonial Club Orchestra, "And Especially You" (Silver) (4381).
Waltz—Eight Radio Stars, "I Found Happiness" (Rapee) (4272).
Close down.

4YA, DUNEDIN (650 KILOCYCLES)—SATURDAY, NOVEMBER 16.

- 3.0 : Town Hall chimes.
3.1 : Selected gramophone items.

- 4.25: Sports results to hand.
 5.0 : Children's session, conducted by Big Brother Bill.
 6.0 : Dinner Session—"Columbia" Hour:
 Medley—H.M. Grenadier Guards Band, "Sir Harry Lauder" medley (Lauder) (02750).
 Waltz—Symphony Orchestra, "Doctrinen" (Strauss) (02529).
 6.12: Tacet.
 6.15: Pianoforte—Gil Dech, "Wedding of the Painted Doll" (Freed) (01549).
 Pianoforte solo—Constance Mering, "So Dear" (Caesar) (01224).
 Waltz Medley—Eddie Thomas' Collegians, (02904).
 Saxophone—Rudy Wiedoeft, "Minuet" (Beethoven) (01170).
 6.28: Tacet.
 6.30: Mandolin Band—Circolo Mandolinistico, "La Traviata—Prelude" (Verdi) (02566).
 Waltz—Symphony Orchestra, "When the Lemons Bloom" (Strauss) (02529).
 6.42: Tacet.
 6.45: Musical Art Quartet—"Mighty Lak a Rose" (Nevin) (01506).
 Saxophone—Rudy Wiedoeft, "Valse Mazanetta" (Wiedoeft) (01176).
 Pianoforte—Gil Dech, "I Kiss Your Hand, Madame" (Erwin) (01549).
 Eddie Thomas' Collegians—"Beautiful Ohio" (Earl) (02904).
 6.57: Tacet.
 7.0 : News session.
 8.0 : Special Radio Exhibition programme on relay from 3YA, Christchurch.
 10.30: "His Master's Voice" dance programme:
 Foxtrot—Connecticut Yankees, "The One in the World" (Little) (EA582).
 Foxtrot—Gus Arnheim's Orchestra, "This is Heaven" (Yellen) (EA583).
 Foxtrot—Connecticut Yankees, "S'posin'" (Razof) (EA582).
 Waltz—Gus Arnheim's Orchestra, "Sleepy Valley" (Sterling) (EA583).
 Waltz—Connecticut Yankees, "Underneath the Russian Moon" (Kendis) (EA585).
 10.45: Wurlitzer organ—Reginald Foort, "Love's Garden of Roses" (Haydn Wood) (B2988).
 Foxtrot—Jack Hylton's Orchestra, "The Toymaker's Dream" (Golden) (EA578).
 Foxtrot—Connecticut Yankees, "The One That I Love Loves Me" (Turk) (EA565).

- Foxtrot—Jack Hylton's Orchestra, "Ever So Goosey" (Butler) (EA578).
 Waltz—Hilo-Hawaiian Orchestra, "Blue Hawaii" (Baer) (EA574).
 11.0 : Close down.

Sunday, November 17

1YA, AUCKLAND (900 KILOCYCLES)—SUNDAY, NOVEMBER 17.

- 3 p.m.: Afternoon session, selected studio items.
 4.0: Literary selection by the Announcer.
 4.8: Studio items.
 5.0: Children's session, conducted by Uncle Leo.
 6.55: Relay of service from Pitt Street Methodist Church. Preacher, Rev. W. Walker; organist, Mr. Bickerton; choir-master, Mr. W. Leather.
 8.30 (approx.): Relay from Auckland Town Hall of concert by the Auckland Municipal Band, under the conductorship of Mr. Christopher Smith.
 Close down.

2YA, WELLINGTON (720 KILOCYCLES)—SUNDAY, NOVEMBER 17.

- 3 p.m.: Chimes.
 3.1: Afternoon session.
 4.30: Close down.
 7.0: Relay of evening service of St. Thomas's Anglican Church, Wellington South. Preacher, Rev. C. V. Rooke, M.A.; organist and choir-master, Mr. W. Gatheridge.
 8.15: Studio concert by Wellington Artillery Band (conductor, Captain T. Herd) and 2YA artists.
 Overture—Artillery Band, "The Golden Star."
 Miss Nita Hopkins, "Consider and Hear Me."
 Record—Cello: Gaspar Casade, "Le Cygne" (Columbia).
 Baritone—Mr. L. M. Assheton, (a) "O Star of Eve"; (b) "Obstination."
 Flower song—Artillery Band, "Lilies at Dawn."
 Mrs. Bernard Wood, "Sapphic Ode."
 Mr. Oliver Foote, (a) "Mifanwy"; (b) "An Embrace."
 Descriptive—Artillery Band, "A Sunday Parade."
 Weather report and announcement.
 Miss Nita Hopkins, (a) "By the Sea"; (b) "The Prayer Perfect."
 String quartet—Virtuoso String Quartet, "Londonderry Air" (H.M.V.).
 Mr. L. M. Assheton, Harbord, (a) "On the City Wall"; (b) "This Passion is but an ember."
 Cornet duet—Sergeant Bowman and Bandsman Houchen, "Panorama."
 Sheffield Male Voice Choir—"The Long Day Closes."
 Mrs. Bernard Wood, "Four by the Clock."
 Selection—Artillery Band, "Andante in G."
 Mr. Oliver Foote, "Come into the Garden, Maud."
 Gayotte—Artillery Band, "Loving Hearts."
 March—"Gardes du Corps."

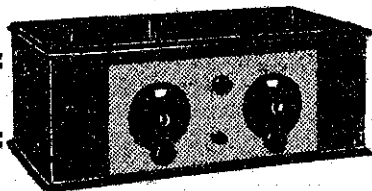
3YA, CHRISTCHURCH (980 KILOCYCLES)—SUNDAY, NOVEMBER 17.

- 3.0 : Afternoon session.
 5.30: Children's song service (Children of Anglican Sunday Schools).
 6.15: Hymn tunes from studio.
 6.30: Studio Concert:
 Organ with chimes—Lew White, "The Holy City" (Adams) (Brunswick 4276).
 Edith Lorand Orchestra, (a) "Liebesfeier," (b) "Prelude in C Sharp Minor" (Rachmaninoff) (Parlophone A4040).
 Violin—Andreas Weissgerber, (a) "Zigeunerweisen" (Sarasate), (b) "Souvenir de Moskou" (Wieniawski) (Parlophone A4105).
 Berlin State Opera Orchestra, (a) "Helen's Awakening," (b) "Funeral March" ("The Egyptian Helen"—Strauss) (Parlophone A4107).
 7.0 : Relay from Ashburton of service from Church of England (St. Stephen's). Preacher, Rev. A. J. Petrie; Choirmaster, Mr. Thompson.
 8.15: Relay from Ashburton of concert by the Ashburton Silver Band under the conductorship of Mr. H. J. Osborn.
 8.15: March—"B.B. and C.F." (Ord Hume).
 Selection, "Semiramide" (Rossini).
 Hymn, "Rock of Ages" (MS.).
 Oriental Phantasy, "In a Chinese Temple Garden" (Ketelbey).
 Horn solo with band accompaniment, Bandsman T. A. Miller, "Iona" (Allison).
 March—"Dusky Dances" (Eden).
 Close down.

4YA, DUNEDIN (650 KILOCYCLES)—SUNDAY, NOVEMBER 17.

- 3.0 : Town Hall chimes.
 3.1 : Selected gramophone items.
 5.30: Children's song service conducted by Big Brother Bill.
 6.30: Relay of service from Hanover Street Baptist Church (Preacher, Rev. E. S. Tuckwell; Organist, Mr. Upton Harvey; Conductor, Mr. H. P. Desmoullins).
 7.55: Weather report.
 8.5 : Programme by the St. Kilda Band, under the conductorship of Mr. James Dixon, on relay from St. Kilda Rotunda.
 Close down.

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The Technician Explains

THIRD INSTALMENT.



I have now dealt both with the number of turns required to obtain a given inductance and with the best or "optimum" diameter of wire for any given broadcast coil. It will be appropriate now to consider the dimensions and shape likely to produce the best results from such a coil under differing circumstances.

In Figs. 1, 2, and 3 are given the theoretical high-frequency resistances of the coils previously discussed when wound with the optimum diameter of wire. It will be remembered that we discussed this question of optimum wire diameter in the issue of September 27, and that the optimum diameter was there given for a series of coils for which the required number of turns was given alongside; this previous paper should be referred to in order to gain a complete understanding of the present one.

A tremendous amount of information can be gained from these charts by the experienced designer. For the present, however, we are only concerned with a comparison of efficiencies; a little later the charts will be put to a more fitting use in assisting in the design of the primary of radio-frequency transformers. It is for this latter purpose that the high-frequency resistance (or radio-frequency resistance) has been given at two frequencies—one would have sufficed for our present purposes. Note, in passing, that the resistance increases with the applied frequency of 1000 kilocycles per second (corresponding to a wavelength of 300 metres) is substantially higher than that presented to an applied frequency of 640 kilocycles per second.

The reason for this increase in resistance with increasing frequency is, as may have been guessed, that the "skin effect" and "proximity factor" discussed in the last paper both increase in a most decided fashion with the frequency. In dealing with very high frequencies (e.g., short-wave reception) these phenomena render it very difficult indeed to design coils having any pretensions to efficiency, the most promising results being obtained with windings of copper ribbon or a number of parallel wires flat-wise wound. Both these expedients aim at reducing the "skin effect," the scheme of winding with a number of parallel wires also assisting in reducing the proximity factor by reason of the two outer stands shielding the inner ones from the a.c. field of the adjacent turns.

The first of the two points which, for the present, arise out of the resistance charts, is that of the best, or "optimum" ratio of length to diameter. Here it is necessary to explode another little theory which has at various times held sway in quarters where it should not have been entertained for one moment. The theory referred to is one arising out of the fact that, in winding a wire of given length into a coil of given diameter, the greatest inductance will be reached when the diameter is 2.46 times the winding length.

From this fact it was injudiciously assumed that a coil fulfilling this ratio

Inductance Coil Design

(By "CATHODE")

of length to diameter would be of the greatest possible efficiency. Nothing could be further from the case. So far is this assumption from the truth, indeed, that if we double the winding length—even if we more than double it, making it equal to the coil diameter, we have still not reached the optimum ratio of length to diameter.

As a matter of fact, there is no constant ratio of length to diameter giving maximum efficiency. So far as the broadcast band is concerned, however,

diameter is likely to be more than compensated by the less extended magnetic field of the smaller coil and the consequent reduction of absorption losses occasioned by surrounding apparatus.

Thus it would seem that, so far as a single coil is concerned, there is every reason for so designing it that its winding length is approximately equal to its diameter. If anything, the winding length should be less than the diameter rather than more, as the increase in resistance will be but slight provided the length is not made less than three-quarters the diameter, while the reduction in incidental losses by reason of the smaller field may be substantial. It is not always that a single coil is used for coupling, the principal instances of this form of coupling in present-day practice being a tuned-plate or a parallel-feed coupling following a screened-grid valve. Both tuned-plate coupling and parallel feed are too familiar to the average constructor to merit description here, parallel feed in particular having been treated by the writer in a simple analysis in these columns quite recently (*The Efficiency Parallel Feed*, "Radio Record," October 4, 1929).

When two coupled coils are concerned, as in the case of a radio-frequency transformer following a three or four-electrode valve, the problem is somewhat complicated by the necessity of securing a high coupling-factor. It would seem, however, that this subject can most appropriately be treated in a future article dealing generally with the design of the primary. For the present it will be sufficient to mention that the desirability of a high coupling-factor usually renders it desirable to reduce the winding length still further; where efficiency is aimed at, however, it should never be reduced to less than half the diameter.

Optimum Coil Diameter.

HAVING disposed of the ratio of winding length to diameter for the present, we arrive at the next problem, that of the optimum coil diameter in any particular circumstances. There are so many different factors to be considered in making a decision regarding this question that it is impracticable to lay down any set rules. The most that can be done is to indicate the factors which should receive attention, showing their relative effect and perhaps making one or two guiding suggestions; for the rest the individual designer must make his own decision.

This much is clear; that, within the limits ordinarily encountered, the greater the coil diameter, the greater the efficiency. It can readily be seen from Figs. 1, 2, and 3, that a coil having a diameter of 3 inches has a substantially less resistance than one (of the same inductance and shape) having a diameter of 2 inches. Thus, if coil efficiency were the only thing to be considered, there would be little object in contemplating the use of coils

of a less diameter than 3 inches, although coils of greater diameter might be objected to on account of their bulk.

It is, in fact, the case that in a receiver employing only one coil, or, where wide separation can be readily obtained, two coils, the greatest sensitivity can be secured with coils having a diameter of 3 inches or more, provided that no further apparatus or screening is mounted adjacent to the coils to introduce absorption losses; this is at least one thing that can be stated definitely. It is unfortunately the case that such conditions are seldom encountered. More often we wish to mount two or more coils in fairly close proximity without encountering instability, or we are anxious to make our receiver compact, or to screen each stage in a metal shield, or to use screened coils, or to do some other thing which, were coils of larger diameter to be used, would result in either excessive losses or instability.

Causes of Instability.

SINCE instability is the thing principally to be avoided, it may be dealt with first.

In a receiver employing for high-frequency amplification either a screened-grid valve or a neutralised three-electrode valve, instability can result only from magnetic coupling between a coil in the plate circuit of the amplifying valve and one in its grid circuit—or, what is the same thing, one in the plate circuit of the preceding valve; the measure of this coupling is the mutual inductance of the two coils.

In case the term "mutual inductance" should not be a familiar one, it may be explained that where two coils are mounted so that their magnetic fields interlink, the total inductance of the two coils is not merely the sum of their separate inductances, but is greater or less than this by twice the "mutual inductance," which may be either aiding, that is, adding to the sum of the separate inductances, or opposing, that is, subtracting therefrom. It is this "mutual inductance" forming, as it does, a part of both plate and grid inductances, which is responsible for the feed-back causing instability; therefore, in arranging a high-frequency amplifier without screening, it is necessary to ensure that the mutual inductance is too low to provide adequate feedback to sustain a condition of oscillation.

A number of experiments served to show that, even with fairly efficient broadcast coils, a reduction of the

A MONTHLY GENERAL MEETING of the Amateur Radio Society will be held in the—

CAMBRIDGE TERRACE CONGREGATIONAL CHURCH HALL

On TUESDAY, 12th November, at 8 o'clock.

By courtesy of the N.Z. Association of Radio Transmitters

MR. C. G. LIDDELL (2BI)

Will deliver a Lecture on

"Methods of Testing Loud-speakers for Various Frequencies"

A large attendance is particularly desired at this meeting, and all members of the N.Z.A.R.T. and others are cordially invited to be present.

A. G. H. LAWS, Hon. Secretary.

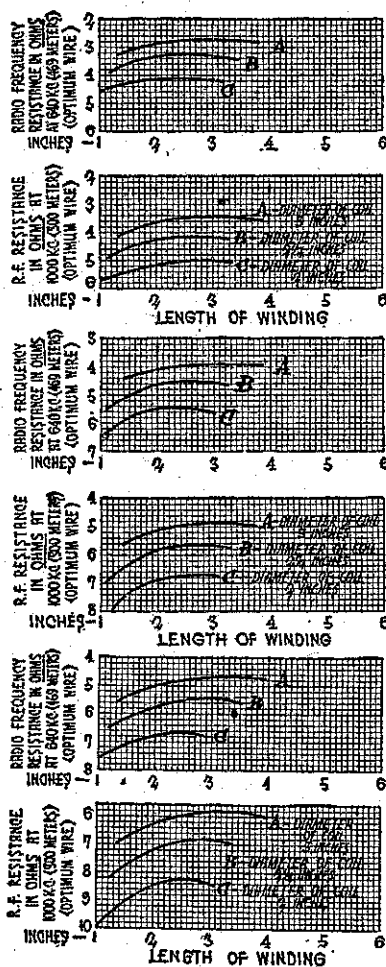


Fig. 1.—Wire Data for 200 m.h. Coil to be tuned from 200 to 600 metres with .0005 mfd. Condenser.
Fig. 2.—Wire Data for 280 m.h. Coil to be tuned from 230 to 580 metres with .00035 mfd. Condenser.
Fig. 3.—Wire Data for 340 m.h. Coil to be tuned from 250 to 550 metres with .00025 mfd. Condenser.

we can gain some idea of what ratio is desirable from a study of Figs. 1, 2, and 3. From these it will be seen that there is practically no advantage in increasing the winding length beyond 1.18 or 1.1 times the coil diameter. In practice, the increase in resistance involved by a reduction of the winding length until it equals the object in contemplating the use of coils

RADIO DIRECTORY

What to Buy and Where

CITIES

- AERIAL MASTS** Domestic Radio Co., Ltd.,
300 Queen Street, Auckland.
- ALTONA & HAMMARLUND-ROBERTS SETS.** Johns, Ltd.
Chancery Street, Auckland.
- AMPLION LOUDSPEAKERS** . All Radio Dealers.
- BURGESS RADIO BATTERIES,** All Radio Dealers.
- CROSLEY RADIO** Abel, Smeeton, Ltd.,
27-29 Customs St. E., Auckland.
- CROSLEY RADIO RECEIVERS** G. G. Macquarrie, Ltd.,
120 Willis Street, Wellington.
- CROSLEY RADIO** Abel, Smeeton, Ltd. Rep.: G. MOSES,
James Street, Mangarei.
- DAYTON All-Electric Radio** ... Superadio, Ltd.,
147 Queen Street, Auckland.
- EMMCO RADIO PRODUCTS** Johns, Ltd.,
Chancery St., Auckland.
- EMMCO RADIO PRODUCTS** Thos. Ballinger & Co., Ltd.
Victoria St., Wellington.
- EMMCO RADIO PRODUCTS** L. B. Scott, Ltd.,
Worcester St., Christchurch.
- KING RADIO RECEIVERS** ... F. J. W. Fear & Co.,
63 Willis Street, Wellington.
- LISSEN RADIO PARTS AND KITS** All Radio Dealers.
- LOUDSPEAKER AND TRANSFORMER REPAIRS** A. E. Strange,
404 Worcester Street, Christchurch.
- MAJESTIC RADIO RECEIVERS** Kirkcaldie & Stains,
Chief Wellington Agents, Lambton Quay.
- MULLARD VALVES** All Radio Dealers.
- PILOT 1930 PARTS AND KITS, ETC.** Abel, Smeeton, Ltd.,
27-29 Customs Street East, Auckland.
- PILOT 1930 PARTS—PILOT SUPER WASP KITS, GILFILLAN, KELLOGG and ATWATER KENT SETS** Harrington's, N.Z., Ltd.,
138-140 Queen St., Auckland.
40-42 Willis St., Wellington.
- RADIOLA RECEIVERS and Expert Radiola Service.** Farmers' Trading Co., Ltd.,
Hobson Street, Auckland.
- RADIO REPAIRS AND SERVICE** E. G. Shipley,
185 Manchester Street, Christchurch.

COUNTRY TOWNS

- CROSLEY RADIO** J. C. Davidson,
Main Street, Pahiatua.
- CROSLEY SETS** Abel, Smeeton, Ltd. Rep.: C. RUSCOE,
409 Devon Street, New Plymouth.
- CROSLEY RADIO** D. A. Morrison & Co.,
Victoria Avenue, Wanganui.
- MAJESTIC ELECTRIC RADIO** Berryman's, The Home of Music,
Palmerston North.
- MAJESTIC, ATWATER-KENT AND RADIOLA ELECTRIC SETS** Radio House, Hamilton.
G. S. Anchor, Manager.
- PHILIPS VALVES AND APPARATUS** All Good Radio Dealers.

coupling to the point where the mutual inductance was of the order of microhenry, was sufficient to ensure stability of a two-stage high-frequency amplifier. To attain this low figure with coils having a diameter of three inches entailed a spacing so great as to militate against compactness; coils of diameter 2½ inches, however, could fairly readily be arranged to have a mutual inductance of less than one microhenry by spacing them a reasonable distance apart and positioning them so that their axes were mutually perpendicular—that is to say, the first coil might be mounted vertically, the second horizontally, and the third also horizontally, but at right angles to the second.

With coils having a diameter of 2 inches, it is a comparatively easy matter to reduce the coupling to the required point. As an example, Fig. 4 gives in graph from the mutual inductance between two 2-inch coils mounted

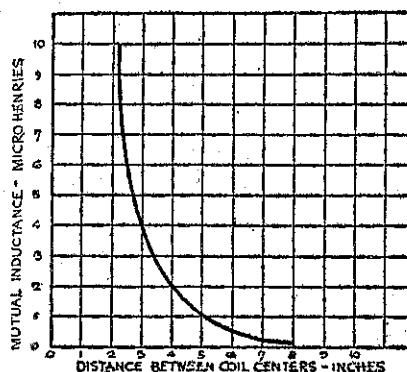


Fig. 4.—Curve showing Coupling between Two Coil Secondaries having Parallel Axes.

vertically and at varying distances one from the other. It will be seen that, mounted with centres 5 inches distant, the coupling was reduced to the required one microhenry. Furthermore, having all coils vertically mounted reduces the possibility of impairing their performance by mounting metallic objects within the intense part of their field; any coil of solenoid form has a comparatively weak field at the side of the coil, the major field being concentrated at the ends—thus, with horizontally-mounted coils, the woes of the designer are added to by the necessity of keeping other apparatus well away from the ends of the coil.

Where more than two high-frequency stages are purposed, it becomes impossible to mount the necessary four or more coils with their axes mutually perpendicular, so that we are more or less forced to the use of small diameter coils. It must not be forgotten, however, that unless the dictates of efficiency are departed from by introducing resistance or other losses into appropriate points in the circuit (e.g., stabilising grid resistance between the grid of the radio-frequency valve and the preceding radio-frequency transformer, the coupling must be reduced below the 1 microhenry mentioned as being sufficiently low for a two-stage amplifier. The problem may be solved either by increasing the spacing or reducing the dimensions of the coil. In practice, however, increasing the spacing is undesirable, owing to the huge dimensions attained by the finished re-

Eliminating Interference

Use of a Counterpoise

IN localities where interference from power mains or electrical machinery is experienced, an improvement may be effected by the use of a counterpoise earth. This consists of two or more wires arranged, if possible, symmetrically underneath the aerial. It is important that these wires should be just as well insulated from earth as the aerial itself.

For example, if a three-wire counterpoise is to be erected, the central wire should be arranged exactly underneath the aerial, and the two outer wires should run parallel to this at a distance of about four feet. If this is impracticable, the counterpoise should be erected as nearly in this position as possible.

The height of the counterpoise above the ground may be anything from one foot to eight feet, the former distance being the more effective, and the latter the more convenient. All the wires should be joined at one end and a single lead then taken to the earth terminal of the set.

An Effective Insulator

For Preventing Short Circuits

THE risk of short-circuiting is considerable in a set which employs screened coils, or which has the shields or cores of the transformers earthed. This is due to the large areas of exposed metal which are connected to the A battery supply, and which may be connected accidentally to a B battery positive lead. Though contact may be only momentary, yet the high voltage thus applied would probably burn out the valve filaments.

The risk of short circuits can be greatly reduced by covering such exposed metal surfaces with an insulating layer. A simple and effective method of doing this is to apply two coats of quick-drying stove enamel or shellac varnish to these surfaces. In the case of earthed transformers it is also necessary to paint the heads of the base-board screws if these pass through metal lugs in electrical contact with the frame or the shield.

This method of providing insulation is an exceedingly useful one for other purposes as well. Bare leads, for example, can be protected in this way after the wiring of the receiver has been completed. Soldered connections to tags can be insulated in the same way. Precautions should be taken, however, to prevent the enamel or shellac from running under terminals or over ebonite insulation.

ceiver, while reducing the coil diameter below 2 inches also reduces its efficiency disproportionately and impairs selectivity; the best compromise is the use of series grid resistances.

(To be concluded next week.)

Useful Tips and Jottings

A Terminal Substitute.

SMALL springs, made from phosphor bronze wire, from handy connectors for the constructor when making temporary connections or when carrying out experimental "hook-ups." These are wound in a solenoidal shape on a cylindrical former about $\frac{1}{4}$ in. in diameter. A good electrical contact may be made by pressing the ends of the wires to be joined between the turns of the spring. This method of making connections is also applicable when it is necessary to join two or more pairs of head-phones in series or parallel.

A "Permanent" Crystal Detector.

WHERE a crystal used in a set is of the type which requires a very light pressure of the whisker on its surface, it is very annoying to find that the slightest vibration, such as that caused by a person walking across the room, upsets the adjustment. This trouble can be easily avoided by stretching a little muslin cap across the surface of the crystal. The whisker is then moved into contact with the crystal as usual, and the fine mesh of the muslin holds it permanently in position. Incidentally, the surface of the crystal is kept free from dust, which is injurious to its sensitivity.

A Non-Corrosive Soldering Flux.

SPIRITS of salts (i.e., hydrochloric acid) should never be used as a flux in radio constructional work, because of its corrosive effect on copper. The set would probably function quite efficiently for a time, but it is quite likely that after a period the wiring would be completely eaten through. A good plan is to use "hard" solder in conjunction with a paste flux made by dissolving resin in methylated spirits.

Repairing Ebonite Panels.

OLD ebonite panels which have unwanted holes drilled in them can be quite effectively repaired by the use of threaded ebonite rod. To stop a 3-8 in. hole, for example, a piece of 7-16 in. ebonite rod may be used. The hole is tapped 7-16 in., and a short length of rod previously smeared with Chatterton compound, is screwed in. The rod is cut off flush, and after the panel has been well rubbed down with knife powder and oil, the repair is almost indistinguishable.

A Precaution in Screen Construction.

WHEN designing a completely screened receiver, it is a good plan to make up full-sized cardboard patterns of the parts that will afterwards be made from sheet metal. The exact dimensions of the portions to be cut away, and the positions of all holes required, can thus be determined, without any possibility of error. If first-class results are desired, drilling should always be completed before shaping is commenced. The cardboard patterns enable this to be done efficiently.

To Remove Surplus Flux.

FREQUENTLY, after wiring and soldering a set, it is found that thin layers of flux remain spread over the adjacent surfaces. The panel must be cleaned if no leakage is to result. A little benzine or methylated spirits applied with a small paint-brush will en-

able even inaccessible positions (such as those which exist between valve pins or coil sockets) to be thoroughly cleaned.

B Battery Efficiency.

STRICTLY speaking, when the valves of a receiving set are not incandescent, no current should flow from the B battery. When the set is not in use however, it will always be found advisable to disconnect either one or both of the B battery leads. This eliminates the possibility of panel leakage, which, though, perhaps, very slight, yet in time would seriously impair the usefulness of the B battery.

Mounting Panel Meters.

WHEN a flush-fitting meter is to be mounted on a panel by means of three bolts passing through a flange round the meter, it is as well not to drill every hole before mounting. One hole should first be drilled, and the meter bolted into the desired position. The next two holes can now be drilled, and the mounting completed. If all the holes are drilled first, the holes in the meter and in the panel probably will not coincide, unless very accurate measurements are made.

Instrument Protection.

THE efficiency of sensitive measuring instruments may be easily impaired by placing them too near powerful motors, dynamos, loudspeakers, or mains units. Powerful permanent magnets, such as those used for moving-coil loudspeakers, create strong magnetic fields around them. For this reason, close proximity to any of the above instruments is to be avoided. A delicate watch, for example, may quite easily be magnetised, and thus ruined.

Drilling Large Holes.

THE process of drilling holes of large diameter in ebonite or wood is not an easy one for those who do not possess a good fret-saw. Good results may be obtained, however, by utilising the following method. With a pair of sharp-pointed dividers, scribe a circle of slightly less diameter than that required. This is to allow for a succession of fine drill holes around the circumference thus marked. When the centre has finally been drilled out, the indentations should be trimmed down with a sharp knife. A smooth finish is finally obtained by running first a fine file and then glass-paper round the edges of the hole.

For Transformer Protection.

THE burning out of a low-frequency transformer can often be attributed to a too sudden application of current, and, in order to avoid this happening, the filament current should be turned off via the filament rheostats, so that this becomes a gradual change. Alterations in high-tension voltage can then be made as desired, after which the valve filament may once more be heated in a gradual manner. If this expedient is adopted, sudden rushes of current in the anode circuit will be prevented, and risks of transformer damage are thus considerably reduced.

Renewing Valve Life

A Method for Restoring Emission

SOME types of valves, notably the older dull-emitters, employ metal filaments coated with thorium. If this class of valve is overheated part of the filament surface coating evaporates, thus considerably reducing emission. Distributed throughout the core of the filament is additional thorium, and if this can be brought to the surface the life of the valve is renewed.

The loss of emission may be due to two causes. Firstly, the B battery supply may have been momentarily flashed across the filament by accident. Secondly, the A battery voltage supplied to the valve may be higher than the manufacturer's rating.

Restoration of filament efficiency can be accomplished with valves in which the filament is of the thorium-coated variety. Oxide-coated filaments, which usually operate at a dull red glow, do not appear to benefit from this treatment when once their emission has been lost.

The actual method of applying the restoring process is to connect the filament in series with some constant source of supply. The filament is then maintained at its correct temperature

of operation for two hours or more. There are two simple methods of carrying out the above "cooking" process.

(a) An accumulator of suitable voltage is connected directly across the filament pins and left in circuit for about two hours. The valve is then tried in a set, and if results are not up to standard, the "cooking" process should be tried for another hour or so.

(b) The second method of applying the necessary constant voltage is by the use of a step-down transformer which delivers across the secondary terminals an approximately correct voltage for the valve to be treated. It is an advantage to secure a transformer arranged with taps on the secondary, so that it may be used for 2, 4, or 6-volt valves. A rheostat is arranged in series with the secondary winding to give an accurate adjustment of the voltage applied.

The actual treatment of the filament is identical with that employed when an accumulator is used.

OCEAN stockbroking is now an accomplished fact, and in the near future every big liner will be fitted with a radio tape-machine. Whilst the Majestic was on her way from New York to Southampton recently, a message asking for a certain stock quotation was handed in to the wireless operator. The reply was in the hands of the passenger two-and-a-half minutes after he had made his request!

RADIO LISTENERS' GUIDE.

1929-30 Edition of the Guide has been well received and repeat orders are coming in rapidly.

The "Guide" is of more than passing interest—it is **AN AUTHENTIC REFERENCE WORK** that can be called upon to answer all those questions that trouble the amateur wireless enthusiast.

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Development of Wireless in Australia



THE British Empire to-day possesses the most efficient long-distance communication in the world, and this achievement is due mainly to the development of the beam wireless service. In this triumph Australia has not only played a very great part, but in the development of many phases of wireless in general, she has led the world. To-day it is possible to enter any post office in the Commonwealth and send a message via Beam, to some of the most remote places of the world.

The Beam wireless service between Australia and Europe, owned and operated by Amalgamated Wireless (Australasia), Ltd., was opened for commercial traffic in 1927, and almost immediately leapt into public favour. Additional Beam facilities were made available in 1928, by the opening of the service between Australia and North and South America, and now by day and night messages are being flashed across oceans and continents directly and instantaneously. It is by far the most speedy method of international communication, and is operated entirely without retransmissions or relays. An interesting illustration, and one that seems almost incredible, is afforded by the fact that a message of 125 code-words could be in London one minute after transmission had commenced in Australia.

The establishment and maintenance of this nation-wide service was carried out under the supervision of Mr. E. T. Fisk, managing director of Amalgamated Wireless (Australasia), Ltd., who, for the last decade had not only visualised such an international service, but had consistently advocated and educated the powers that be to a realisation of the need for such a service. For over ten years he studied every possible phase of trans-oceanic communication, and overrode the opinions and protestations of those who believed that the only system which could be efficiently operated was one of relays. Mr. Fisk has, largely by his own efforts, built up the A.W.A. into one of the largest, up-to-date, and most efficient wireless organisations in the world to-day. This company has controlling interests in practically every phase of wireless in the Commonwealth, and a few of its activities in this sphere will now be mentioned.

A further enlargement on the situation and operation of the beam service stations would not be out of place because of the vital importance of this epoch-making achievement. The beam wireless transmitting centre is situated near Ballan, about fifty miles north-west of Melbourne, and the receiving centre is at Rockbank, eighteen miles from Melbourne, in the same direction. At Ballan there are two transmitters, one of which is used for sending messages to London, whence they are distributed through Europe, and the other of which transmits to Montreal all messages for the North and South American continents. Messages are transmitted to the beam station from the Sydney or Melbourne radio centres, both of which are owned and operated by the A.W.A. No less than eight transmitters are locat-

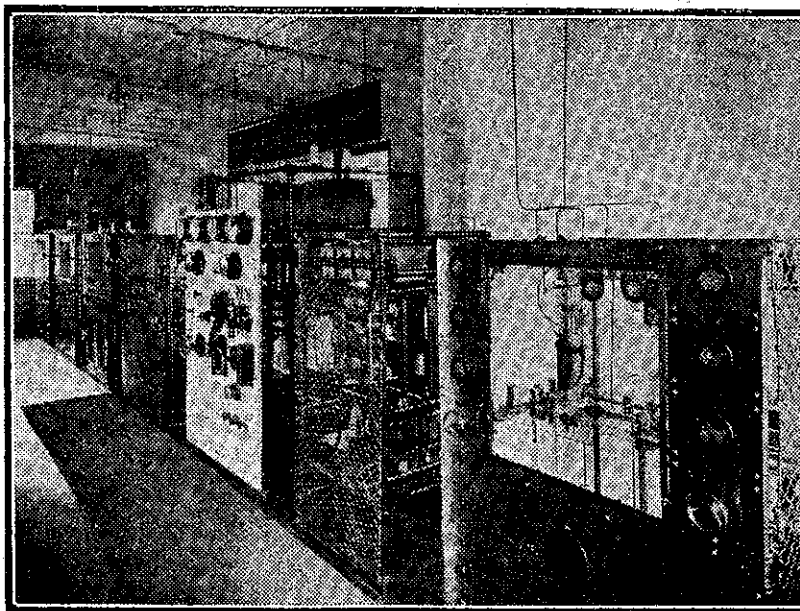
Activities of a Strong Organisation

ed in the Sydney radio centre, and they are all operated by "remote control" from the various headquarters of the organisations using them. Overlooking Botany Bay, is located the Sydney Receiving Centre of A.W.A., the largest and most important receiving station in the Southern Hemisphere. Nine separate and distinct services are maintained there, ranging from the beam feeder service from Melbourne to the trawler tele-

phony service for communicating with fishing boats off the New South Wales coast. This La Perouse station has become famous throughout the world for the many noteworthy interceptions carried out there. From the time the "Southern Cross" left San Francisco until it reached Australia, operators at La Perouse were in constant touch with the plane, and by this achievement, a record for plane to earth communication was established.



A.W.A. STATION 3EX, MELBOURNE.
Showing Control Panel, Modulator, Oscillator, and Switchboard of this 500-watt Power Station.



RADIO CENTRE, SYDNEY.
Hall containing 20 k.w. Short Wave Telegraph and Telephone Transmitter Panels. Reading from left to right:—
(1)—No. 1 Magnifier. (4)—Keying Unit.
(2)—No. 2 Magnifier. (5)—Main Rectifier Unit.
(3)—No. 3 Magnifier and Drive. (6)—Drive Rectifier Unit.
(7)—Modulator Unit.

Radio history was advanced three stages during 1928, when Mr. Fisk added still more achievements to the many brilliant pioneering demonstrations of the company. Two-way wireless telephone communication was effected with three different countries, all of them being situated at almost the most remote limits of the world. Conversation was successfully exchanged with New York, Amsterdam, and London. In the last instance Mr. Bruce, then Prime Minister of Australia, conversed for some time with Lord Passfield, Secretary of State for Dominion Affairs.

Probably the greatest benefit which wireless has conferred on mankind is its application to shipping and navigation generally, particularly as a means of ensuring the safety of life and property at sea. Ever since the company's inception, it has devoted a large proportion of its resources to the development of apparatus for the various purposes of marine communication and navigation. It is universally realised that every passenger ship is equipped with efficient wireless apparatus, but it is not generally known that through carefully planned international arrangements, it is possible to hand in a telegram at any town or village which has a telegraph office, in any part of the world; and to have that message dispatched through various land lines, cables, and wireless stations, to a person on board a ship in any part of the world.

For example, if one is for instance on board ship off the coast of South America, a message could be handed in to the wireless operator and dispatched to a person in Alaska, Italy, Australia, or elsewhere, with the assurance that it would reach its destination in a few hours.

THE Coastal Radio Service, also controlled by the A.W.A., Ltd., plays a very effective part in the inter-communication of the people of Australia and those of the adjacent islands. It is also of material benefit to ships at sea. The service comprises 29 stations, and they are so organised and controlled that at any time of the day or night messages can be exchanged with vessels within 500 miles of the coast. The night range of these stations is anything up to 3000 miles, and with a special short-wave apparatus communication with ships in European and Eastern Pacific waters is maintained.

Not the least importance of the A.W.A.'s activities has been their establishment of a network of some twenty-five or more stations in the Pacific Islands. Three large centres are established, the most important being located at Suva, Fiji. This station handles overseas traffic to Great Britain and the Continent, via the Beam Service, and its daily broadcasts of weather reports have proved of great value to shipping and to the surrounding islands, especially in the hurricane season. The development of this network of commercial wireless stations in time of peace gives assurance that they will be up to date and available for defence purposes in time of war. Should such a contingency arise, a trained personnel and a full equipment would be available on short

notice for the extension of the services, or for the replacement of existing equipment, which might be damaged or destroyed.

What may be regarded as the most interesting development undertaken by A.W.A., is their organisation and maintenance of their many broadcasting stations through Australia. The A.W.A. were pioneers in this respect in Australia, and as far back as 1920 Mr. Fisk gave a public demonstration of wireless broadcasting. Late in the same year, he arranged a complete public broadcast concert in the Queen's Hall, Melbourne, and in January, 1921, a weekly broadcast service was inaugurated at Melbourne. The high standard maintained by the principal Australian broadcasting stations to-day is primarily due to the research and experimental work carried out by the engineers of the A.W.A.

PHOTOGRAPH 2 shows the transmitting equipment of the A.W.A.'s new station **SEX**. This equipment is a popular feature of the All-Australia Exhibition, Melbourne, and appreciative letters regarding the performance of this station every evening have been received from listeners situated as far distant as West Australia and Otago. The power of this station is 500 watts, the wavelength 240 metres (1250 k.c.), and transmissions take place every evening, excepting Sundays. A show room is maintained also by the A.W.A. at this Exhibition for displaying their extensive range of Radiola receiving sets. The introduction of the new all-electric Radiola is the result of extensive research on the part of A.W.A. engineers, and it is regarded by experts as an instrument years ahead of its time.

Such headway in all branches of wireless could not have been made had the company not established efficient manufacturing facilities. The company's radio electric works at Sydney are replete with a full range of the most modern types of machinery, specially lead out for the production of wireless apparatus of every description, for use on land, at sea, or in the air. Their efficient world-wide services were built up and maintained solely by the use of apparatus which is everywhere recognised by experts as being the equal in design and performance to equipment produced overseas.

By the production of such high-grade equipment and by the varied activities of the A.W.A., Australia's one real disadvantage, that of isolation, is being eliminated. In the near future direct wireless telegraph, direct wireless telephone, and wireless picture services will be established with every important centre in the world, and at the same time Australia will probably become the wireless centre of the Southern Pacific. No other country has so much to gain from the full development of wireless communication, and its invention is the greatest gift science can give to Australia.

Radio on the Bremen

A Comprehensive Equipment

THE new German liner, the Bremen, which recently took the coveted Blue Riband from the Mauretania by establishing a new trans-Atlantic speed record, is equipped with the most modern type of radio apparatus. Usually the wireless installation on a ship is fitted in an ordinary cabin, but on the Bremen wireless has been regarded as an integral part of the ship's organisation. Hence, on the top deck, two spacious cabins have been provided for the power installations. One of these houses all the generators and similar apparatus, together with a workshop for running repairs to be carried out at sea. The other cabin contains the high and low-tension accumulators.

Apart from these power cabins, there are five main operating rooms. The first contains the main wireless transmitters and receivers; the second is specially devoted to long-distance reception; the third is the office in which one or more operators are always in attendance for dealing with the delivery and acceptance of radio telegrams from passengers; and the fourth cabin is another office for passengers to hand in their telegrams direct to the wireless operator on duty.

There is also another room, sound-proof, where passengers can speak direct by wireless telephone to their friends on any passing ships or to their friends on shore. For this purpose, the Bremen has been fitted with a special wireless telephone set, so that passengers in mid-Atlantic can be connected by land-lines to almost any part of the civilised world.

On her maiden voyage, the Bremen carried six wireless operators, but traffic during the trip was so heavy that the number has now been increased to ten. These operators have their own cabins connected by telephone to the main wireless office, while the chief operator is in direct communication with the captain and other chief officers of the vessel.

All the generators and motors on the top deck are controlled by automatic starters operated from the main wireless cabin by a push button control box, so that no sound or interference caused by the motors can penetrate to the control cabins.

The transmitter, which is of the oscillator-driven type, is readily adapted to give continuous wave, interrupted continuous wave and telephony. Wavelengths of from 500 to 3000 metres are provided, and the aerial energy is 3 kilowatts. The circuit arrangement permits of exact calibration of the master oscillator, and wavelength changes are effected in less than thirty seconds. Direct current at 4000 volts is taken from a rotary machine. In addition to the main transmitting

equipment are three other transmitters. One of these is a short-wave long-distance set using 700 watts power. Provision is made for telephony transmission with this short-wave set, and in order to comply with the requirements of the Washington Convention, long-distance telephony transmissions will shortly be transferred from the main transmitter to this equipment.

A medium-wave transmitter is also installed for handling traffic at short range, and consists of a modulated continuous wave set with a wave range of 580 to 830 metres, and an aerial power of about 200 watts. Finally, there is the $\frac{1}{2}$ kilowatt emergency equipment, an accumulator-driven spark set which is independent of the ship's power supply.

Each of these transmitters is provided with a separate receiving set, each set can be worked independently or otherwise, as desired. Duplex working can be carried out by two operators working at the same time on the main set, while simultaneously a third operator can receive Press, weather, or time signal reports.

The Bremen is also fitted with a direction-finding set and an electric depth-finding apparatus. By means of these two important aids to navigation, ship's officers can calculate the exact position of the ship in any weather.

Two of the motor-driven lifeboats of the Bremen are equipped for both transmission and reception. Collapsible masts support a small two-wire aerial, and power is derived from a 24-volt accumulator applied to an alternating current generator.

Radio Abroad

AS a result of conferences between British and American broadcasting representatives, regular exchange programmes will be commenced shortly on both sides of the Atlantic. Within a year it is probable that millions of listeners in America will be able to hear the roar of seaplanes competing for the Schneider Trophy, or perhaps the clash of arms at one of London's huge military reviews. Radio engineers of two prominent British companies are now engaged in perfecting a short-wave transmission system which will enable owners of even the weakest of sets to receive these trans-Atlantic programmes. Because of possible defects in transmission, however, no attempt will be made to broadcast any items of a musical nature.

LISTENERS to station WGY, Schenectady, were entertained recently by a very novel broadcast, which consisted of the noise made by flying atoms as they passed through a sheet of aluminium. Radium and other radioactive elements continually emit streams of atomic particles flying with the amazing speed of approximately ten thousand miles per second; and several years ago a German scientist named Geiger invented an apparatus to collect and count these shooting atoms. Each tiny particle passes through a thin window of aluminium, the speed of the atom being so great that it shoots through without being stopped. The atomic projectile electrifies gas atoms contained in a inner chamber, and thus the gas for an instant becomes a conductor of electricity. The tiny pulse of electric current produced by the arrival of the atomic bullet is then amplified millions of times, until it is able to actuate a loud-speaker. The resultant noise, as of hail pattering against a window pane, provided a unique and interesting broadcast.

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Short Wave Facts.

DR. VAN DE POL, who has been analysing the world-wide reports on the signals of PCJ, has discovered that England, Holland, Denmark, Belgium, France and Germany received weaker signals than the remoter countries of Europe. This supports the "skip" distance theory. India, China, and Japan received maximum signals when the complete track of waves was in darkness. In Australia and New Zealand two daily signal maxima were noticed, one when the eastern route to the Antipodes was in darkness and the other when the western track was dark. The wavelength used when these observations were made was 30.2 metres.

"Write Down" Word Tests.

INFORMATION has come to hand regarding the "write down" tests so often heard.

The station is under the control of Bell Telephone Laboratories, its call sign being 2XG, Deal, New Jersey. Every other Friday they transmit on five different wavelengths—11, 14, 18, 28 and 44 metres.

The tests run from 4.30 p.m., United States Eastern standard time, to 9 p.m. (9 a.m. till 1.30 p.m. the following day, N.Z. mean time). The word tests are made for the purpose of determining the usefulness of the circuit.

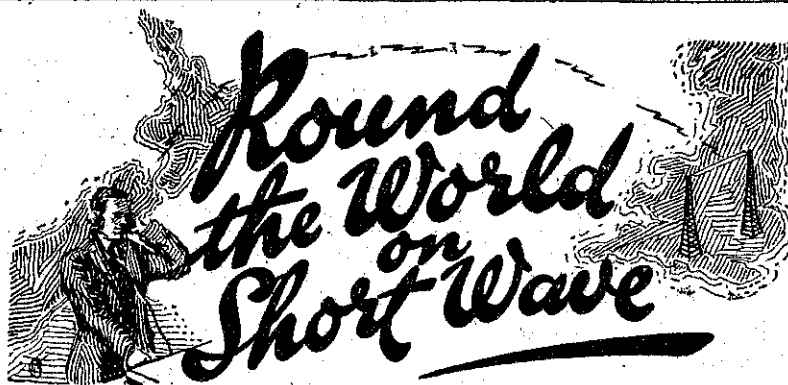
European Short Wave Stations.

I AM indebted to Mr. R. T. Stanton (Christchurch) for the following news which he received from an English "short wave" friend:—

Motala, Sweden, on 99 metres, relays the Stockholm programme. No fixed hours of operation. Coethen, Germany, call sign D4AFF on 43.6 metres, operated by State Technical College, Coethen. Experimental transmissions. Zeesen, Germany, on 31.88 metres, relays the programme from Königswusterhausen from 8 p.m. Greenwich mean time.

The last-named station is the German reported in the notes as being heard nearly every morning. This is confirmed by the programme in "World Radio" of Königswusterhausen on Friday, August 30, which reads as follows:—8 p.m. "The Messiah," oratorio (Handel), from Neuen Welt, Hasenheide, followed by News and Transmission of Pictures from Berlin (Wizleben). My log for Saturday, August 31 (September 13, "Radio Record") reads, "The German was a real treat with the 'Messiah' relayed from Berlin."

The following particulars of the above station will be of interest. Königswusterhausen (Zeesen, Germany)—Wavelength, 16.35 metres; power, 26 k.w.; call, "Achtung! Achtung! Hier, Königswusterhausen." When relaying, "Ferner Uebertragung auf..." (name of station relayed). Interval signal: Metronome; forty beats in ten seconds.



THIS page is conducted in the interests of shortwave enthusiasts. A weekly log comprising notes of reception and interesting topical events is contributed by Mr. F. W. Sellens, Northland, Wellington, but all listeners are invited to send in paragraphs of general interest.

General Notes.

STATION W2XAL on 49.9 metres and W8XAL on 49.5 metres have been heard recently up till 8.15 p.m. The former station has recently changed its wavelength from 30.91 to 49.9 metres.

Radio, Manila, is now heard regularly on just over 26 metres. Most transmissions commencing at 10 p.m. are announced as "simultaneously from Manila and Kaboo." I am not sure of the last-named place, but that is how it sounds. The call of KZRM or KIXR has not been heard recently—just "Radio, Manila."

During the week-end at Christchurch reception was poor. RA97 on Sunday evening was quite good when a lady was speaking in English, giving items of news from various countries. At 9.30 p.m. she said, "The time is 18 o'clock and 30 minutes; listen to-morrow at 18 o'clock and 20 minutes."

Tuesday, October 29.

STATION W9XF was R8 at 7 p.m., but very gushy. W6XN was similar to the Chicago station. RA97 at R9 was spoilt by very severe static. Radio, Manila, opened at 10 p.m. with their original chimes and the clock striking 6 p.m. After "Good-evening, everybody, this is Radio, Manila, broadcasting from Manila and Kaboo," a programme by the National University Band was received at R9.

Wednesday, October 30.

ON about 41.3 metres, possibly DOA, music at R4; 41.2 metres approx. (just a fraction below the above), orchestral items at R5. Static was very bad.

TLO, Nairobi, was only just readable. Zeesen relaying Königswusterhausen. At 6.15 a.m. some very fine choral music was heard at R9, spoilt by static. Talk was heard at 7.30 a.m., followed by an orchestra, R7-8. 5SW was weak and gushy. Big Ben at 7 a.m. was heard, but the talk following was not readable. W9XF at 6.30 p.m. was R8, and, except for slight gushiness, quite good. On about 32.2 metres a voice was heard calling "Hullo, Bridgewater" at R8. The call was not heard; static spoilt readability. They closed about 6.45 p.m. "till G.M.T." On 32.6 metres (about) a lady followed by a man were heard talking in a foreign tongue. Strength was good, at R8.

Just above this wavelength other voices were heard, but were spoilt by a beam station almost on top of them. 2ME and GBX were testing on duplex telephony, using their usual wavelength. I understand they are not yet ready for tests on 15 and 16 metres.

Radio, Manila, at 8 p.m. was R7 with bad static. They closed after a time to open again at 10 p.m. with their chimes and a relay from the Regal Theatre.

Strength was R8-9 at this time. Holland and Java were talking at R7 and R8 respectively.

Thursday, October 31.

STATIONS on about 43.5, 41.5 and 35.3 metres were heard with talk about 6 a.m., all being too weak to be readable.

Zeesen was splendid at R9 with a musical programme. I timed them in at 6.15 a.m. They closed at 6.30 a.m. TLO was just audible at 6.30 a.m.

5SW, for a change, was quite good at R8, but a morse station almost on top spoilt what would have been excellent reception. W9XF at 6.30 p.m. was R7, spoilt by static. 2ME and GBX were both R8-9 with their regular duplex tests. Radio, Manila, from 10 p.m. was R8.

Friday, November 1.

AT 6 a.m. PCJ opened, strength R. 8-9, weakening to R. 3-4 by 7.30 a.m. Talk and music was again just audible at 6 a.m. on 41.5 metres. They had faded out or closed down by 6.30 a.m.

Zeesen at R.8 was jammed by morse. TLO was only just audible at 6.30 a.m. 5SW at 7 a.m. had a R6 carrier wave, but speech was much weaker, fluctuating in volume a lot. W9XF at 6.40 was R7-8. W6XN was R3 at the same time, and slightly gushy.

2ME was calling London at 6.50 p.m. without any reply. Later when GBX came on about 8.15 p.m., Sydney told them about the ninth anniversary of KDKA, and that 2ME was going to put on a special programme at 11 GMT on Saturday for the Pittsburg station to rebroadcast. He also mentioned that KDKA intended rebroadcasting 5SW, England; DHC, Germany; and PHI, Holland, during their birthday celebrations.

PCJ, with duplex, were R7. RA97, at 9.15 p.m., were good with orchestral music at R8. Radio, Manila, at 8.15 p.m. were R6 with gramophone records. From 10 p.m. with their evening programme they were R8.

Saturday, November 2.

STATION PCJ did not commence till 6.15 a.m., when they were R8-9, with a strong generation hum. Volume went off to R4 by 7.30 a.m. Music was just audible on 41.5 metres. Zeesen at 6 a.m. was much weaker than usual.

On about 18 metres I hung on to a carrier for some time; at 6.30 a.m. the one word "Achtung" was heard, nothing else being heard. 5SW was very weak and gushy.

PCJ during the afternoon was very weak. Not audible till 3.30 p.m., when a carrier was picked up, slowly increasing to R4-5 at its maximum. Reception at its best was gushy. 2XAD, also, was very poor. Just audible at 1.30 p.m., and not much better two hours later.

3ZO provided an excellent programme, received at R7-8. KDKA was tuned in

at 8 p.m., when "Old Black Joe" was being sung, and received at R6. Reception varied, but on the whole, increased in volume to R8-9. An announcement was made during the afternoon in reference to their special ninth anniversary transmission, stating they would "be on all to-night, all to-morrow, the next night, and some of the following day"—quite an endurance test. Volume remained good till about 11 p.m., when they went off a little, but returned to R7-8 by 11.45 p.m.

Radio, Manila, opened at 10 p.m. with the chimes, and clock striking 6. It was announced that owing to the bad weather the Constabulary Band was unable to play in the bandstand, and that instead of the band, recorded items would be broadcast. Reception was excellent at R8. At 11.40 p.m., organ solos were heard from the Union Church.

VK2ME opened at 10.55 p.m. for a duplex test with KDKA. Reception was excellent at R9. Sydney put on two records for Pittsburg to tune in prior to "shooting the programme" (this was 2ME's way of putting it). The special programme commenced at 11.7 p.m. with "Light Cavalry." After several other items a message from Mr. Fisk, managing director of A.W.A., was read, and later birthday greetings from the announcer of 2ME. The concluding item was the "Wembley Military Tattoo," finishing at 12.2 a.m.

KDKA did not commence to rebroadcast till about 11.40, from which time the music and speech from Australia, via Pittsburg, was well received after travelling about 18,000 miles. The Sydney announcer was 100 per cent, readable through KDKA; in fact, better than the man in the Pittsburg studio.

KDKA at the conclusion acknowledged the special broadcast. Something was said about 5SW and transmission to the Byrd Expedition, but readability went off about this time.

Bangkok, Siam, was tuned in when the above concluded. They were transmitting their native music at about 29 metres. Reception was R9.

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