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WELLINGTON, FRIDAY, DECEMBER 14, 1928.

# Special Christmas Broadcasts Arranged

*The religious significance of Christmas will be reflected in a special series of broadcasts arranged for all stations at that period.*

**1** YA will commence its Christmas programmes on Tuesday, when the main feature of the evening's broadcast will consist of Handel's "Messiah," as produced in the studio by Madame Irene Ainsley. Assisting her will be Miss Violet Harrison, Mr. Lambert Harvey and Mr. Arthur Colledge. There will be orchestral accompaniment. Solos which will be sung by the same artists will be "Nazareth," "My Task," "Star of Bethlehem," and "The Gift."

On Friday there will be another sacred concert, this time contributed by the St. Andrew's Quartet, whose opening number will be "The First Nowell." They will also sing the carol "Good King Wenceslas." Other items will be excerpts from "The Messiah."

A feature of Friday evening's programme will be two Dickens sketches by Mr. T. Harris—"Ebenezer Scrooge" and "Sidney Carton's Farewell."

On Saturday evening a special Christmas musical programme will be relayed from the Auckland Baptist Tabernacle, where there will be a choir of 100 voices. The first half of the programme will be devoted to the rendition of old and new Christmas melodies, both vocal and instrumental. In the second portion of the programme the Christmas cantata "Bethlehem" will be given. The soloists will be Mrs. J. Litherland, Mr. Halsey Cox, Mr. C. Turley, and Mr. Clinton Williams. The pianiste will be Mrs. T. Brame Clark, the organist and conductor Mr. Arthur E. Wilson.

The sacred concert on Sunday evening will also include some solos from "The Messiah." The vocalists will be Miss Phyllis Hazell and Mr. Frank Sutherland, who will also sing two duets.

## Sunday Programme for 2YA.

**A** RELAY of the evening service from St. Thomas's Anglican Church will be heard at 7 p.m. on Sunday, December 23, and at approximately 8.30 the choir of St. Mary of the Angels will give a splendid sacred concert. The main feature of this concert will be a rendition of Gounod's beautiful "Messe Solennelle" ("St. Cecilia") by the choir, under the very able conductorship of Signor A. P. Truda. The soloists will be Mrs. A. P. Truda (soprano), Mr. Samuel Duncan (tenor), and Messrs. Len Barnes and Staunton, baritones. Mrs. G. P. A. Lridge will be organist, and Signor Cattaneo, pianist. In addition to this work Mrs. Truda and Mr. L. Staap, tenor, will sing the duet "Crucifix," and Mrs. F. Treacy will sing Luzzi's "Ave Maria."

## "Messiah" at 3YA.

**A**T 3YA on Thursday, December 20, Handel's magnificent oratorio, "Messiah," will be presented. This will be the special feature of the evening's programme, and it will occupy the complete second half. Besides the vocalists, the choir of the East Belt Wesley Church under the conductorship of Mr. J. Chaplin, will be contributing. Some of the grand choruses for which the "Messiah" is noted will be sung. Among these may be mentioned the glorious "Hallelujah Chorus," with which the programme for the evening will conclude. The soloists will be Madame Gower Burns (under whose direction will be the whole production), Mrs. Ann Harper, Mr. Harold Prescott, and Mr. Clive Hindle. The Studio Trio will provide the instrumental music.

Christmas carols will be a feature of this evening at 3YA. These will be sung by the Grand Opera quartet and by the East Belt Choir, the accompanist being Mr. P. Watson. Solos to be sung will be "Angels Ever Bright and Fair" (from "Teodora"), by Madame Gower Burns, "Like as the Hart," by Mrs. Ann Harper, "If With All Your Hearts," by Mr. Harold Prescott, and Gounod's "Nazareth," by Mr. Clive Hindle.

## Mrs. Ross Brodie at 3YA.

**T**HE after-church studio concert at 3YA will also be a Christmastide one. In this will be appearing Mrs. Ross Brodie, of Rangitata. She has been specially engaged for this occasion, and music lovers can look forward to a treat from this fine singer, who appears in radio for the first time. It may be mentioned that Mrs. Ross Brodie has been a pupil of Madame Gower Burns, Mr. H. M. Lund, and Mr. Hamilton Hodges. She now takes lessons from M. Paul Soldaigne, of Dunedin, late principal tenor of Boston and Antwerp Grand Opera Companies. M. Soldaigne is a Belgian and a great artist who settled in New Zealand after a professional visit to the Dominion some years ago. Mrs. Ross Brodie will sing "Largo," "He Shall Feed His Flock," and "Abide With Me."

Associated with Mrs. Ross Brodie will be Madame Gower Burns and the popular tenor, Mr. Harold Prescott, one of the finest trained artists singing for radio. He will sing "How Vain is Man" and "Sound an Alarm," both from Handel's "Judas Maccabaeus." Madame Gower Burns will sing "Oh, for the Wings of a Dove," "Hear My Prayer," and "Hear Ye, Israel."

The evening church service will be relayed from the Anglican Cathedral. The organist and choirmaster will be Dr. J. C. Bradshaw, Mus.Doc.

# The "Rotorua" Portable Receiver

*An Ideal Equipment for the Approaching Holidays*

By "Pentode"

**W**ITH the coming of summer the general opinion is that the radio enthusiast loses interest in the hobby in preference for some outdoor sport. He cannot be blamed for leaving his radio set at home unused and packing a hamper for a trip into the country. The average receiver, when once installed is not adaptable to portability and it would need many bulky packages of batteries, speaker, etc., to be looked after if one wished to have the set during a holiday for company. The possessor of a true portable receiver is to be envied if he can merely open the lid and tune in a station to get the latest cricket results, etc.

Take the man touring the country in a car. He camps in some out-of-the-way spot and takes out his portable receiver and can enjoy the afternoon session and later have a summary of all the latest news. Out on the river, what could be more pleasant than a little music. When listening in on the beach there is far more fascination than listening at home with the receiver connected to an unsightly aerial.

## Points in Design.

**I**N the design of a portable receiver there are numerous points that have to be considered. In the first place the set has to be truly portable, and self-contained. It has not to be too heavy. Especially as it has to be used outside, the speaker will be called upon to deliver great volume and good quality reproduction. So many portable sets give horribly distorted music as soon as the volume is turned up. The question of running costs also enters, although not quite to such a great extent as with a home receiver. And last, but not least, the price has to be moderate.

In designing the following portable set, consideration was given to all these points, and if the reader desires to

make one of his own and follows the details set out below, he will be in possession of a portable set that will be the envy of all of his friends. Provision is made for the use of an outdoor aerial, so this receiver can be constructed as a home receiver and will receive distant stations with just the same ease and clarity as the popular Browning Drake. Also, if the constructor desires to develop the audio frequency side a little more fully, such

can be desired in the quality reproduction of music, and furthermore they are not adaptable for use on an outside aerial. This receiver is neutralised and although reaction is used, the set cannot radiate if properly used.

In a portable set the constructor is confined more or less to a limited choice of components. Appended is a list of the components used by the writer, but if the builder wishes to incorporate parts he already has, or if he is

measuring everything out before starting to make the cabinet, unless, of course, those actual components are used.

The valves also were chosen to suit the circuit, but whatever valves are used, it is always better to employ one having a high amplification factor as a detector. As the full description of this receiver makes rather a long article it will be divided into two issues. This week the construction of the cabinet will be dealt with, confining the receiver construction to next week's issue.

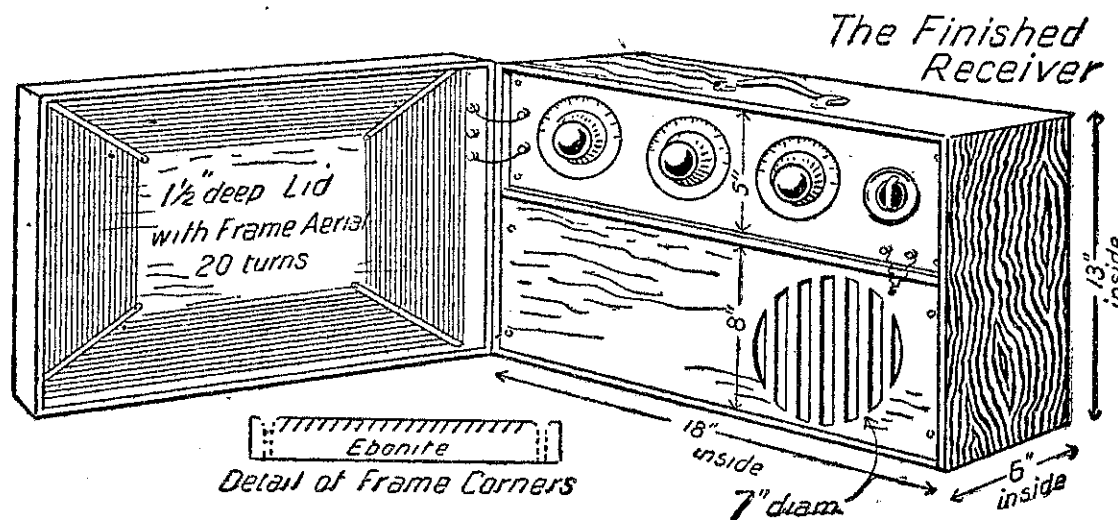
## The Cabinet.

**W**ITH all portable sets the cabinet is of importance, inasmuch as it has to be light and yet strong. It has to be of such a size and shape that no complicated manoeuvres are necessary to examine batteries or valves.

Omitting the lid, the inside measurements of the case are 18 inches long, 13 inches high, and 6 inches from back to front. As can be seen from the diagram, the lid makes an additional 1 inch inside when closed. The writer's box is made of 3-8 inch oak, and although slightly heavier than one made of, say, Oregon, it is very strong. The top, bottom, and two ends can be of oak, while the sides will do well if constructed of three-ply.

The best way to commence on the box is to treat the case and lid as one, and after fixing on each side a line can be drawn around where the lid cut has to be made, and the lid can be cut off afterwards. From the local timber yard obtain timber to these measurements:—

- 2 pieces 7½ inch x 13½ x 3-8 inch dressed oak or rimu.
- 2 pieces 7½ inches x 18½ x 3-8 inch dressed oak or rimu.
- 2 pieces 18½ inch x 13½ inch three-ply wood.
- 1 piece 18 inch x 5½ x 3-16 inch three-ply.
- 1 piece 18 inch x 8 x 3-16 inch three-ply.

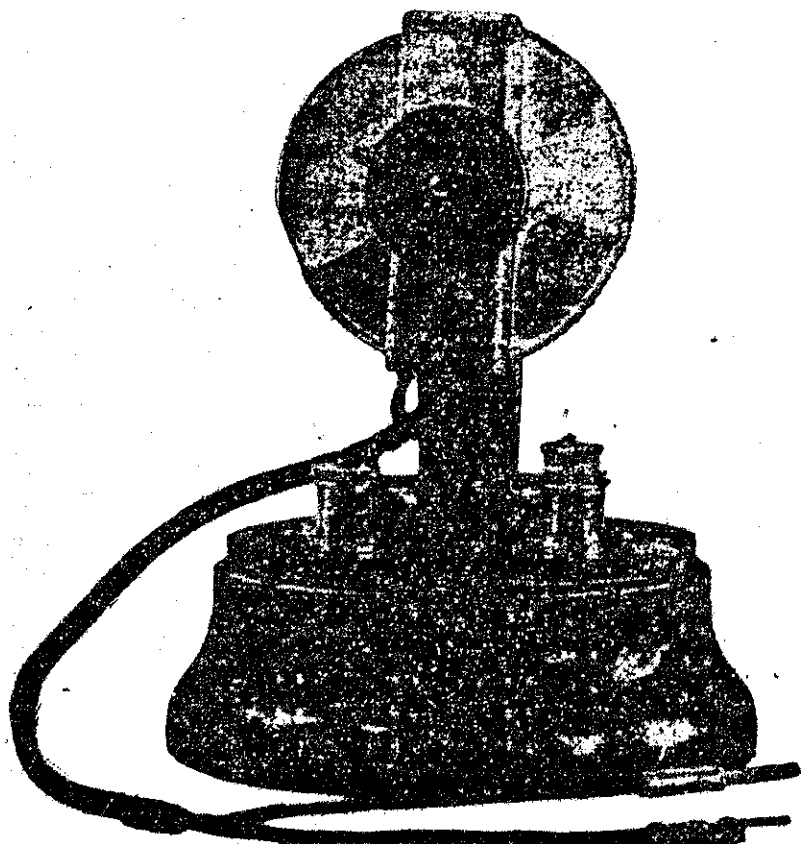


as incorporate pushpull in the last stage or use a higher plate voltage and larger power valve, he can use it with any of the high grade gramophone pick-ups and obtain music at good volume and wonderful quality. For those who can work from a theoretical diagram, by referring to the one below it can be seen that the first grid coil is actually the frame in the lid tuned by a .0005 mfd. condenser. This frame is centre tapped, so that an outside aerial can be attached to bring in more distant stations.

It may be stated here that this is not a freak set, that is uncertain in operation and ticklish to tune in. There are various circuits for portable receivers employing reaction in various ways, but these sets as a rule are not all that

unable to obtain the parts specified, he will have to adapt the box container to suit the size, etc., of such components.

The speaker, for example, is one that is easily obtainable, but there is no reason why a Sferovox or similar cone should not be used. The case, will, however, have to be made accordingly. The small Hellesens B batteries are used, but, if unobtainable, the ordinary upright 45 v 't can be used with a little extra weight to carry around. Those wishing to build exactly to specifications have the list of parts actually used and space is allowed for these components. The writer would stress the point that there is not too much room for larger parts and it would be time well spent to spend an hour in



## WILSON'S CRYSTAL BAR AMPLIFIER

The Wilson's Crystal Bar Amplifier is an ingenious instrument, especially designed to enable the Crystal Set owner to operate a Loud Speaker.

The principle involved in this device is one which has been satisfactorily employed for many years past in the World's greatest Telephone and Telegraph services, and is now adapted for use in Radio Reception for the first time.

To operate this instrument it is only necessary to connect one pair of terminals to a 3-volt Dry Battery, the second pair to the Loud Speaker, and the loose leads supplied to the phone terminals of the Set. There are no delicate parts to get out of order and the only adjustment necessary is made by a small black knob indicated in the illustration. To anyone requiring a simple and efficient Amplifier, the Wilson Crystal Bar Amplifier can be highly recommended as being capable of giving thoroughly satisfactory service under all conditions.

On account of mass production, these are now offering at greatly reduced prices.

Obtainable from all responsible Radio Dealers.

**N.Z. Agents : SPEDDING, LTD.**

AUCKLAND, WELLINGTON, CHRISTCHURCH and DUNEDIN



If the reader is any hand at wood-work, he can proceed to dovetail the four pieces of oak or rimu together to form an oblong, with inside measurements 18 inches x 13 inches x 7½ inches, and a rabbet on each side the thickness of the three-ply and ¼ inch deep, to allow the three-ply sides to be glued and nailed in position. Quite a presentable container can be made by just glueing and nailing the four pieces together, but the two side pieces will have to be cut down to 18 inches long, so that the inside measurements are the same as specified.

The outside of the box can now be cleaned up with sandpaper, and the position for the saw cut to divide the lid from the box can be marked. This is a line right round the top, two ends, and the bottom. It is 6 3-16 inches from one side and 13-16 inches from the other side. This leaves two parallel lines 1-8 inch apart, and gives plenty of room for a saw cut and the necessary cleaning up. When the edges are planed up the lid can be fitted with hinges at one end and temporarily hung. An attache case lock gives the whole a distinctive appearance, and is fastened to the opposite end of the lid to the hinges. Three small pins projecting about ¼ inch should be fitted to the edge of the lid with corresponding holes in the edge of the body to carry the weight of the lid and frame aerial when the box is closed.

Now unscrew the hinges and lock and fix the shelf inside on which the receiver rests. As the ebonite panel is five inches deep, this ledge will have to be five inches from the inside of the top. The top being when the box is standing with the hinges on the left. This is only a three-ply shelf and need not be very strong, as the set is arranged on a baseboard, and the whole

er, and if possible should be rather heavier than three-ply. Five-ply would be more suitable, although the three-ply in the set made by the writer seems to be O.K. A circle should be scribed on this cover with the centre 5½ in. from the right-hand side, and 4 in. from both top and bottom. It should have a radius of 3½ in. Plain bars or

so that the cover can be screwed tightly and the front be flush with the edges of the box.

Before going further the whole box container will have to be stained and polished. This is not a difficult job and a better method than applying the coloured varnish direct to the wood is to stain with either water or spirit

will not end up as intended. A good water stain is a solution of permanganate of potash in water. A saturated solution is perhaps too dark, so try a little first on a small piece of scrap wood. The pink colour when first applied soon changes to a brown, and an idea of the finished colour can be obtained when the wood is still wet. Run over the surface quickly and allow to thoroughly dry before giving a brush over with shellac dissolved in methylated spirits. If a more polished finish is desired than that given by two or three coats with the brush, the whole should be rubbed with a cloth moistened with the varnish. If inclined to stick or drag the rubber should be lubricated with a small quantity of linseed oil.

Next connect the frame aerial. This is arranged in the lid and consists of 20 turns of 22 enamelled s.w.g. wire. It would be preferable to employ the special loop aerial wire sold for that purpose if obtainable, but the enamelled wire was proved quite suitable by the writer.

A glance at the small drawing will give the reader an idea how to tackle the problem. Four pieces of ebonite, ¼ in. square and 5 in. long, are cut and a countersunk hole ¼ in. from each end; take two small screws to be fastened in each corner of the lid. Twenty cuts are made with a hacksaw at an angle, 1-8 in. deep. These will have to be 3-16 in. apart. A blade with a fairly coarse tooth setting is advisable, so that the wire will slip in easily. This coil is tapped in the centre and the three ends brought out to three terminals on a small ebonite block screwed to the lid close to the top hinge. When using the frame aerial alone the two outside ends are fastened by flex-

(Continued on page 30.)

## Components for "Rotorua" Portable

**Wooden Carrying Case, as specified.**

**Philips P.C.J.J. Speaker Unit.**

**2 Hellesens 45V Batteries, WIPYT Type.**

**2 No. 6 Dry Cells.**

**1 C Battery.**

**Ebonite Panel, 18 in. x 5 in. x 3-16 in.**

**3 Variable Condensers, .0005 m.f.d. (Formo).**

**1 R.C. Unit (Meter or Polymet).**

**1 "Audio" Transformer (Philips)**

**4 Valve Sockets (Antimicrophonic).**

**1 Neutralising Condenser.**

**1 Grid Leak (5 meg.), and Condenser (.00025 m.f.d.).**

**1 .1 m.f.d. Condenser.**

**1 .0005 Fixed Condenser.**

**1 12 to 15 ohm Rheostat.**

**1 Doz. Small Terminals.**

**Aluminium or Brass Coil Shield.**

**4 in. Ebonite or Cardboard Former, 2½ in. dia.**

**1½ in. Ebonite or Cardboard Former, 2½ in. dia.**

**¼ lb. 22 Enamelled Wire, S.W.G. or stranded, silk-covered loop wire.**

**2 ozs. 30 D.C.C. S.W.G. Wire.**

**¼ lb. 24 D.C.C. S.W.G. Wire.**

**2 XA209 Philips Valves.**

**1 XA225 Philips Valve.**

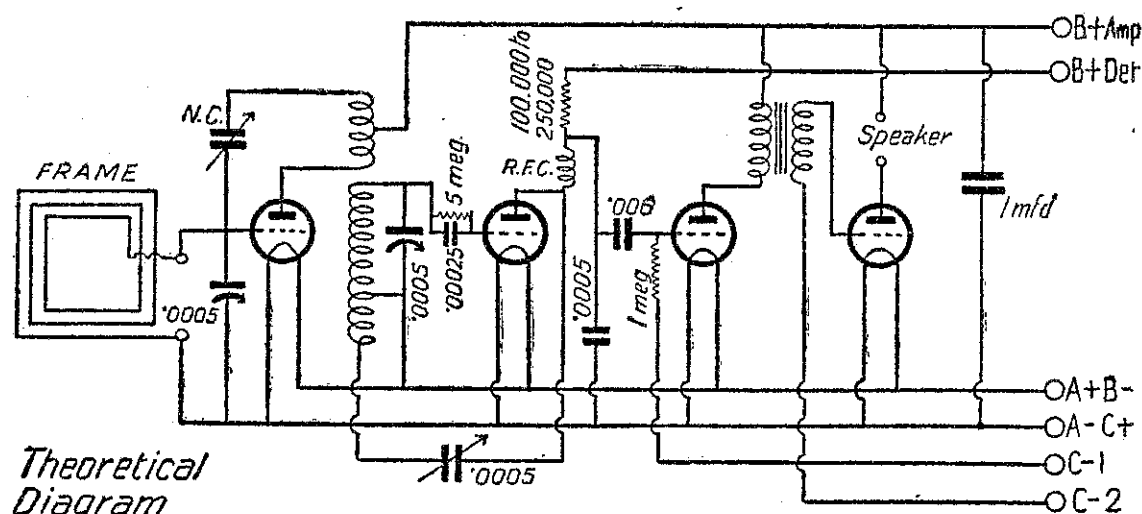
**1 XB205 Philips Valve.**

**Insulated Sleeving, etc.**

any fancy design can be drawn on the woodwork, and the space between cut away with a fretwork saw. This is to accommodate the speaker and will be found to be the correct size, allowing for the flange through which

dye first and then apply plain shellac varnish.

An alternative is to cover the whole with imitation morocco leather, but this is a tedious job and unless the constructor has done that work before it



can sit on bearers on each end of the box. The diagrams will help considerably to make these small points clear and should be referred to from time to time.

The front battery cover comes next. This also acts as a baffle for the speaker.

screws can be placed to clamp the speaker unit to this cover. Coloured silk fabric makes a very neat job if a piece of this material is fixed at the back between the diaphragm and the cover. Four or five small wooden brackets are now fixed inside the box

### Philips P.C.J.J. Speaker Units

As Specified in the Rotorua Portable, 47/6. Postage Paid.

Includes Core and Balanced Armature Movement. Ready to mount on the Baffle.

### Complete Kit of Parts

As Specified to Build your own Portable. £12/12/- Postage Paid.

Comprising Batteries, Valves, Colvern Coil, Speaker Unit, etc.—Everything included less Cabinet.

Write P.O. Box 654, Wellington.

**L. H. WRIGHT.**

*Radio Specialists*



# Give a RADIO

## The IDEAL Christmas Gift

1 B.B.C. Crystal Set, 1 Pair Brandes Headphones, 1 Coil Aerial Wire and License to operate till March 31, 1929.

Everything Complete, **37/-** Post Free. Get in Early.

—THE—  
RADIO PEOPLE

**F. J. W. FEAR & CO.**

63 WILLIS ST., WELLINGTON. 'Phone 41-446

# Judging the Popular Taste



FOR days after the big competition was put on the air, hundreds of coupons poured in by every mail into the office of the Broadcasting Company, at Christchurch. Solid bundles of envelopes every mail packed P.O. Box 1079. It was a splendid response, and greatly exceeded all anticipations. In a recent Mystery Night competition, held at 1YA, when a prize of the same value was offered, the entries were less than 300. On this occasion, they totalled 3015 valid coupons, with others which arrived after the closing time.

The big radio competition, for which the prize is a £50 Columbia Grafonola, donated by the New Zealand Distributors of Columbia Products, closed on Wednesday, November 31. The response exceeded anticipations. No less than 3015 valid coupons were returned. The work of calculating the New Zealand average from the marks given to each particular item was done by the Burroughs Adding Machines. The New Zealand order of popularity thus derived is published below.

It would appear that no competitor has the full order correctly stated, and this fact resulted in much careful checking being required to ascertain who was the nearest to the correct order.

The competition was the essence of fairness, and the winner is deserving of the heartiest congratulations. The competition certainly aroused a very great deal of interest, and the answers sent in provide an illuminating analysis.

Other instances of a similar nature could be cited.

## Whose Taste?

OTHERS had difficulty in filling in the coupon, on the ground that they had to choose between their own

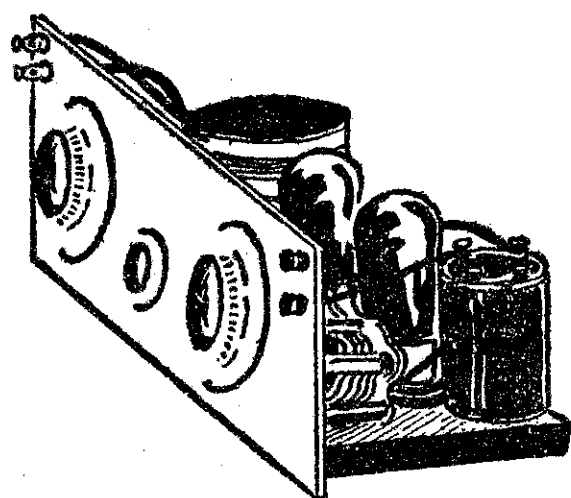
ing the competition, and had concluded that the majority of listeners would give their own preferences, being convinced that such preferences were not only their own but the general public's. However, it was evident, too, that if listeners did state what they considered was the order of public popularity, this was what the competition aimed at obtaining. It is possible, however, that in future competitions some means will be found for overcoming the quandary in which these special listeners found themselves, and that they will have the opportunity of expressing their own preferences as well as their opinion as to what the public wants.

## A Comparative Tally.

A CAREFUL tally and check were kept on all coupons as they came in. On November 22 and 23 there was a comparatively poor response, the coupons received being 311 and 421 respectively. But it was soon quite evident that competitors were not hurriedly sending in their replies. Monday morning's mail saw the correspondence clerk laden down with nearly 600 coupons, as well as the ordinary heavy mail. Tuesday brought the week-end entries, the result of some quiet consideration, over 800. The closing date saw a still heavier mail—875. There were more even after that, but they were too late.

It was at 2YA that the programme was first broadcast, and every day afterwards saw consistently heavy polling. The coupons received daily from 2YA being: 291, 211, 236, 403, 409. These figures give rise to the conjecture as to how many more coupons would have been received had the competition been open a few days longer. It is very probable that all the stations would have sent in many more, for it has to be remembered that the Auckland competitors, who are furthest away, had one day less, and the Christchurch listeners had two days less than Wellington in which to send in their answers.

The number of coupons received and allocated to the various stations were:



## 2-Valve set for 39/6

Or complete with Valves, Batteries and Amplion Dragonfly Loudspeaker.

**£5-15-0**

The circuit employs the now well-known and justly-popular N.Z.R. Circuit and will give good loudspeaker reception from local station, and head-phone reception of Australian Stations. The same circuit built as a

## 3-Valve Set for 58/-

Or complete with Valves, Batteries and Amplion Dragonfly Loudspeaker and Headphones.

**£7-19-6**

Other astounding values up to Six-valve Sets for £12 contained in special list—Send for a copy.

Terms if desired. Satisfaction guaranteed.  
MAIL COUPON NOW.

**Messrs. ABEL, SMEETON LTD.,**  
Wholesale and Retail Merchants,  
27-29 Customs Street E.,  
AUCKLAND.

Sirs,—Please send me particulars of the Special Values you are offering in Radio Sets and Accessories.

Name .....

Address .....



Sorting the Big Mail in the Popularity Contest

While the entries are such, a very satisfactory total, they do not represent the total interest which was taken in the competition. Many letters received speak of the competition, but do not enclose a coupon, yet the writers are keenly anxious to know what the result of the voting is. Although there was a valuable prize to be won, and there was no entrance fee, many listeners, though very interested, did not bother to fill in coupons.

A FEW listeners found difficulty in filling in the coupons correctly. Some of the misconceptions were excusable, and wherever possible their coupons were counted, but in some instances it was impossible to know what the entrants meant, or on what principle they worked in allotting the marks, and stating the order of popularity. The filling-in of the coupon was really very simple, if the instructions were followed. All that had to be done was to fill in opposite each item the number of marks awarded, and then to state in the column on the right-hand side the number of the items, in their order of preference, commencing at the top. Yet, some competitors had their own way of interpreting the instructions. In one instance, a husband and wife sent in coupons. Each had a different opinion as to the relative merits of the items—and each had a different way of filling in the coupon. In this case, the wife was correct.

preference and what they thought the public would like. One correspondent questioned whether, for this reason, the aim of the competition was not defeated, as entrants would state the popular taste rather than their own fancy. The company had considered this aspect before launch-



Working on the Burroughs machine to find the order of popularity



1YA .....	632
2YA .....	1550
3YA .....	617
4YA .....	216

2YA, it will be seen, sent in a little more than half the total number, while 1YA and 3YA were practically even. The response from the South Island generally was poor, but that is characteristic of the South Island in regard to competitions, even when there is no fee for admission.

#### Response from "Radio Record."

IT is an interesting fact to observe, too, in regard to the coupons returned that nearly half of the total number had been obtained from copies of the "Radio Record." Of the many thousands distributed among booksellers and radio dealers, only 1117 came back, while 547 people wrote out their

pany in Christchurch did the work. Though nearly a quarter of a mile of paper was used, chock full of figures, Burroughs did the job in very quick time. Entries closed on Wednesday morning, and by Thursday evening at 10 o'clock the marks from all the coupons had been transferred to the tape. Of course, to do such a big job in such a short time shows that the manipulation of a calculating machine such as Burroughs must be simple. One young lady handled the coupons, called out the marks, and ticked them off on the coupon as she did so. The young lady at the machine pressed the keys, and the paper rolls gradually unwound themselves as they were printed by the machine. It was like a typist taking down dictation. There was no hitch, no stop.

The reader read on and the typist typed. The coupons had been arrang-

find out who has got most items placed correctly. This is a far greater undertaking than was anticipated. The numbers on every coupon have to be compared with the correct figures, and this means an enormous amount of work. The latest report from Christchurch shows that checking over discloses that the competitor at present in the lead has seven items correctly placed. The name of the winner will not be available for this issue of the "Radio Record." In the meantime, WHO IS THE WINNER?

#### Review of the Figures.

AND what does the voting reveal? There is, of course, a very wide divergence in the public's appreciation of radio items. A casual examination of the coupons, that is, looking at one after the other, created a mental chaos. There were no two coupons alike, and

definition of what is a "popular" admits of a wide discussion, but subject may here be disposed of saying that "popular" items do not necessarily mean that they are da music. Rather can popular items be described as those which have a di appeal to the public, and whose me have been such that they have st the test of time while they have b becoming well known. The peo want what they know. They h voted for the class of items they kn best; and the numbers they know b are those they have heard over s over again. A survey of the items their order of popularity will pr that.

For instance, the item which head the list in popularity, "Poet and Peasant," is a very well-known overture having been played by orchestras a bands for years past.

"In a Persian Market" is a good middle-class descriptive sketch and very well known. It is descriptive of the East, which is nearly always popular theme.

"March of the Toys" (orchestral) is not very well known, but it has a striking rhythmical interest. The "Hungarian Dance" (violin) and "Liebestraume" (piano) are two classical numbers moderately well known but with particular interest.

"I've Seen the Swallows Pass" (soprano solo) and "Valse Mazanetta" (Saxophone solos) have no special appeal to the general mind except through their brilliancy.

"I'm 94 To-day" is a comedy. "Largo al Factoturan," an operatic solo from "The Barber of Seville" is a very well-written solo and magnificently sung, but is almost completely unknown.

"Get Out and Get Under the Moon" is an ordinary form of fox-trot, of which there are hundreds written every year, but it is among the best of them.

"Memories" from "The Student Prince" is a good comedy number with sentimental interest, but it is largely unknown.

The grand operatic solo, "Credo," is quite unknown.

"Gems from 'O! Kay,'" a jazz number—only slightly known.

Item No.	NAME OF ITEM.	Total Marks Awarded.	Average for N.Z.	Item Numbers in Order of Popularity	N.Z. Order of Popularity.
1	Symphony Orchestra—"Poet and Peasant."	263,720	87.47	1YA. 1	1
2	Comic Opera (vocal)—"Memories" (from "The Student Prince")	220,933	73.28	2YA. 9	9
3	Piano Solo—"Liebestraume"	233,471	77.43	3YA. 12	12
4	Grand Opera (vocal)—"Credo" from "Otello"	212,070	70.34	4YA. 17	17
5	Saxophone Solo—"Valse Mazanetta."	230,855	76.56	1YA. 12	12
6	Song (comic)—"I'm 94 To-day."	229,746	76.27	2YA. 17	17
7	Light Orchestra—"March of the Toys."	237,921	78.91	3YA. 14	14
8	Song (soprano) with flute obligato—"I've seen the Swallows pass."	231,219	76.69	4YA. 11	11
9	Orchestra and Chorus—"In a Persian Market."	254,833	84.53	1YA. 7	7
10	Violin Solo—"Hungarian Dance, No. 1."	234,888	77.91	2YA. 10	10
11	Song (baritone)—"Slumber on, my little Gypsy Sweetheart."	239,908	79.57	3YA. 8	8
12	Hawaiian Marimba Orchestra—"Three o'clock in the Morning."	248,941	82.57	4YA. 3	3
13	Grand Opera (solo)—"Largo al Factotum" (from "The Barber of Seville.")	223,938	74.27	1YA. 5	5
14	Comic Opera (orchestra)—Selection from "The Gondoliers."	239,705	79.50	2YA. 6	6
15	Revue (duet)—"Gems from Oh! Kay."	205,058	68.01	3YA. 13	13
16	Jazz Orchestra—"Get out and get under the Moon."	223,599	74.16	4YA. 2	2
17	Military Band—"Martial Moments."	249,192	82.65	1YA. 16	16
		3,979,997			

entries, neither "Radio Record" nor coupon being available.

These written ones were almost invariably correctly filled in, but the paper used and the writing displayed all styles and conditions. One entry was sent in neatly typed, by a blind man, but though he made a good attempt he did not get the prize. The neatest written coupon came from a man who was evidently a draughtsman. Presumably he had had a big struggle with his official coupon, so he carefully drew a new one.

#### Calculating the Averages.

WITH 3015 coupons to handle, each with 17 items, or 51,255 items in all, the work of totalling up the marks was a prodigious undertaking. It could be done expeditiously and accurately only on a calculating machine. And so the Burroughs Adding Machine Com-

ed according to the stations marked upon them so the marks for each station were readily available wherever required. It is a way these calculating machines have—they can give a total instantaneously when required, or they can subtract or multiply. In fact, the Burroughs people have in their office a machine which is an accountant robot. It will literally keep the books and make out the accounts of a business firm. A Burroughs machine reduces to a minimum the liability of human error.

The following statistics will be of interest:—

Coupons .....	3,015
Total items .....	51,255
Total marks .....	3,979,997
Average per item .....	77.65
Highest average .....	87.47
Lowest average .....	68.01
Difference .....	19.46
Marks for 1YA coupons ...	823,695
Marks for 2YA coupons ...	2,091,948
Marks for 3YA coupons ...	762,961
Marks for 4YA coupons ...	301,393

#### Sorting Out the Winner.

"BUT after the day there's a price to pay." And this the staff at the head office of the Broadcasting Company is finding out. All those 3015 coupons have to be checked over again to

as one turned over the coupons, one could not form any idea of what the people preferred, beyond the fact that the orchestral items seemed to be very frequently at the top of the column and jazz at the bottom.

It was only by a careful analysis and calculation that the consensus of public opinion could be obtained. These figures well reward a careful examination. They may be divided into three groups—orchestral first, solos second, with grand opera and jazz last. The best known items have come top.



### DUBILIER HIGH VOLTAGE CONDENSERS

Type L.A.A. 350 Volts D.C.	1 to 8 M.F.D.
Type L.A.C. 600 Volts D.C. Max.	1 to 8 M.F.D.
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S-O-S

TRAVEL IN COMFORT BY CAR

WELLINGTON — PALMERSTON

# The New Zealand Radio Record

P.O. BOX, 1032, WELLINGTON.

Published Weekly. Price 3d. Subscription Post Free in advance, 10s. per annum; booked 12s. 6d.

Literary communications should be addressed: "The Editor"; business communications to "The Manager."

Advertisers are asked to note that alterations of advertisements should be in hand Friday of each week for insertion in the succeeding issue, printed Tuesday, bearing Friday's date. No responsibility is accepted for blocks remaining unclaimed three months after each insertion.

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

WELLINGTON, FRIDAY, DECEMBER 14, 1928.

## EDITORIAL NOTES.

A DEBT of gratitude is due to Wanganui by listeners throughout the country for the specially fine concert enjoyed from the Opera House of that city on Friday evening last. The musical talent available in Wanganui makes it the envy of many larger centres, and has occasioned the expression at different times in the past of a desire for that talent to be put "on the air." On a former occasion this was done by a special Wanganui party being engaged to travel to Wellington and broadcast from 2YA. Later, investigation was undertaken with a view to actually relaying a performance from Wanganui. On that occasion the technical clarity on preliminary tests was inadequate and the venture was deferred. On this occasion, however, skilled technical work on the part of all concerned enabled a brilliant success to be attained and a treat to be afforded valve users throughout the Dominion, and, in particular crystal users in Wellington and Christchurch, for 3YA picked up and rebroadcast the transmission by 2YA. A record for New Zealand is established by this relay. Now that this feat has been proved possible, it is to be hoped that it will be repeated from this and other centres as opportunity and occasion warrant, and thereby enable as much new talent of quality to be heard as is possible.

FRIDAY evening last was memorable also for the farewell taken of Uncle Ernest by the radio family of 2YA. In his departure for England to pursue his ministry, the Rev. E. Weeks is inflicting a loss upon New Zealand and particularly upon the children of the radio family, which it is impossible accurately to compute or quickly to replace. His work has been a labour of love, and because of that and because of his unique and attractive personality has made a mark not lightly to be effaced. The happy thought of presenting him with the tangible signatures of the wide-flung circle so often addressed by him brought into being a unique volume covering thousands of signatures. That this volume will be treasured by him goes without saying. It is a striking evidence of the actuality of the unseen audience. Our best wishes go with Uncle Ernest in his further ministrations.

## Growing Popularity

Licenses Total 43,658 at December 7

THE P. and T. Department advises that the figures for the radio licenses on December 7 stood as follows:—

	Receiving.	Transmitting.	Dealers.	Total.
AUCKLAND .....	14,068	54	419	14,541
WELLINGTON .....	16,912	53	594	17,559
CHRISTCHURCH .....	8,167	34	278	8,479
DUNEDIN .....	2,897	20	162	3,079
	42,044	161	1,453	43,658

## "Macbeth" from 1YA on December 19

MR. J. F. MONTAGUE and his company of players will present Shakespeare's great tragedy, "Macbeth," at 1YA on Wednesday, 19th, and this production, with incidental and entr'acte music by the Auckland Trio, will form the entire programme for that night. This undertaking marks a new and striking departure in play production on the air, and the innovation will be awaited with marked interest by Shakespearean students and others throughout the Dominion. Mr. Montague has a very high reputation as a Shakespearean scholar and producer, and though he has received many high compliments for previous full-night presentations, he expresses the firm conviction that in this play his company will touch high-water mark, and that even those who are not usually interested in Shakespeare will find themselves agreeably surprised and interested in hearing the striking and sonorous lines of this immortal tragedy. "Macbeth" is Shakespeare's shortest play, and therefore very little "cutting" will be necessary in the presentation. The characters of "Lady Macbeth," the greatest of all Shakespeare's tragic women characters, will be in the hands of Miss Daphne Knight, than whom there is no more capable exponent of tragic roles in New Zealand, and she will be supported by a strong cast of experienced players, including Mr. J. M. Clark, Mr. Culford Bell, and Mr. Montague himself, with many other well-known players.

## 1YA Church Service Holiday Issues of "Radio Record"

The sixth meeting of the 1YA Church Service Committee, held at the Auckland studio of the Radio Broadcasting Co. of New Zealand, Ltd., on Monday, November 26, was attended by Rev. H. M. Smythe (Anglican), Rev. George Heighway (Congregational), Mr. D. Donaldson (Church of Christ), and Mr. S. J. Hayden (station director at 1YA).

Apologies for absence were received from the Rev. W. D. Morrison-Sutherland, the Rev. Lionel B. Fletcher, and the Rev. Ernest Drake.

An application was received from the Auckland Unitarian Church, for the broadcast of a Sunday morning service, on December 9, and was recommended to the company for favourable consideration.

It was decided to recommend the company to broadcast a Christmas morning service from St. Mary's Cathedral on Christmas Day, at 11 a.m.

An application for the broadcast of a service was received from the Auckland City Mission, and it was decided that the Anglican representative, the Rev. H. M. Smythe, should get in touch with the Rev. Jasper Calder to discuss further details.

The committee decided to meet again on February 25, 1929, at 2 p.m.

DEALERS and readers are reminded that for the holiday period the "Radio Record," usually published on the Tuesday, will be published on the preceding Saturday.

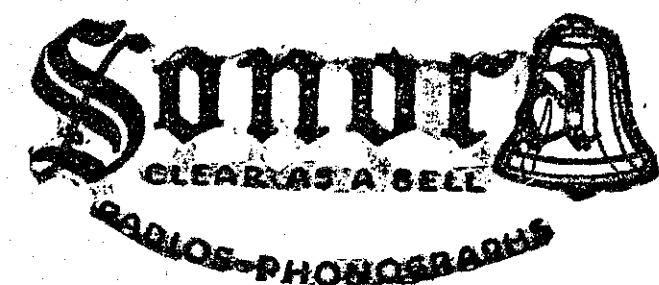
Thus the issue of December 28 will be printed December 22, and advertisements must be in hand December 20.

The issue of January 4 will be printed Saturday, December 29, and advertisements must be in hand December 27.

Careful attention will be given to any instructions regarding posting copies to special addresses over the holiday period.

## "To-night's the Night" at 1YA

GEMS from the bright and successful "To-night's the Night," the well-known musical play of Rubens, will be sung at 1YA on Thursday. The vocalists will be Miss Alma McGruer, Miss Beryl Smith, Mr. F. Simpson, and Mr. Duncan Black. Mr. Barry Coney will be heard this evening as a pianist, Miss Molly Wright (cellist), and the Studio Trio will contribute instrumental items, and elocutionary numbers will be given by Mr. Alan McSkimming.



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# Uncle Ernest Farewelled by Radio Family

**M**ERY touching and affecting was the farewell tendered to Uncle Ernest by 2YA and its wide circle of radio friends on the evening of Friday, December 7. There gathered in the studio some 50 or 60 friends and associates who had admired the work of Uncle Ernest and appreciated his enthusiasm, affection and quality. The studio was decorated with flowers for the occasion, recalling the many happy evenings enjoyed under Uncle Ernest's kindly regime.

The organisation of the farewell had been carefully arranged by Aunt Gwen, and it is a tribute to her that the proceedings went off so smoothly. From the very nature of the occasion and the desire of those intimately associated with Uncle Ernest to express their feelings on his departure, speeches necessarily played a large part. Nevertheless the ordinary routine of birthday greetings and musical items and, finally, even the regular story from Uncle Ernest, was adhered to.

**I**T is certain that an unusually large radio family listened-in to the "farewell," so that an extensive report of its nature is unnecessary. It is fitting, however, that record should be made of the occasion. The outstanding feature was the presentation by Cousin George of the massive autograph book of members of the radio circle. This was a handsome volume, bound in green leather, of some 15in. by 11in., and 3in. in thickness. This volume contained over 200 pages, on which were recorded the names of thousands of listeners, young and old. Many letters of marked appreciation were received with these autographs, and a selection of these was read by Cousin George in his speech. Inscribed in the book was the following address from the children of Radio Land:—

Dear Uncle Ernest,—We, the children of Radio Land, New Zealand, are asking you to accept this book, which contains all our names and addresses, so that when you are far away from us you may not forget us.

We shall not forget you, nor all the beautiful stories you have told us through the microphone from Station 2YA, Wellington.

Often on Friday and Sunday evenings we shall be thinking of you and wishing that we could hear your kind voice speaking to us; and we shall be wondering if, far away on the other side of the world, you are speaking to other girls and boys, giving them lovely thoughts and help such as you have given to us.

We hope that wherever you go you will be happy, and that you will always have the fairies near you to work with you for the boys and girls around you.

And so we say "Good-bye, dear Uncle Ernest, and God bless you."

Your loving and grateful

N.Z. NEPHEWS AND NIECES.

In addition to Cousin George, Uncle Toby spoke, and greetings were received from Uncle Jeff and Big Brother Jack, who were both unable to be present. On behalf of the children of the radio family, little Miss Ailsa Wood-

ward also spoke a message of farewell.

## Address from the Company.

**M**R. ANNOUNCER also presented Uncle Ernest with an illuminated address from the directorate of the New Zealand Radio Broadcasting Company. This presentation took Uncle Ernest completely by surprise. Its text was as follows:—

**"To the Rev. Ernest R. Weeks,—**

"On the eve of your relinquishing your position as Uncle Ernest of 2YA, Wellington, prior to departing on a trip to the Old Land, we wish to express to you our feelings, feelings which are a mixture of great appreciation and deep regret—appreciation for what you have done for broadcasting in New Zealand and deep regret that your departure from these shores means the cessation of your splendid work. In that expression of regret we are sure we are joined by the vast Radio Family to whom you as the senior broadcasting Radio Uncle in New Zealand, have been accustomed to speak. That many thousands of young New Zealanders, whom you have never seen have grown to love you as you love them, we have on our files an overwhelming wealth of testimony. That you also have received abundant evidence of their love and appreciation we know.

"You are going to a far country—to the land which by right of our common heritage we call Home.

"But though the voice of Uncle Ernest must for New Zealand children cease to exist as a material reality, neither time nor distance nor any other thing shall rob it of its influence and power in the grateful hearts of the generation it has served so well. What self-sacrifice that service has involved we realise perhaps better than do those who have profited by your labour of love.

We know something of what it has meant in long hours of studious thought and patient preparation, in willing forfeiture of personal convenience, in the cheerful renunciation of well-earned leisure—in the practical demonstration in the fullest measure of service before self. This is the service gladly rendered by all men and women who during the Children's Hour help to people the air with the gossamer-winged fairies of loving thoughts, kindly wishes and words of wisdom, the while with the merry quip an wholesome story they hold entranced their great unseen, unnumbered audience. In a very real sense you have pioneered this splendid work in Wellington. From the microphone at 2YA you have broadcast through all New Zealand and the isles beyond an example and an inspiration. To an extent which we find it difficult to express in words you have helped us to make radio broadcasting a service of inestimable value to the fathers and mothers and boys and girls of New Zealand. You have done something worth while for the well-being of this young nation.

"We thank you sincerely.

"For and on behalf of the Radio Broadcasting Company of New Zealand, Limited.

"WM. GOODFELLOW,  
Chairman of Directors.

"A. R. HARRIS,  
General Manager.

"ARNAUD McKELLAR,  
Director.

## A Song of Farewell.

**V**ERY touching was the song of farewell sung by a little group of nieces and a group of uncles, aunts and others. The words were specially composed and were:—

*Tho' we seem to sing with gladness;  
Our young hearts are tinged with sadness.*

*We're losing one who loves and is beloved,*

*Tis, indeed, a night of sorrow,  
But there'll come a bright to-morrow,  
For our friend who loves us all as he is loved.*

*In days to come when far away,  
Far, far from dear old 2YA,  
In memory sweet you'll live for ever near,*

*As you loved us so, you we love.  
And loving both as God above,  
Tho' oceans sunder still you'll be ever dear.*

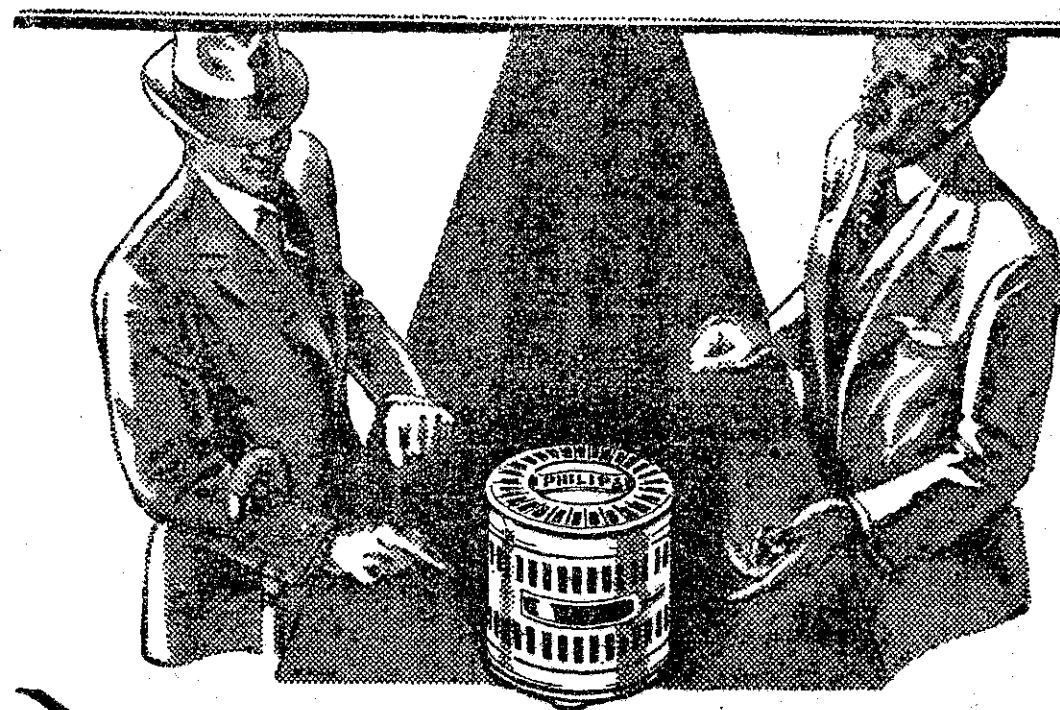
## Chorus:

*Oh, good-bye Uncle Ernest, good-bye cheerio,  
You've been to us a friend of friends;  
You've filled our lives with joy  
Now we know that you are going  
Every radio girl and boy  
Sings good-bye Uncle Ernest, good-bye and cheerio.*

## Uncle Ernest's Farewell.

**D**URING the proceedings a bouquet was presented to Mrs. Weeks. "Auntie Ernest," or, as Uncle Ernest himself revealed, "Aunt Mary" of former times.

Speaking under definite emotion, Uncle Ernest finally in a few words, that will be long remembered by all who heard them, expressed his heartfelt thanks and appreciation of all the tokens of love and esteem that had been showered upon him.



**AND YOU KNOW IT'S CHARGING  
WHEN YOU SEE THE "BLUE GLOW"**

"**Y**ES, Sir, it's wonderful the number of people who snap the power switch to their Battery Charger and feel that all is well only to find one day that their accumulator is flat and practically ruined, and all this owing to a fault in the charger. It is to them that half our accumulator sales are made.

"No, it can't happen to this charger for it's a Philips 'Four-Fifty.' When the accumulator's connected up and the power is snapped on, a 'Blue Glow' is visible through the ventilating ports, meaning that everything's quite O.K.

"There's lots of other interesting things about the 'Four-Fifty,' Sir, including its dual rates, and if you write to Philips Technical Department they'll send you the fullest information, and give you advice on any point that you would like cleared up.

"But you'll have it now. Yes, it's complete with plugs and cords.

"Wait a minute, please, there's some change to come. You see, it's only 85/-."

**PHILIPS**  
**BATTERY CHARGERS**

8R25N

Advt. of Philips Lamps (N.Z.) Ltd., (Radio Dept.), Hope Gibbons Bldg., Courtenay Place, Wellington.

# The Choice of a Receiving Aerial

**T**o some a discussion on the type of aerial they shall use is futile—they have nothing but Hobson's choice. But the average listener has a choice, even if only one out of two, say, indoor and outdoor, and to this section those few remarks are addressed.

With conditions so variable it is impossible to lay down hard and fast rules about aerials for wireless reception. One has always to consider the type of set he is using, his locality, and his proximity to the broadcasting station.

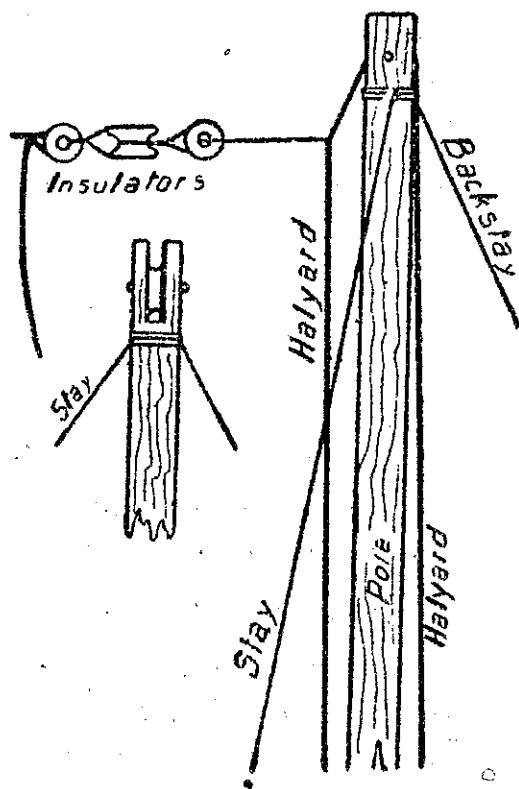
The first problem, however, that confronts the intending licensee is, "Shall I erect an aerial or use an inside antenna?" (antenna being a more suitable term for inside aerial). Great things are claimed for indoor antenna, but except in exceptional cases they are inferior to a good outside aerial.

Quite frequently a letter comes from a correspondent: "My set works better from an indoor aerial than an outdoor. No difference is noticed when I connect up my aerial." Recently such a letter was answered by an English paper by a pithy statement: "Then there is something wrong with your set or your aerial."

A long technical discussion of why this should be so is uncalled for here. The reader, anxious to get on with his aerial, wants facts, so considering that the greater majority of readers are going to erect an aerial they will be considered first. The loop will be considered in a future issue.

## Kind of Wire.

A NOVICE intends to erect an aerial. His first problem is, What kind of wire shall he use—fencing wire, stranded wire, bare, covered or enamelled, or plain copper wire?



The first type can be readily dismissed, for compared with copper, galvanised iron is not a good conductor. The main problem lies in the selection among the copper wires. Electricity travels along the outside of each wire, or strand, so that the greater the sur-

face the better the conductor, this would place the stranded before the plain.

Unprotected stranded wire will corrode and tend to cover in the extra surface provided by the stranded wire. In this way it loses its efficiency. Then the wire should be protected. If each wire in the cable were protected from its neighbour, the collecting surface would be at a maximum, so that wire with each strand insulated would be the best. This would be rather expensive so that a compromise is made and each strand enamelled.

Summing up, it seems that the best wire is stranded and enamelled say 7/22.

## The Length and Height of the Aerial.

THE next consideration is length. This depends on two factors: (a) type of set to be used; (b) location of receiver.

### A. Type of set to be used.

If a short-wave set is to be operated a short high aerial should be used, but we will not dwell on that point, for most beginners use something more simple than the short-wave receiver.

The aerial for the broadcast receiver depends on the number of valves. In general the longer the aerial, the greater the signal strength, the more the noise and the flatter the tuning will be.

With a crystal or a small valve set where only the local station is desired, a long aerial should be employed, where

possible, say 100 to 150 feet, and even 200 feet would not be too great.

Three valves using reaction will find 100 to 120 feet quite sufficient.

Four valves with one stage of radio amplification 80 to 100 feet.

Five-valvers will find 60 to 75 feet ample, while six valves and more require nothing longer than 40 to 50 feet.

In each case the lead-in is added to the length of the actual aerial.

Country listeners will no doubt have little difficulty in securing these lengths, but the city owner will probably have trouble. His best plan is to get as near as possible to the length given that is providing he is not troubled with interference.

B. Locality.—The city owner will find that a long aerial will collect more noise from power-lines, etc., than signals, so that he may have to shorten the aerial considerably. If selectivity is required a short aerial, say, 45 to 50 feet, employed with a wave-trap, should be the optimum length for the city dweller.

TO reduce static two aerials might well be employed, a short, low one and a high, long one, with a change-over switch. When static is bad it is futile to try and listen to distant stations, the local is bad enough, especially if the receiver is any distance from it.

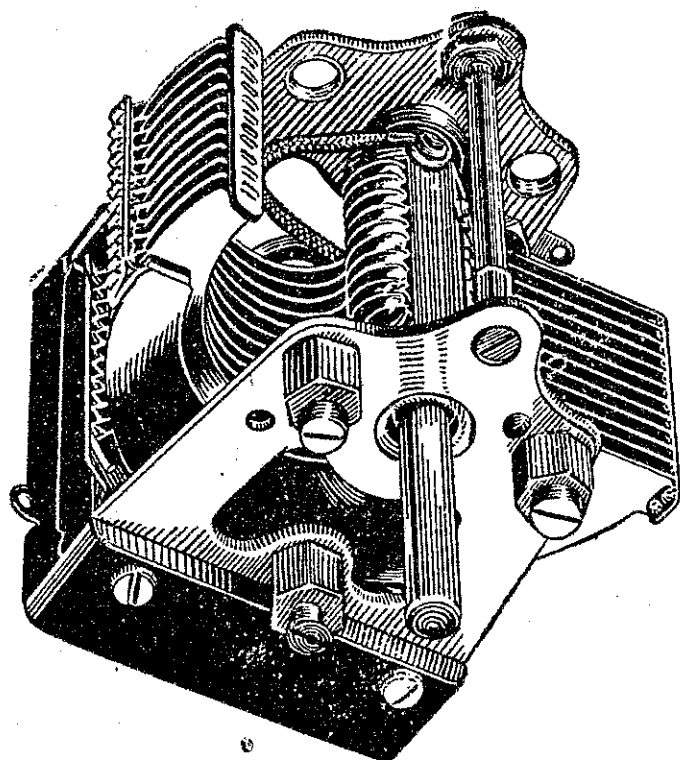
STATIC, as was stated in last week's article, decreases rapidly as the earth is neared, hence the endeavour to work from underground antenna. Signal strength decreases, though not to the same extent as does the static. Hence to overcome the difficulty use a lower, shorter aerial on the local station in times when this interference is bad. By a low aerial is meant 10 to 15 feet from the ground.

## Type of Aerial.

THERE are several types of aerial, the inverted L, T, multiple wire hoop and cage are the best known. The pros. and cons. of the L and T were fully considered in our issue of November 2, 1928, and space will not allow of reiteration. Readers will do well to turn back to this number, as directional effect is fully considered—and it is important.

Multiple wires are effective if separated by six feet and separated by hard wood supports. Likewise the hoop aerial, where the wires are separated by hoops of insulator substance.

Another type was suggested by a correspondent in our issue of Decem-



Superstratelyne Condenser.  
An Emmeo Product.

## The Condenser of Precision and Efficiency

This improved Condenser, with its cast Bakelite base and improved brass frame, gives absolutely correct minimum and maximum capacities. Perfect insulation, true alignment, easily adjustable brass frame, cut-away brass plates in both Stator and Rotor, pig-tailed, and adaptable for either base or panel mounting, adjustable cone bearings.

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MEAN DEPENDABILITY.  
Installed at 2YA Wellington

All sizes. From 9/- each

EXIDE SERVICE STATION

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ber 7. It consists of a single high mast, with aerial wires radiating like the ribs of an open umbrella. They are insulated from the top of the mast and well above the earth. As the lead-in is attached to each the effective height is the distance of the aerial wire from the nearest earthed object. The aerial would, if not raised to considerable height, act as a very low aerial. However, it would be very suited to congested city areas.

#### Erecting the Aerial.

HAVING now decided the dimensions of the aerial, the next procedure is to select masts. "What kind of masts shall I use?" Two factors should be born in mind—neatness and efficiency.

A beginner will usually glance round his section to find whether there are any trees, or chimneys, handy to attach the wire. This may be all right,

be amiss. Trees form good aeri- als, especially if high, providing the collecting wire is well away from the tree, say, twenty or thirty feet, at the least, and that the supports are attached to a branch not likely to sway. A swaying aerial gives an unpleasant, rising and falling effect.

Wooden masts. A good mast can be made from 4 x 2 and 3 x 2 timber. For the first twenty feet use 4 x 2, then taper to the 3 x 2, but provide at least two sets of stays, one set of four at the very top, and the next set at the join. If these are insulated, by egg insulators near the mast, and near the ground, so much the better. A diagram is given, showing how a good base can be made, allowing the aerial to be collapsed merely by removing the bolt, and slackening the stays. (b) Steel or galvanised iron pipe masts. These are usually the neatest and easiest to erect, but should be well provided with stays. Commence with, say, a water pipe of 3 inches diameter, and gradually reduce till the top few feet is 1 inch diameter. The collecting wire should be well away from the mast, and the support well insulated from the mast. The stays, too, should be insulated from mast and ground. (c) Lead-in. This should be soldered either to the end, or to the middle of the collecting wire, and should be heavily insulated when nearing any earthed object. It is inadvisable to drill a hole in the wall to pass the lead in to the set, rather procure a flat strip of copper, well insulated, and pass it under a window. Similarly with the earth wire.

From the above summary, it will be evident that the best aerial is a single wire, well insulated from nearby objects, and supported by lofty masts. Facilities to keep the aerial taut should be provided, as shown.

#### Various Hints.

IT is unwise to share an aerial, as the more powerful set is almost certain to rob the weaker of the waves. A compromise is to break the wire by a series of insulators, and to run a lead from each half.

In congested areas, it is wise to erect aeri- als at right angles to one another. This will minimise interference by radiation. For the same reason, aeri- als should run at right angles to the power lines, even if it means a shorter aerial. The effect will be noticed, especially if a sensitive receiver is used.

There is little danger from lightning, but in order that the reader may not be the one in a thousand whose house is destroyed, and who loses all insurance, purchase and install a lightning arrester. Some firms are selling these, very cheaply, at present, and all receivers must be provided with one.

Further extracts from the Fire Underwriters' Rules are:—

#### 1. Aerial.

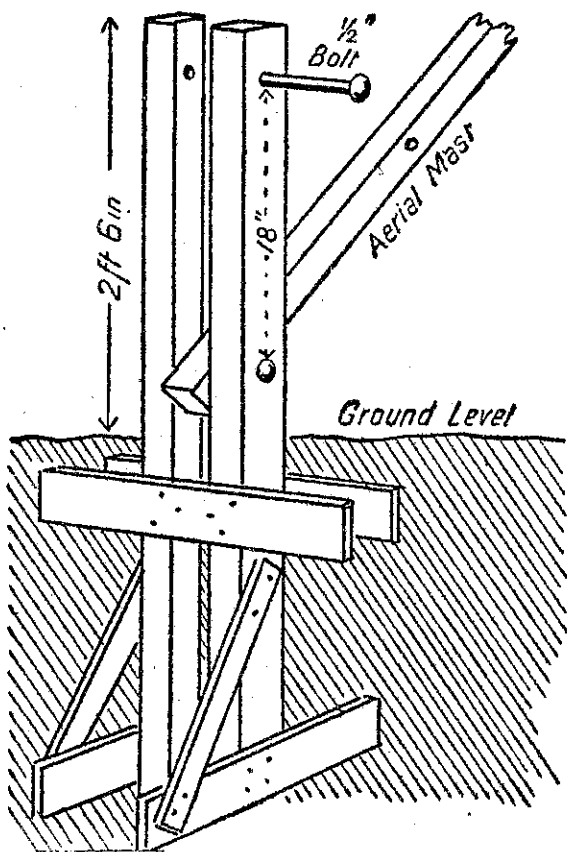
- Aerial or counterpoise or part thereof outside of buildings together with any stay wire in connection therewith shall be so located in respect of aerial conductors of either power or telephone lines that contact by swinging, sagging or breaking is impossible.
- Aerial and counterpoise outside buildings and any stay wire in connection therewith shall be so located in respect of aerial power conductors that a person cannot make simultaneous contact with them.
- When the span does not exceed 100 feet the size of the aerial

wire shall have a cross sectional area of not less than 0.0045 sq. in. (7/.029") or No. 14 S.W.G. Where the span exceeds 100 feet the aerial wire shall not be less than 0.0070 sq. in. (7/.036")

- Supporting structures for aeri- als shall be of ample strength and securely fixed in position by staying or otherwise.
- Indoor aeri- als must not be twisted round or attached to any electric wiring or fittings or to gas fittings.

YOU must not run your aerial across other people's property without their permission.

COIL winding can very often be simplified by the use of a hand drill used in a vice.



But there are a few points to be borne in mind.

The effective height of an aerial is its distance from the nearest earthed object. Thus an aerial passing over a roof would in reality be only a low aerial. The remedy is to connect the aerial by means of a support, insulated at both ends to the chimney. This should be long enough to clear the roof. To the farther insulator, attach the aerial wire. For this reason, too, the actual collecting aerial wire should be some distance from the mast. Six feet is none too much. Where aeri- als are slung between two hills or two similar objects the actual aerial should commence well out from the support.

(a) Trees as aerial masts. An article has already appeared in a previous issue concerning trees as aeri- als, but a word of warning repeated would not



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OFFER**

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Amplion Speakers are known the world over for their wonderful clarity and mellow tone—they bring the best out of your Radio. Here's a wonderful opportunity for you to purchase a genuine Amplion Speaker for half price.

Dragonfly AR 102 ....	12/6	Radiolux Senior, Metal RS 1 .....	£3/10/-
De Luxe Swan Neck AR 88 .....	£4/10/-	Radiolux Oak, RS 1 .....	£3/12/-
Radiolux Metal Junior RS 2 .....	£2/15/-	Hanging Cone, AC 2 .....	£3/5/-
Radiolux Junior, Oak RS 2 .....	£2/17/-	Cabinet Cone Chippen- dale Mahogany, AC 9 .....	£9/10/-

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*Marvellous  
Accuracy of  
Reception  
FADA RADIO*



B. (Dunedin North).—As the circuit of the S.G. Browning Drake has come to hand it cannot be described in the "Record" until built up and tested. However, a print of the diagram will be sent you as soon as possible.

#### Set Works Without an Earth.

My set works just as well without an earth. Why is this?—H.S.T., Wellington.

There is something wrong. Examine carefully the earth lead to make certain that there are no breaks. If isolated there may be a break with the insulation. Try another wire earth. Examine carefully the joins of the set and to the earth, a connection may be at fault. Maybe there is connection to earth.

The set is a simple one, so that it is unlikely that internal causes

## Questions and Answers

**O**WING to pressure of space, the "Beginners' Corner" and "Questions and Answers" are "amalgamated" for this issue. For the same reason several letters have to be held over. These touch interesting topics, and it is regretted that they cannot be published this week.

are operating to bring about this effect. However, examine carefully the wiring, terminals, etc. From the diagram it is impossible to track down the cause of the trouble.

#### Painting the Earth Connections.

"WOULD it be a good plan to paint a galvanised iron pipe with alum-

inum paint at the place of contact with the earth clamp, this to be done after pipe is cleaned well and before fixing clamp? My idea is to abolish periodic cleanings of the clamp and pipe. I am situated about five miles distant from the sea."—R.T., Seddon.

Paint contains a large percentage of oil, which is a non-conductor, so that paint becomes itself an insulator. Cleaning a place and painting it would be wasted time, for it would be merely scrapping off a poor conductor to replace it with a good insulator. Rather clean the pipe, put on the clamp, and having screwed the clamp down as hard as possible, paint it and the pipe with thick paint. Naturally, the pipe below the ground should not be painted if a contact is to be made.

#### Heavy on A Battery.

F.M., King Country, writes:—"My set is a factory-built 3-valve set. I should like to ask some questions:—

As this set is running on 80 amp. A battery down in about 45 hours. I should like to know if this is usual for a set this size, and if it can be altered without altering the volume or tone of the set?

The term "running down" is not defined, but it is taken to mean that after 45 hours' running the battery needs recharging. Were the battery to run down in the literal sense it would not last very long. The three valves in question together consume  $\frac{3}{4}$  of an ampere per hour. This would give the life of the battery as over 100 hours, but no owner who wants his battery to last uses more than two-thirds, which should be the limit. This gives this owner 66 hours, and he is getting only forty-five but without knowing exactly what is being meant by "run down" this cannot be said to be the case.

Possibly there is bad insulation and the battery works longer hours than the owner imagines. The battery may not be coming up to its rated capacity, it may be old, or it may have been allowed to run flat and have shortened its life. If the owner decides that none of these factors apply then his safest plan is to replace his valves by others requiring less filament current. Good makes are on the market which do not impair the volume.

"Is it correct that a set with A+ and B— connected to the same terminal uses the 6 volts of the A battery in with the B circuit, and would altering the connections in any way reduce the power of the set?"

Yes; but the amperage taken by the B is so little that it will not materially affect the A. It can be overcome by connecting A— to B—.

"My set has never had more than very limited loudspeaker volume in the daytime, although at night it has come in with tremendous volume, but lately, although the daylight receptions have improved a little, at night I can hardly hear it at all, or only occasionally for a minute or so. It sometimes improves to a very good volume be-

tween 9 and 10, but not always. Why is this?"

This seems due to atmospheric variations, though rumour has it that certain stations vary considerably. With the approach of summer certain atmospheric changes take place, altering the characteristics of the wireless waves. This may possibly be the trouble. In this case we can't suggest a remedy.

"Why does the speaker ring when the music is very loud and clear? Why should the set go in occultation after it has been set for some time, sometimes 5 to 10 minutes after?"

The speaker ring spoken of is one of the inherent qualities of the fixed coil speakers. Only a limited amount of play is allowed the reed, so that when great volume is being handled this knocks against the magnet and causes various noises, sometimes rattle, mushiness, or ring.

#### "Radiation."

I HAVE a new method crystal set (as described in the last "New Zealand Radio Handbook"). On December 1 at 11.25 p.m., I picked up a station on (approx.) 200 metres at fair 'phone strength A piano solo was on at the time, an orchestral number preceded this. Reception was slightly blurred, and there was slight static. In "Our Mail Bag" in "Radio Record" of November 9, an inquirer asked if anyone had heard a station on 200 metres. No announcement was made between the two items.—"Christchurch."

"Getting strangers" on a crystal is most unusual, and one is inclined to think that it was a case of radiation, that is, the crystal set was tuned in to the same wavelength as a near-by valve set, and it was picking up some of the signals "overflowing" from the bigger set.

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B3

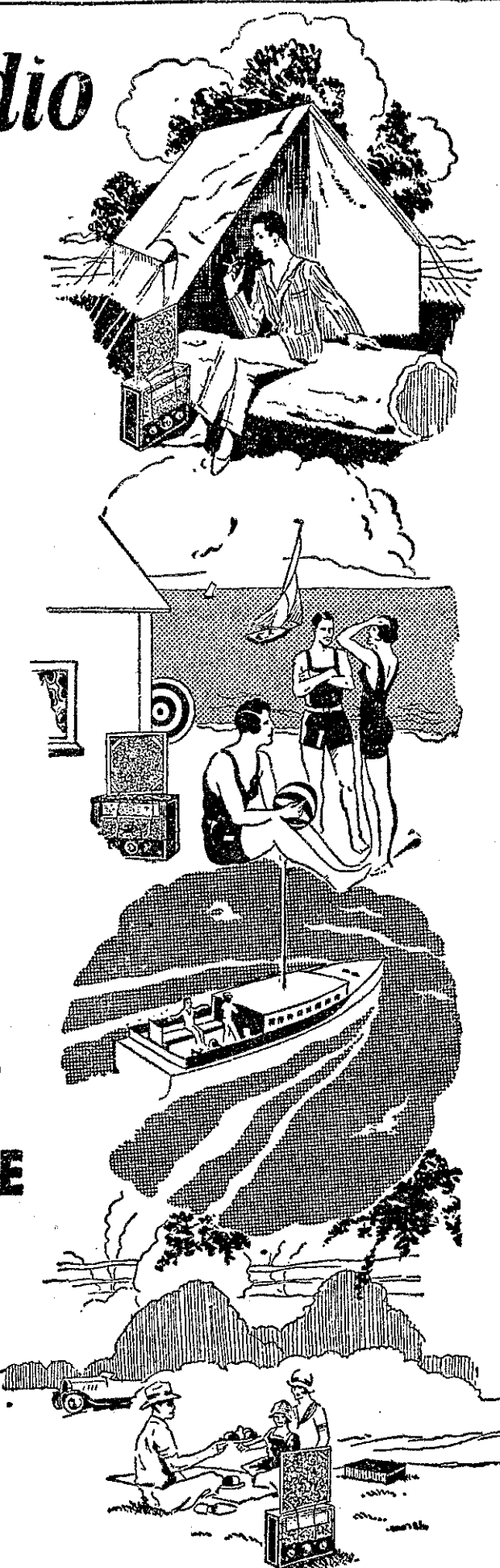
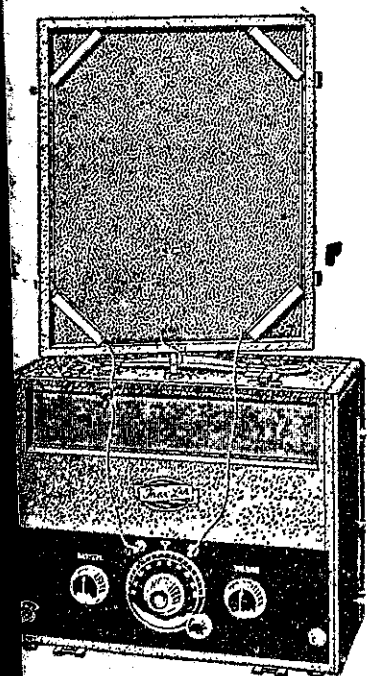
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# Hints on Securing a Good Ground



CONSIDERING the different types of ground connections it is found that these fall naturally into three groups.

- The town water supply or artesian well where the ground is already provided and the connection only is needed.
- The Pierce system and its modifications (see diagram).
- Earthed conductors buried well below the surface and kept damp.

THESE cannot be classified according to efficiency; so much depends on locality and on the nature of the soil.

## The Water Pipe.

WHEN selecting this type the following points should be borne in mind:—

- Is there going to be a long connection between the ground and the set? If so, abandon it, for the Pierce system, or the earthed conductor with a shorter lead.
- If the pipe has to travel some considerable distance and has

at the end of the row of pipes, with its caps just above the surface, so that water could be poured into it.

Very good results have been reported by this system. It is particularly suited to moderately dry and heavy soils.

THE aerial, the surrounding air, and the ground, form one huge condenser, and the electricity carrying the signals from the transmitting station rushes backwards and forwards from the aerial to ground through the set. No one would think for a moment of using a condenser in the set of which the plates were of uneven size and haphazardly put together. Why, then, use such a condenser out of the set. An efficient aerial with an equally efficient ground is the first step to good reception.

## Earthed Conductors.

THESE, with all their modifications, are becoming very popular, and correspondents have suggested many novel improvements. Notable among these are an old washing copper, with holes punched in it, to which is soldered the seven strands of 7-18th cable, sunk several feet in the ground, has been suggested by a writer from Khan-

## Ground Lead.

THIS is equally as important as the aerial lead-in, and the points enumerated should be carefully watched.

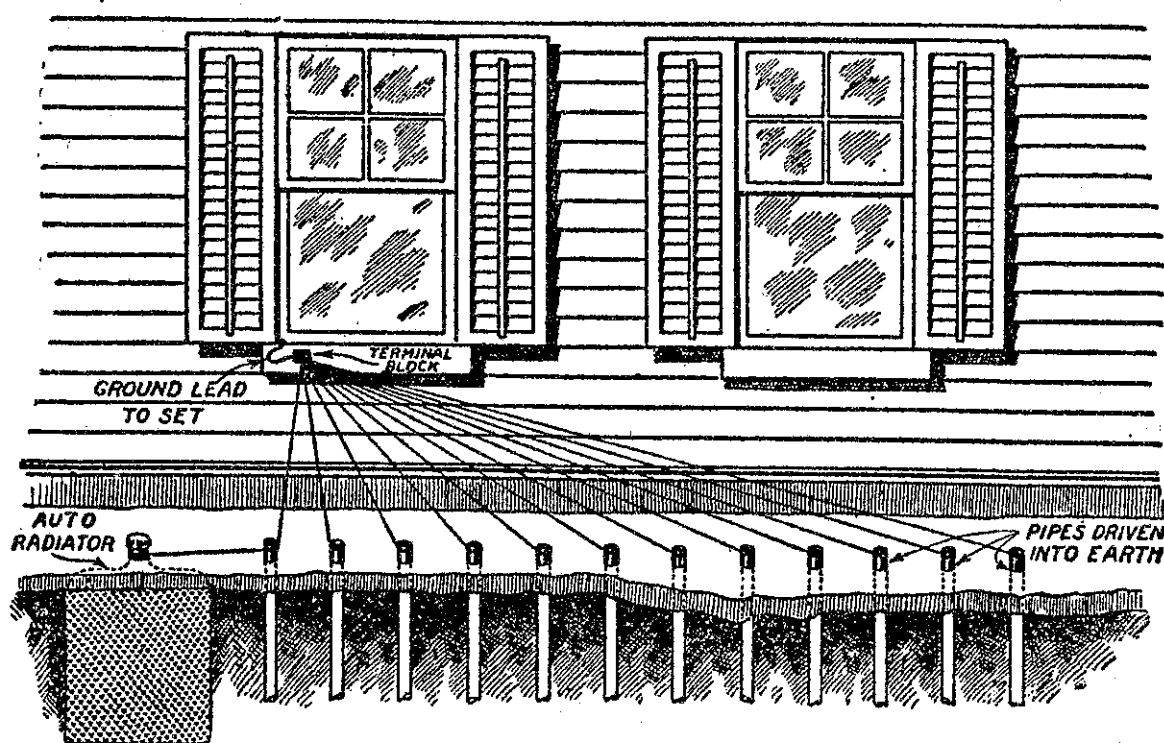
Every joint should be soldered, each lead soldered to the ground connections, but when water pipe is used this will be found different, so a special earth clamp should be used.

When the Pierce system is used, soldering to the pipes should be done before they are sunk into the ground. By employing the following method no difficulty should be employed.

Apply raw spirits of salts to which the soldering is to be done. With killed spirits, that is, spirits in which zinc has been dissolved, paint the wire to be soldered. Tin the galvanised pipe, then solder the two in usual manner.

It has been taken for granted that the beginner will make a perfect clean joint by filing the surfaces and rubbing them thoroughly with sandpaper.

IT is a good plan to look over your grid-bias plugs occasionally to ensure that they fit tightly in the sockets and are reasonably clean. (Loose-fitting plugs can generally be opened quite easily with a knife blade.)



many joints before entering the ground, it will be very inefficient, for a long lead is undesirable.

- If the pipe enters dry or sandy soil, a more efficient system would be the earthed conductor, as will be described.
- Other than a clamp, there is little chance of effecting a good connection between ground and lead.

Generally speaking sets are not near water taps, so that it very often pays to adopt a different type. If a water-pipe offends in any of these points it should not be pressed into use.

## The Pierce System.

THE wire that leads from the ground connection on the receiver out through the window ends at a binding post on a porcelain base. From this post twelve wires lead to the same number of pipes or other pieces of metal embedded in the ground. A leaky automobile radiator used by the originator was sunk in the ground

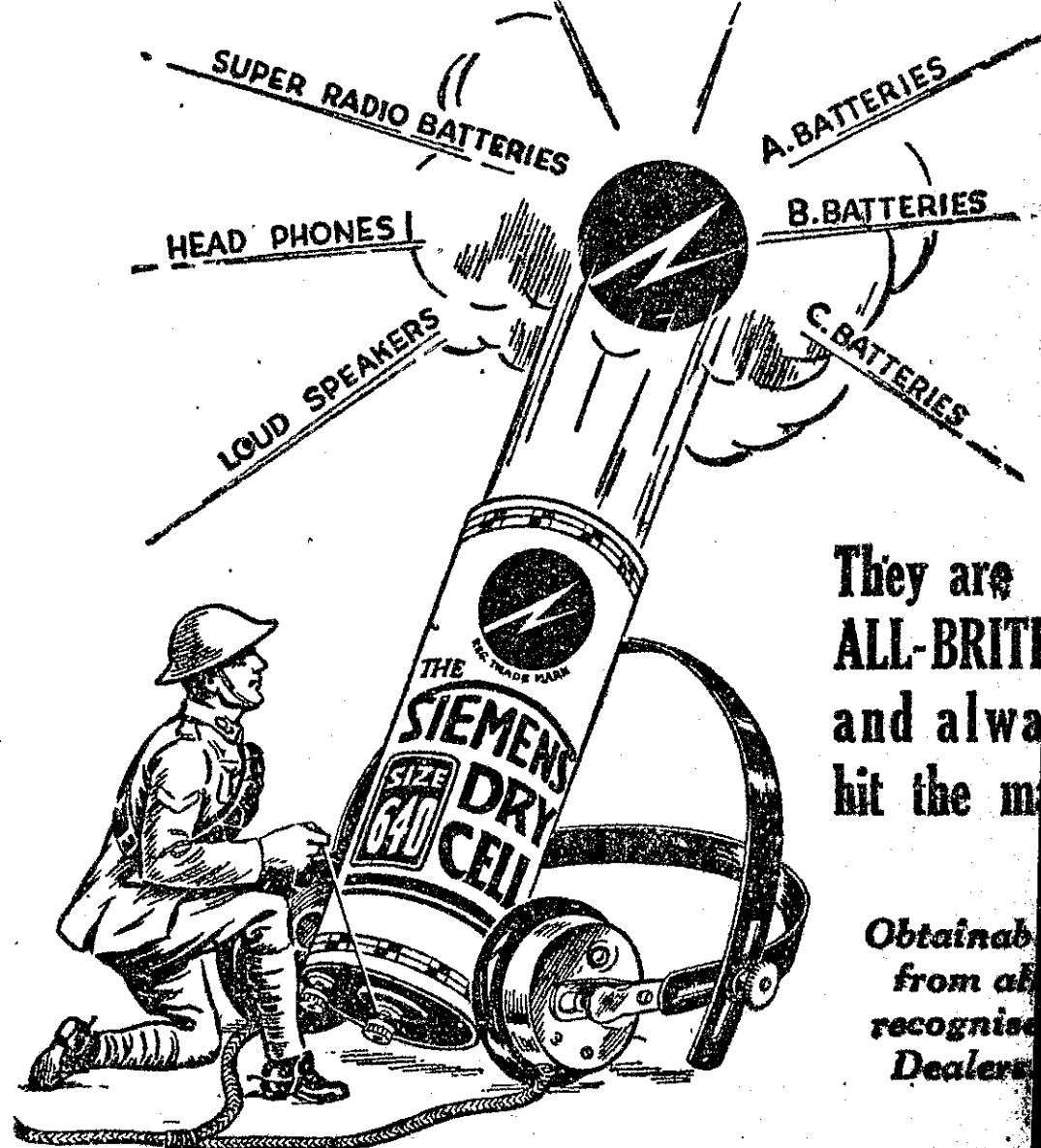
dallah. This would be improved by filling the copper with clinkers and installing a down-pipe to keep the clinkers wet. A lavish supply of water improves reception.

Another suggestion comes from Picton. This correspondent suggests a drum sunk deeply into the ground and kept filled with water. A modification is a closed kerosene tin, to which is soldered a down-pipe, in order to keep the tin filled with water. To this can be soldered the lead to the set.

Another idea was suggested to the writer by a resident of Trentham, but the application of this method may be restricted to a lucky few. A kerosene tin of empty brass rifle shells had been collected, and well earthed, and arrangements provided so they and the surrounding ground would be kept continually damp.

There are many other methods, for instance, coiling a bare wire and burying it in a damp place. A bed of a stream is quite a good place for an earth, providing a short enough lead can be used.

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# Record Long Distance Relay from Wanganui

concert was primarily organised with aid of the funds of the Queen's Band for the provision of funds, and was given to a capacity in the Opera House. An introductory speech by Mr. Louis Cohen, President of the North Island Brass Association, was of interest, and made the occasion for a special appeal to radio by which a vast audience was being enabled to hear the talent of Wanganui. As a lover of music, Mr. Cohen stressed the value of the new instrument placed in the hands of civilisation by radio for spreading the love of culture and in the minds of the people.

A demonstration of the method of broadcasting, and some of its attendances, was given the Wanganui audience. The amplifying equipment arranged in the orchestral well on the stage. This equipment was more powerful and elaborate than that employed on an ordinary relay, its essence was really a duplicate of the amplifying equipment used at various broadcasting stations. This was necessary in order to ensure full success in the transmission of the music over the long land-line to Wellington. The clarity with which the music was transmitted forms in itself the best testimonial to the special arrangement taken by the technical experts of the Post and Telegraph Department on this occasion, as well as to the skill of the equipment of the broadcasting station in recognition of the importance of the occasion, the Radio Broadcast-

ing Company's chief engineer, Mr. J. Bingham, was in charge at Wanganui.

## To Wellington and Back.

ANNOUNCEMENTS in connection with the concert were made in his ordinary tone of voice by the editor-announcer, and were made audible to the audience in the hall by a special

That the broadcast evoked a great deal of interest was shown by the fact that within twenty minutes of the start, long-distance telephone calls had been received from twelve different points all enthusiastically reporting splendid reception. One or two of these enthusiasts reported that the transmission and the music were the

A RECORD for New Zealand was established on the night of December 7, 1928, 2YA relaying a special concert from Wanganui over a land-line of 130 miles in length, and successfully broadcasting it. 3YA in turn picked up 2YA and re-broadcast the concert. Thanks to a particularly good land-line (for which special thanks are due to the technical staff of the Post and Telegraph Department) the broadcast was of a particularly fine quality, and long-distance telephone calls of appreciation were frequent shortly after the beginning of the concert. The occasion served to demonstrate the quality of talent available in Wanganui and enabled crystal users in Wellington and Christchurch to enjoy a special treat.

receiving set installed by Mr. C. Carad. From this the audience was able to hear through the loud speaker the announcements as received back from Wellington. This fact was mentioned to the house by the stage manager, Mr. Atkinson. In a specially intimate way, therefore, the audience was made radio-conscious. Three microphones were used—one for announcing and two of the condenser type for the programme.

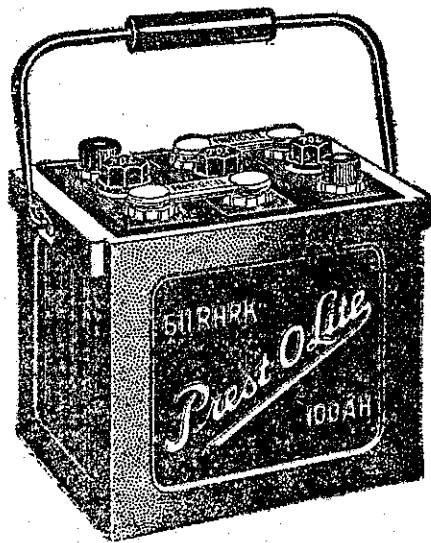
finest they had ever listened to over the air. The suggestion made at one stage of the proceedings that members of the unseen audience should recognise the purpose of the concert in providing funds for new instruments, was acknowledged by donations being reported from Stratford, Wellington, and Napier. Doubtless other contributions will also be received from distant listeners.

## Tribute to P. and T. Department.

THE General Manager of the Broadcasting Company, Mr. A. R. Harris, forwarded the following telegram to Mr. G. McNamara, Secretary of the Post and Telegraph Department on Saturday morning:—

"Please accept heartiest appreciation of the arrangements made for relaying concert by land line from Wanganui last evening. The feature of the very successful broadcast was the excellent quality of the music which your engineers were able to transmit over such a length of exposed land line."

Speaking to a Christchurch "Star" reporter subsequent to the Wanganui concert broadcast, Mr. Harris said that the greatest credit for the success was due to the Post and Telegraph Department which had prepared such a splendid land line. This was the longest land line which had yet been used for broadcasting in New Zealand, and to secure such perfection under the conditions which exist in this country was a great tribute to the Post and Telegraph engineering staff. On two previous occasions long relays of speech had been carried out—one from Masterton and one from Palmerston North to Wellington—both about 90 miles. In the case of Wanganui, the line had been prepared for the transmitting of music, and very low as well as very high frequencies had to be coped with. Conditions in New Zealand, said Mr. Harris, were very different from what existed in the older countries, where lines were not subject to the interferences which had to be contended with in long relays in New Zealand where the lines traverse long stretches of exposed and undeveloped country. That last evening's relay from Wanganui to Wellington, a distance of 125 miles, should have been able to convey such high and such low frequencies in music and to be so free from outside noises was a very commendable piece of technical work, emphasised Mr. Harris.



Voltage	Capacity Amp.	Price
4	60	£3 10 0
6	60	4 10 0
6	80	5 5 0
6	100	6 5 0

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# THE WOMAN'S POINT OF VIEW

By "VERITY"



## Artificial Silk

### How to Wash It

ARTIFICIAL silk is now recognised as an ideal material for fine garments and drapery on account of its good wearing qualities and daintiness.

It is a mistake to think garments made of this silk must be cleaned when dirty as they cannot be laundered. They can be washed very successfully without any damaging effects if precautions are taken in the process.

This material often loses some of its strength when wet, and the garments then need handling carefully and gently. Warm water and soap should be used, but be careful in your choice of soap.

Strong domestic soaps with too much alkali are fatal to silk. Flaked or dissolved soap of the highest quality is best when washing dainty fabrics.

Make a lather by dissolving the soap in warm water (not hot), and allow the articles to soak a few minutes. When washing the garments they should be very gently kneaded between the fingers, and moved round in the lather until the dirt is thoroughly removed.

It is important to remember that there must be no rubbing on a board or wringing through a roller. Apart from damaging the fabric, silk is liable to stretch out of shape if pulled roughly.

When all traces of grubbiness have disappeared, the garments should be rinsed well in two lots of clean water and allowed to drain. They can then be rolled up in a ball, wrapped in a towel, and gently squeezed to remove the bulk of the moisture.

When nearly dry hang them out to dry in the open air, or in a draught. Drying in front of the fire is inadvisable. No pegs should be used, but the garments must be hung on a line with the weight well balanced to prevent stretching.

The appearance of artificial silk is always improved after washing if it is ironed on the wrong side with a warm iron. This removes any creases and brings out the sheen of the material, but the iron must not be hot, or the threads will be damaged.

## Child Poster Artists

CHILDREN attending London County Council and secondary schools in Kensington have sent in designs for

posters for Kensington's Health Week, and some have been accepted by the Public Health Department.

One boy had painted two tombstones with epitaphs. One said: "Bert Nosope, In early prime, Before his time, A victim of grime, Laid low forever."

On the other was printed: "Jack Bean, Dirt his curse, Grew worse and worse, Brought here by hearse."

## Lemons and Beauty

LEMONS are most useful allies in the cause of beauty culture.

They are excellent for removing stains from the hands, whitening discoloured necks and cleansing the teeth.

Lemon juice taken internally, mixed with hot water and no sugar, is splendid for keeping the figure slim, and for toning up a sluggish liver. Best times, night and morning.

## To Wash Blankets

DISSOLVE 1 ounce of glue in 1 pint of hot water. Fill the bath with hot water. Stir in glue water. Put blanket in bath, leave ½ hour, stirring occasionally. Put through wringer, then rinse in hot water, stirring again. Put on line, when dry will be fluffy and quite like new.

# Annotations of Annabel

## DEAREST:

The fine days that glow in this last month of 1928 bring forth Eve, fleet of foot, rapt and preoccupied of regard, carrying a repository of sorts in which temporarily to inter suitable increment towards glory-box of the Christmas-tide that once more is upon us. A happy time—if only there were more of it, so to speak—when opportunity is taken to think of those who are dear, and make gesture of remembrance, however inadequate, in return for friendship and hospitality extended during flying days and months of a year that has almost vanished into limbo of the past.

RAPT in doubtful speculation as to elasticity of ways and means, we wend our way through plethoric emporiums, waved hither and thither by suave and dapper olympians, who, with courtesy and kindness hypnotise bewildered buyers towards the way they should go—the gleam and glitter of fabric and jewel, and those lustrous, enchanting weaves of stocking and pyjama so well calculated to arouse lust of the eye and lure to financial disaster most purse-proud plutocrat of us all.

BETWEENWHILES vague wonder arises as to mental processes of certain shop assistants. One presupposes tact to be a trump card in conciliation of a customer whose cash or credit is the material mecca, and raison d'être of existence of both shop and shop assistant. Wherefore, then, with zeal and temerity, emphasise weak spot in feminine armoury of a tentative buyer; the too pallid complexion, the angles and the bumps? Why be crude, in fact, and irritatingly insistent on physical blemish?

"SUFFERING from flat foot as you do, moddam," says a foolish virgin, "there's no use expecting to wear pretty shoes! We are stockists of these for ladies so unfortunate!"—displaying, for delectation of her victim, blucher-like enormities suggestive of the world's worst.

"WITH a Frame like yours," chirruped another tyro at the gentle art of persuasion, "you should wear this," and dangled strait-jacket of rubber and whalebone of terrifying length, and unyielding enough to petrify the grace of La Gioconda herself. "With this, moddam, those bulges will be barely noticeable! Out Size! Twice ordinary price!" Thus was golden gate of opportunity slammed on valuable retreating customer by ill-advised comment on Junoesque figure that has been the admiration of painters and poets.

FOR the Wellington Art Gallery, long overdue but now in the imminent offing, much valued effort is just put forth, of every kind and degree, but all as welcome as the widow's mite, nuts in May, or the flowers that bloom in the spring.

THE dancing that was an accompaniment of last week's Pageant of Fair Women was beautiful indeed; in particular Miss Miriama Heketa's gyrations before Egypt's Cleopatra being a miracle of sinuosity, stealthy grace and languorous seductiveness, entirely in accord with the splendour, luxury and mysterious allure that surged and pandered and battered in the court of Antony's lovely one. In a different genre, but as lovely and lissome in charming childish fashion, were the elves and pixies who capered and cavorted amid surroundings reminiscent of the fairy ring itself.

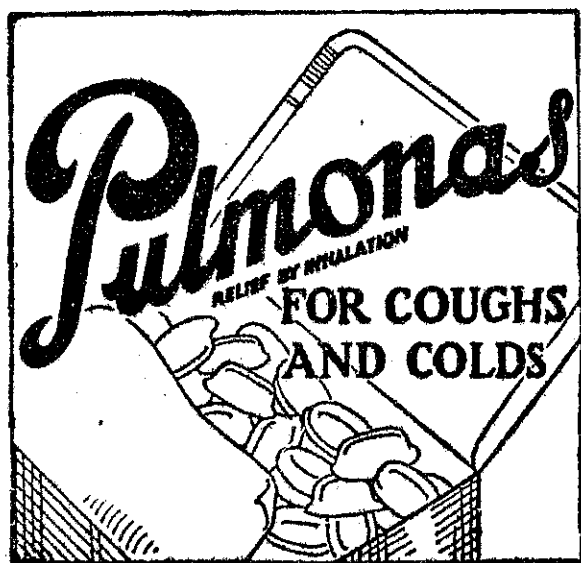
AFTER the spectacle we held heated debate, in the Capital City's best restaurant, as to relative merit of rival representations. Richard proved enthusiastic anent nymph-like grace of motion and swaying youthfulness of Iphigenia, whose misty rose-garlanded draperies floated away from slimmest figure in the world. His usually silent satellite, who adores Richard in inarticulate fashion, entirely disagreed; insisting that the lady who visited Solomon in all his glory, as impersonated by ye moderne mayde, easily came first, resembling as she did some rare bird flaming and flashing in tropical trees. After which burst of poesy from one whom I had deemed a totally unimaginative Romeo, the rest was silence as far as he was concerned.

THOUGH not denying Miss Alison Kirkcaldie's pale beauty was arresting, haloed as it was with strangely iridescent peacock plumage and enhanced by shimmering shrouding draperies, befitting Sheba's Queen, and splashed with green of Chinese jade; yet my inalterable "pick" was Cleopatra with her strange entourage, impressive frieze-like figures that grouped around the stage, and curiously true to an ancient era made familiar to us by generations of plastic art.

WE argued until midnight without reaching amity; but all adored chance of seeing representation of that lovely fantasy mirrored in the mind of a poet long dead, whose noble influence on literature for a time is in abeyance and scorned by a generation that sets up tin gods of literary dissonance and ejaculation which they are pleased to term self-expression.

Your

ANNABEL LEE



# Features of Next Week's Programmes

## Notes from 1YA

ON Tuesday evening a programme will be presented by Madame Ainsley's vocal quartet and chorus, of excerpts from Handel's "Messiah." The soloists will be Miss Violet Harrison, Madame Irene Ainsley, Mr. Arthur Colledge, and Mr. Lambert Harvey. These artists will also be heard in a number of sacred songs—"The Gift," "Nazareth," "The Star of Bethlehem." Also contributing to this evening's performance will be Mr. A. B. Chappell, M.A., who, in continuing his talks on "The Maori," will speak on "His Occupations," while on the instrumental side of the programme the Studio Orchestra will play a number of favourite airs. Mr. Cyril Towsey will provide a piano solo, "Andante and Rondo Capriccioso."

THE main vocalists on Thursday's programme will be "The Clarions," who will present excerpts from Reubens's popular musical comedy, "To-night's the Night," including "Life is Very Jolly" and "When the Boys Come Home to Tea"; also "The Early Morning," "They Didn't Believe Me," "I'd Like to Bring My Mother" and "I'm a Millionaire." Elocutionary items will be performed by Mr. Alan McSkimming, while instrumentalists for the evening will include Mr. Barry Coney, whose items will be "Two Preludes," by Besley, and "Polonaise in A Flat." Mr. McSkimming's numbers will include "Christmas at Sea," which should prove very popular.

ON Friday, in accordance with the Christmas spirit, the St. Andrew's Quartet will present a programme of sacred and oratorio quartets and solos, including excerpts from

the "Messiah" and a number of Mr. A. E. Wilson, will perform a programme comprising old and new Christmas carols and melodies, also organ excerpts. The well-known Maunder's Christmas Cantata, "Bethlehem," will also be rendered. The soloists for the programme will be Mr. H. Cox, Mrs. J. Litherland, Mr. C. Character sketches will be rendered by Mr. T. Harris, including "Ebenezer Turley, Mr. Clinton Williams, the

## "The Magic Flute" Overture at 2YA.

ONE of the items to be played by 2YA orchestra on Monday evening will be the overture to the favourite opera "The Magic Flute," one of Mozart's last great works.

Mozart was a Freemason. Freemasonry was very much "in the air" at that time, and all the curious plot of "The Magic Flute" has Masonic ideas as its foundation. There is much elaborate ceremonial in the opera, and we hear suggestions of this in the impressive introduction to the overture, and also later in its course.

After the Introduction we have the First Main Tune. This is "fugal," i.e., one "voice" (in this case an instrumental "voice") starts all alone with the tune; next another voice enters, repeating the tune at a different pitch, and so on. This first main tune really runs through most of the overture. For instance, bassoons and clarinets continue playing the beginning of it while oboe and flute are playing the second main tune. With this material the overture trips along happily and straightforwardly, with only the one serious check—when we have solemn ceremonial again recalled.

Scrooge" and "Sidney Carton's Farewell," from "The Tale of Two Cities." The Studio Orchestra will contribute appropriate selections, which will include many popular numbers. A newcomer to the microphone in the person of Miss Doris Binns, will contribute piano solos, including "Polka de la Reine."

A SPECIAL Christmas musical programme will be broadcast from the Auckland Baptist Tabernacle, where the Tabernacle Choir of one hundred voices, under the direction of

pianiste, Mrs. T. Brame Clark, and the organist and conductor, Mr. Arthur E. Wilson.

THE principal vocalists on Sunday evening's programme will be Mr. Frank Sutherland and Miss Hazell. Miss Phyllis Hazell will be welcomed back to Auckland and the microphone after an absence of some months in Australia. These artists will be heard in duets and solos, the two duet numbers being "Hold Thou My Hand" and "Break Diviner Light" (Allitson), while the solo items will include "The People That Walked in Darkness" and "He Shall Feed His Flock," from the "Messiah." Electrically produced records will also be included in our Sunday evening's performance.

## Notes from 2YA

THE programme on Monday will include several very fine items. Mr. John Prouse is singing, with orchestral accompaniment, "Ombra Mai Fu," "Nazareth," and "The Deathless Army." "St. Agnes Eve," "The Sapphic Ode" and "Sea Fever" will be sung by Miss Nora Greene, while Miss Kathleen Ferris and Mr. Charles Williams will also appear. Miss Gladys Morgan will play piano solos and elocutionary items will be given by Miss Kathleen Shaw. The orchestral items include the overture to "The Magic

Flute," the ballet suite "Le Lac des Cygnes," "Nocturne in D," and other delightful numbers.

ON Tuesday evening a novelty programme will be presented by Messrs. Chas. Begg and Co., Ltd., entitled "A Day in a Music Shop." This programme will include many novelty numbers and is certainly very attractive.

THE Wellington Municipal Tramways Band will supply many interesting items on Thursday evening, including "Pride of the Valley," "L'Amour de Village," "The Flying Dutchman," and other delightful numbers. The Lyric Four Quartet will give concerted and solo numbers, and Mrs. M. Thomas, elocutionist, will appear in two items.

ANOTHER interesting lecturette on "Native Birds" will be given by Mr. Johannes Andersen on Thursday evening.

FOR Friday evening the Ariel Singers have been engaged to give another of their interesting recitals. Two important features thereof will be a seasonal "Fifteen minutes of Christmas music" and a group of British folk songs. Outstanding individual items on the programme to be presented by the Ariel Singers are Henschel's great bass solo, "Young Dietrich" and the quartet "Sweeter Than the Songs of Summer," by Sir Frederick Bridge. Also to be heard on Friday will be 2YA Orchestra, which will play amongst other numbers the overture from "Norma," by Bellini, a suite "In Arcady," by Nevin, "Master Melodies from Famous Operas," and the musical comedy selection "Der Rosenkavalier," by Strauss.

ON Friday evening the Rev. J. R. Blanchard, B.A., will give a lecturette on Christmas poems.

SATURDAY will see the appearance of the popular Melodie Four, who will again delight with concerted and solo numbers. Mr. Jack Wilkinson is giving two of his best humorous songs, and the orchestra will be heard in novelty numbers, including "Snacks in Bars," by Egeren, a xylophone solo, "The Dance of the Toy Regiment," "Trot de Cavaliere," a march by Rubinstein, and the "Missouri Waltz."

## Notes from 3YA

MISS EILEEN IRWIN (contralto), Miss Myrtle Langley (soprano), and Mr. Harold Prescott (tenor) are singing on Monday evening. Also appearing will be Mr. Bracey Wilson, the

His Xmas Gift!

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well-known dispenser of Scottish humour. These artists will present a very diversified programme, thoroughly in keeping with a band evening. The instrumentalists for this occasion will be the Christchurch Municipal Band under the baton of Mr. A. J. Schnack. The Studio Trio will also be performing.

A miscellaneous programme, which will include several operatic numbers, will be presented on Wednesday evening. The vocalists will be Miss Hilda Hutt, Miss Nellie Lowe, Mr. T. G. Rogers, and Mr. A. G. Thompson. The studio orchestra, under Mr. Harold Beck, will play "Raymond," Schubert's "Unfinished Symphony," "Serenata," by Jacobs, and Tchaikowsky's "Valse of the Flowers." Pianoforte solos will be contributed by Miss Maud K. Stout.

The Rev. B. Dudley, F.R.A.S., lecturer on popular astronomy, will give a talk on Wednesday evening on telescopes and observations. Further entertainment of a different nature will be provided by Mr. Dudley, with the recital of "Old Boggles, the Crossing Sweeper."

Thursday evening's programme will be of a Christmas-time nature.

A new quartet, to be known as the Valencia Quartet, will provide a popular programme on Friday evening. The members of this quartet are Miss Renetta Rings, Miss Anita Graham, Mr. W. Bradshaw, and Mr. Fred A. Millar, all frequently heard at 3YA. For this occasion the quartet will present extracts from "Maritana" and from Sullivan's "Pinafore." The concerted numbers should be specially attractive. Other artists on the programme will be Miss Bessie Pollard (pianiste), Miss Irene Morris (violiniste), the Studio Trio, and Mr. L. T. Ryan, who will give two humorous monologues.

Vaudeville, pure and simple, will be the programme on Saturday evening. The programme will be provided by the Revellers Concert Party, headed by Mr. George Titchener, an exceptionally most popular radio humorist. The other members of the party will be Mr. Collins, Miss Mavis Ritchie, Miss Muriel Johns, and Miss Dorothy Johnson. These artists have been rehearsing for some time for this broadcast, so listeners can look forward to a great entertainment.

## Features from 4YA

AMONG the items to be played by the St. Kilda Band, under the conductorship of Mr. James Dixon on Tuesday evening will be the overture "Bohemian Girl" (Balfe), a selection "Echoes of Scotland" (Rimmer), Michaelis's "Turkish Patrol," and several other popular numbers. Squire's charming little ballad song, "When You Come Home," arranged as a cornet solo with band accompaniment, will be another feature.

MISS DOROTHY SLIGO (mezzo-soprano), among other numbers, will render "A Summer Afternoon." Mr. R. A. Mitchell (tenor) will sing "Ah, Moon of My Delight," from Liza Lehmann's "Persian Garden," and "Vale" by Kennedy Russell. Bass solos will be rendered by Mr. E. G. Bond, and Mr. Lester Moller will entertain with elocutionary items, including "Bertram on Babies."

ON Tuesday evening the Rev. W. B. Scott will deliver another of his series of talks on the early history of New Zealand. On this occasion his subject will be "Henry Williams, the Sailor Missionary."

A MOST pleasing programme will be broadcast on Wednesday evening when the chief item of interest will be the presentation by the 4YA Harmonists of Hermann Lohr's song cycle, "The Little Sunbonnet." The 4YA Broadcasting Trio will provide the instrumental accompaniment to this, and a fine performance is promised. The song cycle consists of quartets and solo numbers, each with a quaint charm characteristic of the work of Hermann Lohr.

IN addition to the song cycle some excellent solo items will be rendered by Miss Mae Matheson (soprano), Miss Mollie Andrews (mezzo-soprano), Mr. H. A. Johnston (tenor), Mr. F. M. Tuohy (baritone), Miss Eva Judd (violiniste), Mr. P. J. Palmer (cellist), Miss Aileen Young (pianiste) and Miss Madge Yates (elocutioniste).

FRIDAY'S programme will be of the usual high order. Miss Molly Vickers (mezzo-soprano) will sing two of Lang's songs, "Heart o' the North" and "Heart of Gold." Miss Molly Vickers and Mr. Arthur Lungley will sing as a duet, "Arise, O Sun," and baritone solos will be provided by Mr. Arthur Lungley. Miss Irene Hornblow will sing Carey Jacob Bond's "Haunting Memory."

A BRIGHT entertaining programme will be heard on Saturday evening. Popular song hits and humorous Scottish songs will comprise the vocal section. Miss Sheila Neilson and Mr. J. B. McConnell will entertain with extremely funny sketches. There will be instrumental music in keeping with the light nature of the programme.

## Children's Sessions

AT 1YA.

TUESDAY, DECEMBER 18.—Uncle George and his young helpers will provide stories, birthday greetings and music, and altogether give you a bright hour from six to seven o'clock.

WEDNESDAY—Wednesday brings Uncle Tom with a new opening and closing chorus, so keep little ears open and hurry up and learn it, and join in the singing.

THURSDAY—This evening Mrs. Arthur Griffiths is bringing a happy little band to sing Christmas Carols and to give Christmas dialogues and sketches, so be prepared for a delightful programme. Peter Pan will attend to the mail-bag as usual.

FRIDAY—Nod and Aunt Jean have a playette all about the Christmas pudding to-night. There will also be Christmas music and stories, and the Radio Postman busy as usual.

SATURDAY—Don't miss Saturday evening from six to seven, for all the uncles and aunts will be

in Radioland to send Christmas Greetings to their nephews and nieces. They will also sing Christmas Carols and have heaps of fun and jokes.

SUNDAY—Children's Song Service conducted by Uncle Leo, assisted by cousins from West Street Church of Christ Sunday School.

AT 2YA.

MONDAY, DECEMBER 17.—The girls and boys of Standard 4, Thorndon Normal School, are coming with Miss Perry. These children are always well trained, so we will look forward with pleasure to their programme. There will be Xmas puzzles from Uncle Jeff—Birthday Greetings and stories.

TUESDAY.—To-night there will be a new uncle—Uncle Jim. He loves little girls and boys, so he is coming each Tuesday night to tell stories and greet the little birthday folk. To help Uncle Jim will be the pupils of Miss Agnes Wright, whose pianoforte playing is always enjoyed, also Cousin Bob and Cousin Jack with their mouth organ solos.

THURSDAY.—Father Xmas has invited little children from all over the world to his playroom to-night. So Aunt Gwen said: "Thank you very much, Father Xmas. We will send a fairy messenger to England, France, Switzerland, Germany, Australia and all the other countries, and, of course, we will bring a New Zealand girlie." When Father Xmas has shown his toys the visitors will be asked to give us a little concert and Father Xmas will be asked to show us his garden. Did you know that Father Xmas had a garden? Well he has, and in this beautiful garden are lovely birds that sing, and in the courtyard are some animals. So we may hear the lion roar. Who do you think that will be? Why, Cousin Vermont.

FRIDAY.—Did you wonder where Brother Jack had been hiding all the week? Did you think that perhaps Robinson, the dear

old rooster, may have deserted you? No—they will both be in the studio to-night. Each Friday night you may listen for cock-a-doodle-doo. And here to-night also will be Cousin Marjorie who sings, Cousins Stella and Rosie, who recite, and Cousin Zac, with his steel guitar.

SATURDAY—Five or six little friends have arranged a programme between them for to-night. They live a long way out of Wellington and have to come in by train. They will be made very welcome. Uncle Toby will be with them, too, and also Aunt Gwen.

AT 3YA.

MONDAY, DECEMBER 17.—Ever been to France? If not, never mind—just visit it with Scatterjoy, "over the air." Comment ca va? Little choruses and story of Red Riding Hood, in French—so put your French earphones on and listen to Scatterjoy and the pupils from the "Binzian" school.

WEDNESDAY.—Brother Bill on deck with his box full of gramophone records. All about a voyage on a kite—with Christmas stories and songs.

THURSDAY.—Uncle Hal, and a merry group of little helpers with songs and stories and recitations all ready.

FRIDAY.—Big Brother with Cousins Rona, Vernon, Edna, Francis and Phyllis to help amuse and keep you happy for this bedtime hour.

SATURDAY—Chuckie and Aunt Pat jingling the bells to-night—Christmas is near, so near that if you listen carefully you will surely hear the jingling of the sleigh bells—well, you turn on the loudspeaker and see if that isn't so.

SUNDAY.—Christmas Sunday, and during the Children's Song Service the carols will be sung in both English and Welsh by the Welsh Juvenile choir. Uncle David in charge of this session to-night, as usual.

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# Full Programmes for Next

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## Sunday, December 16

### 1YA AUCKLAND (333 METRES)—SUNDAY, DECEMBER 16.

- 2.0 p.m.: Afternoon session—Selected studio items.  
 4.0: Literary selection, by the Announcer.  
 4.8: Selected studio items.  
 4.30: Close down.  
 6.0: Children's song service conducted by Uncle Leo.  
 6.55: Relay of service from Pitt Street Methodist Church—Preacher, Rev. L. B. Dalby. Choirmaster, Mr. W. Leather.  
 8.30: Gramophone recital from studio.  
 9.30: Close down.

### 2YA WELLINGTON (420 METRES)—SUNDAY, DECEMBER 16.

- 3 p.m.: Afternoon session—Selected studio items.  
 6.55: Relay of service from Pitt Street Methodist Church—Preacher, Rev. L. B. Dalby.  
 3 p.m.: Afternoon session—Selected studio items.  
 6.0: Children's song service, conducted by Uncle Ernest.  
 7.0: Relay of service from Taranaki Street Methodist Church. Preacher, Rev. Clarence Eaton. Organist and choirmaster, Mr. H. Temple White.  
 8.15: Studio concert.  
 Overture—Victor Symphony Orchestra, "Egmont" (Beethoven) (H.M.V. Record EB8).  
 Contralto solo—Mrs. T. Treacey, "Ave Maria" (Luzzi).  
 Violin solo—Albert Sammons, "Meditation" (from "Thais") (Massenet) (Columbia Record 02687).  
 Bass solo—Robert Easton, "The Midnight Review" (Glinka) (Columbia Record 02674).  
 Pianoforte solo—Mischa Levitzki, "Hungarian Rhapsody No. 6" (Liszt) (H.M.V. Record D1383).  
 Tenor solo—Mr. James Osborne, "My Dreams" (Tosti).  
 Organ solo—G. T. Pattman, "Liebestraume" (Liszt) (Columbia Record 01003).  
 Soprano solo—Ninon Vallin, "Air des Bijoux" (Jewel Song) (from "Faust") (Gounod) (Parlophone Record AR1002).  
 Orchestral—State Opera House, Berlin, "William Tell" (Rossini) (Parlophone Records AR1003/4).  
 Contralto solo—Mrs. T. Treacy, "Love's Might" (Brahms).  
 Violin solo—Isolde Menges, "Ave Maria" (Schubert) (H.M.V. Record D1313).  
 Baritone solo—Ricardo Stracciari, "Toreador's Song" (from "Carmen") (Bizet) (Columbia Record 04173).

- Band selection—H.M. Coldstream Guards, "The Shamrock" (Myddleton) (Columbia Record 02542).  
 Tenor solo—Mr. James Osborne, "Morning" (Sanderson).  
 Cello solo—W. H. Squire, "Drink to Me Only with Thine Eyes" (Columbia Record 04180).  
 Duet—Lucrezia Bori and Lawrence Tibbett, "Barcarolle" (from "Tales of Hoffman") (Offenbach) (H.M.V. Record DA912).  
 Band selection—Band of Royal Air Force, "R.A.F. Grand March" (Regal Record 20240).  
 Close down.

### 3YA, CHRISTCHURCH (306 METRES)—SUNDAY, DECEMBER 16.

- 3 p.m.: Gramophone recital of selected items, electrically reproduced.  
 4.30: Close down.  
 5.30: Children's song service, conducted by Uncle David.  
 6.30: Relay of evening service from the Church of Christ, Moorhouse Avenue. Preacher, Pastor J. Crawford. Organist, Miss E. Hepburn. Choirmaster, Mr. H. Ames.  
 8.0 (approx.): Studio recital of electrically reproduced gramophone records.  
 8.30: Orchestral—Philadelphia Symphony Orchestra, "Hungarian Rhapsody No. 2" (Liszt) (H.M.V. Record D1296).  
 8.38: "The Prodigal Son" (Sullivan), presented by the Melodious Four Quartet.  
 Quartet—Melodious Four—"There is Joy in the Presence of the Angels." Bass recitative and aria—Mr. T. D. Williams, (a) "My Son, Attend to My Words"; (b) "Trust in the Lord with All Thine Heart."  
 Contralto solo—Miss Belle Renaut, "Love Not the World."  
 8.46: Grand organ solo—Edwin H. Lemare, "Chant de Bonheur" (Song of Happiness) (Lemare) (Zonophone Record EE93).  
 8.50: Tenor solo—Mr. Russell Sumner, "How Many Hired Servants of My Father Have Bread Enough and to Spare and I Perish with Hunger."  
 Soprano recitative and tenor and bass duet—Miss F. Hamerton, Mr. Russell Sumner and Mr. T. D. Williams, "Bring Forth the Best Robe, for this My Son was Dead."  
 9.0: Orchestra and grand organ—Victor Symphony Orchestra, "Kamennoi-Ostov" (Cloister Scene) (Rubinstein) (H.M.V. Record EB10).  
 9.4: Quartet, followed by soprano recitative and aria—Melodious Four and Miss Frances Hamerton, (a) "The Lord Is Nigh Unto Them" (Sullivan); (b) "No Chastening"; (c) "Come, Ye Children, and Harken Unto Me."  
 Quartet—Melodious Four, "Thou, O God, Art Our Father."  
 9.16: Orchestral—Victor Concert Orchestra, "In a Monastery Garden" (Ketelbey) (Zonophone Record EF7).  
 9.20: Quartet—Melodious Four, "Cast Thy Burden Upon the Lord" (from Elijah) (Mendelssohn).  
 9.25: Orchestral—Royal Opera Orchestra, (a) "Shepherd's Fennel Dance" (Balfour-Gardiner); (b) "The Sleeping Beauty" (Tschaikowsky) (H.M.V. Record C1460).  
 9.33: Close down.

### 4YA, DUNEDIN (463 METRES)—SUNDAY, DECEMBER 16.

- 5.30 p.m.: Children's song service, conducted by Big Brother Bill.  
 6.15: Organ recital by Mr. E. Heywood, F.R.C.O.  
 6.30: Relay of service from St. Paul's Cathedral. Preacher, Rev. Canon Nevill.  
 8.0: Relay of concert by the St. Kilda Band, from Band Rotunda, St. Kilda.  
 9.0: Close down.

## Monday, December 17

### 1YA, AUCKLAND (333 METRES)—MONDAY, DECEMBER 17.

SILENT DAY.

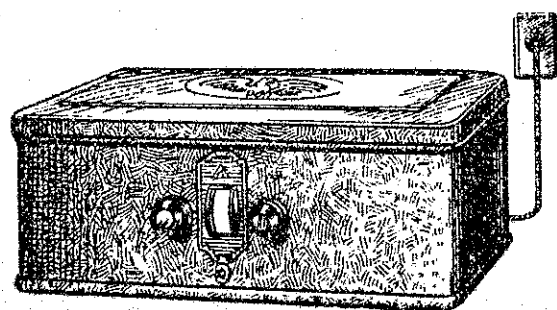
### 2YA, WELLINGTON (420 METRES)—MONDAY, DECEMBER 17.

- 3 p.m.: Chimes of the G.P.O. clock.  
 3.1: Selected gramophone items.  
 4.30 and 4.55: Sports results to hand.  
 5.0: Close down.  
 6.0: Children's session, conducted by Uncle Jeff and Aunt Gwen.  
 7.0: News session—market reports and sports results.  
 7.40: Lecturette—Mr. H. C. South, "Books—Grave and Gay."  
 8.0: Chimes of the G.P.O. clock.  
 8.1: Overture—Orchestra, "The Magic Flute" (Mozart).  
 8.11: Soprano solos—Miss Kathleen Ferris, (a) "Berceuse" (Gretschaninow); (b) "Enough" (Homer Samuels).

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# Week-all Stations-to Dec. 23

[Copyright.—These programmes are copyright, but individual daily programmes may be published on day of performance.]

- 8.17: Pianoforte solo—Miss Gladys Morgan, "Romanze and Ballade" (Brahms).  
 8.24: Baritone with orchestra—Mr. John Prouse, (a) "Ombra Mai Fu" (Handel); (b) "Nazareth" (Gounod).  
 8.31: Recital—Mrs. Kathleen Shaw, "Ojistoh."  
 8.38: Ballet Suite—Orchestra, "Le Lac Des Cygnes" (The Enchanted Lake) (Tschalkowsky)—1—Scene; 2—Dance of the Swans; 3—Hungarian Dance.  
 8.48: Contralto solo—Miss Nora Green, "St. Agnes' Eve" (Sullivan).  
 8.53: Grand organ solos—Arnold Grier, (1) "Annie Laurie"; (2) "March of the Men of Harlech"; (3) "The Minstrel Boy"; (4) "Rule Britannia" (Zonophone Record 5087).  
 8.57: Tenor solo—Mr. Chas. Williams, "Love in Her Eyes Sits Playing" (from "Acis and Galatea") (Handel).  
 9.3: Weather forecast.  
 9.4: Instrumental—Orchestra, repeat number.  
 9.12: Violin solo—Heifetz, "Zapateado" (Spanish Dance) (H.M.V. Record DB1048).  
 9.16: Soprano solo—Miss Kathleen Ferris, "Nightingale of June" (Sander-son).  
 9.20: Baritone with orchestra—Mr. John Prouse, "The Deathless Army" (Trotiere).  
 9.25: Instrumental—Orchestra, "Nocturne in D" (Chopin).  
 'Cello solo with orchestral accompaniment—Mr. Geo. Ellwood, "Reve Angelique" (Rubinstein).  
 9.34: Recital—Mrs. Kathleen Shaw, "The Lesson of the Mater-Mill" (Bond Andrews).  
 9.39: Quartet with orchestra—Galli-Curci, Homer, Gigli and De Luca, "Bella Figlia Dell 'Amore" (Fairest Daughter of the Graces), (from "Rigoletto") (Verdi), (H.M.V. Record DQ102).  
 9.43: Contralto solos—Miss Nora Greene, (a) "Sapphic Ode" (Brahms); (b) "Sea Fever" (Ireland).  
 9.49: Tenor solos—Mr. Chas. Williams, (a) "O Thank Me Not" (Franz); (b) "In the Wood" (Franz); (c) "Marie" (Franz).  
 9.55: Instrumental—Orchestra, (a) "Romance" (Mozart); (b) "Marche de Tannhauser" (Wagner).  
 10.4: God Save the King.

## 3YA, CHRISTCHURCH (306 METRES)—MONDAY, DECEMBER 17.

- 3 p.m.: Afternoon session—Selected studio items.  
 4.25: Sports results.  
 4.30: Close down.  
 6.0: Children's session, conducted by Scatterjoy.  
 7.15: News session.  
 8.0: Chimes.  
 Concert by the Christchurch Municipal Band, under the conductorship of Mr. A. J. Schnack, and assisting artists.  
 8.1: March—Band, "Argandab" (Thompson).  
 8.9: Contralto solo—Miss Eileen Irwin, "I Hear a Thrush at Eve" (Cadman).  
 8.13: Instrumental trios—Christchurch Broadcasting Trio, (a) "Berceuse de Jocelyn" (Godard); (b) "Scherzo" (Gade).  
 8.21: Tenor solo—Mr. Harold Prescott, "When the Bloom is on the Rye" (Bishop).  
 8.25: Xylophone solo—W. W. Bennett, "Gee Whiz!" (Byron Brooke) (Columbia Record 02575).  
 8.29: Scottish song and patter—Mr. Bracey Wilson, "Up in Scotland" (MS).  
 8.33: Waltz—Band, "Druids' Prayer" (Dayson).  
 8.45: Chorus with band—London Hippodrome Chorus and Kit Cat Band, "Hit the Deck" Vocal Medley (Robin, Grey, Caesar, Youmans) (Columbia Record 02621).  
 8.53: Soprano solo—Miss Myrtle Langley, "I Dreams That I Dwelt in Marble Halls" (from "The Bohemian Girl") (Balfe).  
 8.56: Hymn—Band, "Fierce Raged the Tempest" (Dykes).  
 9.1: Weather forecast.  
 9.3: Pipe organ solo—Milton Charles, "Are You Happy?" (Ager and Yellen) (Columbia Record 01184).  
 9.7: Contralto solos—Miss Eileen Irwin, (a) "The Bird with a Broken Wing" (Golson); (b) "Neath Your Casement" (Willeby).  
 9.11: Instrumental trios—Christchurch Broadcasting Trio, (a) "In the Woodlands" (Ockl Albi); (b) "Poupee Valsante" (Polindi).  
 9.20: Tenor solos—Mr. Harold Prescott, (a) "Once Again" (Sullivan); (b) "Awake" (Pether).  
 9.26: Overture—Band, "Le Domino Noir" (Auber).  
 9.38: Scottish selection—Mr. Bracey Wilson, "Hooch Aye" (Frame).  
 9.43: Soprano solos—Miss Myrtle Langley, (a) "I've Been Roaming" (Moffat); (b) "Love Was Once a Little Boy" (Wade).  
 9.49: Cornet solo with band accompaniment—"The Lost Chord" (Sullivan).  
 March—Band, "Machine Gun Guards" (Marschal).  
 10.0: God Save the King.

## 4YA, DUNEDIN (463 METRES)—MONDAY, DECEMBER 17.

SILENT DAY.

## Tuesday, December 18

### 1YA, AUCKLAND (333 METRES)—TUESDAY, DECEMBER 18.

- 3 p.m.: Afternoon session—Selected studio items.  
 4.0: Literary selection by the Announcer.  
 4.8: Studio items.  
 4.25: Sports results.  
 4.30: Close down.  
 6.0: Children's session, conducted by Uncle George.  
 7.15: News and market reports.  
 8.0: Chimes.  
 8.1: Overture—Orchestra, "Ipheginie en Aulide" (Gluck).  
 8.11: Baritone solo—Mr. Arthur Colledge, "Nazareth" (Gounod).  
 8.15: Pianoforte solo—Mr. Cyril Towsey, "Andante and Rondo Capriccioso" (Mendelssohn).  
 8.22: Soprano solo—Miss Violet Harrison, "My Task" (Harris).  
 8.26: Instrumental—Orchestra, (a) "Hymn of Praise" (Mendelssohn); (b) "Credo" (from Gounod's "Mass") (Arr. Moses).  
 8.36: Tenor solo—Mr. Lambert Harvey, "Star of Bethlehem" (Stephen Adams).  
 8.40: Contralto solo—Madame Irene Ainsley, "The Gift" (Behrend).  
 8.43: Relay of musical entr'acte from Majestic Theatre Orchestra, under the direction of Mr. J. Whiteford Waugh.  
 Excerpts from "The Messiah" (Handel), (with orchestral accompaniment).  
 Tenor solos—Mr. Lambert Harvey, (a) "Comfort Ye"; (b) "Every Valley."  
 Chorus—"And the Glory of the Lord."  
 Bass and recitative—Mr. Arthur Colledge, (a) "Thus Saith the Lord"; (b) "But Who May Abide?"  
 Contralto solo—Madame Irene Ainsley, "O Thou That Tellest Good Tidings."  
 "Pastoral Symphony."  
 Chorus—"There Were Shepherds Biding in the Fields."  
 Soprano—Miss Violet Harrison, "Lo, the Angel."  
 Chorus—"Glory to God."  
 Soprano—Miss Violet Harrison, "Rejoice Greatly."  
 Contralto and recitative—Madame Ainsley, "He Shall Feed His Flock" and "Come Unto Him."  
 Chorus—"Behind the Lamb of God."  
 Contralto solo—Madame Ainsley, "He was Despised."

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Tenor solos—Mr. Lambert Harvey, "Thy Rebuke Hath Broken His Heart" and "But Thou Didst Not Leave."  
Bass solo—Mr. Arthur Colledge, "Why Do the Nations?"  
Chorus—"Hallelujah Chorus."  
Close down.

## 2YA, WELLINGTON (420 METRES)—TUESDAY, DECEMBER 18.

3 p.m.: Chimes of the G.P.O. clock.  
3.1: Selected gramophone items.  
4.30 and 4.55: Sports results to hand.  
5.0: Close down.  
6.0: Children's session, conducted by Uncle Jim.  
7.0: News session—market reports and sports results.  
7.40: Lecturette by a representative of the Agricultural Department—"For the Man on the Land."  
8.0: Chimes of the G.P.O. clock.  
Special studio concert presented by Messrs. Chas. Begg and Co., Ltd., "A Day in a Music Store."  
The shop opens—Staff Complaints.  
Orchestra, soloists and chorus—Customers and staff admit "That's My Weakness Now" (Green and Stept).  
The "Waiter Song" wanted.  
A Record is Re-faced—Letter.  
Signor Ramphia sings "The Volga Boatmen" (Koenemann).  
Marion makes mirth—Miss Marion MacKie, "Reggie."  
A mandolin band calls—Mrs. Mildred Kenny and pupils, "Marche de Petite Pierrots" (Hudson).  
A new song title—"Ufa."  
Two male customers unite in song—"Two Beggars" (Wilson).  
A chin rest for a lady.  
A good story interrupted.  
Song—Mr. Billy Hart, "Together" (Silver, Brown and Henderson).  
Weidoff Wizards wanted—Telephone.  
A kiss sought—Customer.  
Weidoff arrives too late—Orchestra, "My Blue Ridge Mountain Home" (Robinson).  
A roll wanted—Duo Art.  
Aileen obliges a customer—"Danny Boy" (Weatherley).  
Rosie rings the radio fairies—Telephone.  
Mouthorgan magic—Popular Medley.  
A steel guitar that wasn't—Customer.  
Orchestra, "You're a Real Sweetheart" (Caesar and Friend).  
The five-to-twelve whistle blows—lunch time—hustle by staff.  
Station announcements.  
A lunch-time interruption—Professor Kidsem thinks of a new one.  
A smell of fire—A visit to the brigade.  
1 p.m. whistle blows (some of the staff absent).  
Business is resumed.  
Billy Hart is first customer—"I Can't Do Without You" (Berlin); "Laugh, Clown, Laugh" (Lewis, Young, Fiorito).  
Marion calls again—Miss Marion MacKie, "West Wind."  
Mandolin band requires a waltz—"That Saxophone Waltz" (Sisk and Mingo).  
An ivories duet—Mrs. Vidulich and Billy Hart, "Polly" (Zamecnik).  
Farmer Jersey's pipe.  
Saxophone sighs—W. J. Haines, "Saxarella" (Weidoff).  
"Oh Solo You-oh."  
Customer's admission—"Since Mother's Joined the Mustard Club, Father's Gone to Pot."  
The hero hears his record—"Kiddie Kapers" (Shilkret).  
Wanted—"A Tramp Song"—Customer.  
Green Tomatoes, Stealing a String—Staff chat.  
Orchestra—"Jeannine" (Shilkret and Gilbert).  
Gordon sings—G. Roberts, "Good Fellows" (Phillips).  
A prospective customer—a lady.  
Quartet—"When You Played the Organ" (Leslie and Gilbert).  
McGregor makes a music roll—Duo Art—"Wee McGregor's Patrol" (Amers).  
"That's My Weakness Now" is contagious—Ensemble.  
Trams at 5.30.  
Close down.

## 3YA, CHRISTCHURCH (306 METRES)—TUESDAY, DECEMBER 18.

SILENT DAY.

## 4YA, DUNEDIN (463 METRES)—TUESDAY, DECEMBER 18.

3 p.m.: Town Hall chimes.  
3.1: Gramophone concert.  
4.25: Sports results.  
4.30: Close down.  
6.0: Town Hall chimes.  
6.1: Children's session, conducted by Big Brother Bill.  
7.15: News session.  
7.30: Address on "Tourist Resorts" by Mr. R. W. Marshall, Manager of Dunedin Tourist Office.  
8.0: Town Hall chimes. Concert by the St. Kilda Band under the conductorship of Mr. James Dixon, and items by assisting artists.  
8.1: March—Band, "Vivacity" (Carter).  
8.5: Waltz—Band, "Dream of Delight" (Nicholls).

8.11: Tenor solos—Mr. R. A. Mitchell, (a) "Oft in the Stilly Night" (old Irish air); (b) "Vale" (Russell).  
8.17: Mezzo-soprano solo—Miss Dorothy Sligo, "Sing, Joyous Bird" (Phillips).  
8.24: Overture—Band, "The Bohemian Girl" (Balfe).  
8.35: Recital—Mr. Lester Moller, "Bertram on Babies" (Anon).  
8.40: Chorus with orchestra—Light Opera Company, Gems from "Rose Marie" (Friml) (H.M.V. Record C1205).  
8.44: Bass solos—Mr. E. G. Bond, (a) "Tommy, Lad" (Margetson); (b) "Lanagan's Log" (Lohr).  
8.50: Cornet solo with band accompaniment, "When You Come Home" (Squire).  
8.56: Weather forecast.  
8.59: Address—Rev. W. B. Scott, "The Early History of New Zealand—Henry Williams, the Sailor Missionary."  
9.14: Selection—Band, "Echoes of Scotland" (Rimmer).  
9.30: Tenor solo—Mr. R. A. Mitchell, "Ah! Moon of My Delight" (Liza Lehmann).  
9.33: Violin solo—Heifetz, "Zapateado" (Spanish Dance) (Sarasate) (H.M.V. Record DB1048).  
9.37: Mezzo-soprano solos—Miss Dorothy Sligo, (a) "The Wind" (Spross); (b) "Summer Afternoon" (Coates).  
9.43: Morceau—Band, "Turkish Patrol" (Michaelis).  
9.50: Recitals—Mr. Lester Moller, (a) "Spanish Waters" (Masefield); (b) "Pat-a-Cake" (Anon).  
9.59: Bass solo—Mr. E. G. Bond, "The Auld Plaid Shawl" (Haynes).  
10.2: March—Band, "Roaring Lions" (Allen).  
10.6: God Save the King.

## Wednesday, December 19

### 1YA, AUCKLAND (333 METRES)—WEDNESDAY, DECEMBER 19.

3 p.m.: Afternoon session—Selected studio items.  
4.0: Literary selection by the Announcer.  
4.8: Selected studio items.  
4.25: Sports results.  
4.30: Close down.  
6.0: Children's session conducted by Uncle Tom.  
7.15: News session—market reports and sports results.  
7.45: Talk—Mr. Norman Kerr, "Physical Culture."  
8.0: Chimes.  
8.1: Special studio presentation of Shakespear's play, "Macbeth." by Mr. J. F. Montague and Company.  
CAST.  
Miss Daphne Knight (Lady Macbeth).  
Miss Melzie Johnston.  
Miss Eva Andrews.  
Miss Myrtle Farner.  
Miss Phyllis Torpy.  
Messrs. J. F. Montague, J. M. Clark, Montague Steel, Alan Gladfield, J. N. Gordon, E. H. Goodson, George Dudley, Reeves Pilkington, Harrison Bell, Culford Bell.  
"MACBETH" Part 1.  
Entr'acte—Auckland Trio.  
"MACBETH" Part 2.  
Entr'acte—Auckland Trio.  
"MACBETH" Part 3.  
10.0: Close down.

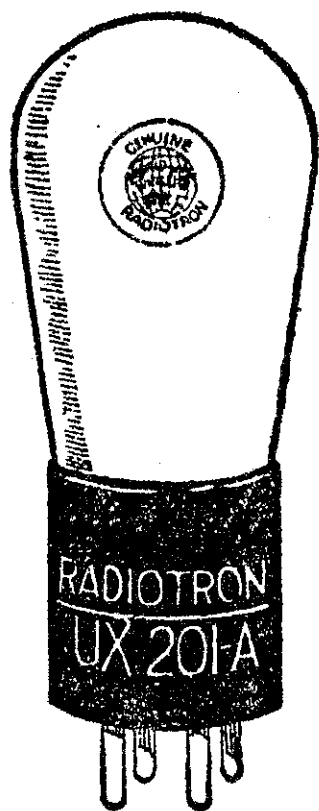
### 2YA, WELLINGTON (420 METRES)—WEDNESDAY, DECEMBER 19.

SILENT DAY.

### 3YA, CHRISTCHURCH (306 METRES)—WEDNESDAY, DECEMBER 19.

3 p.m.: Afternoon session—Selected studio items.  
4.30: Close down.  
6.0: Children's session, conducted by Brother Bill.  
7.15: Addington stock market reports.  
7.30: News session.  
8.0: Chimes.  
8.1: Overture—National Military Band, "The Gladiator's Farewell" (Blankenburg) (Zonophone Record 5102).  
8.4: Tenor solos—Mr. T. G. Rogers, (a) "There is a Valley" (Bates); (b) "O Vision Entrancing" (Thomas).  
8.11: Pianoforte solo—Miss Maud K. Stout, "Romance in D Flat Major" (Sibelius).  
8.16: Contralto solos—Miss Nellie Lowe, (a) "The Enchantress" (Hutton); (b) "The Dream Canoe" (Squire).  
8.23: Orchestral—Studio Orchestra, under the conductorship of Mr. Harold Beck, "Raymond" Overture (Thomas).  
8.31: Recital—Rev. B. Dudley, "Old Boggles, the Crossing Sweeper" (MS).  
8.36: Vocal quartet—Dulcet Quartet, "The Message" (Caldicott).  
8.40: Orchestral—Studio Orchestra, "Unfinished Symphony" (Schubert).  
8.49: Soprano solos—Miss Hilda Hutt, (a) "O, Dry Those Tears" (Del Riego); (b) "Valse Song" (from "Romeo and Juliet") (Gounod).  
8.56: Weather forecast.  
8.58: Talk—Rev. B. Dudley, "Astronomy—Telescopes and Observations."  
9.13: Soprano and tenor duet—Harmony Duo, "Howell! Howell! Dost Thou Loiter?" (Parry).





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BOX 830, WELLINGTON.

- 9.17: Pianoforte solo—Miss Maud K. Stout, "Polonaise in E Minor" (Macdowell).  
 9.21: Baritone solos—Mr. A. G. Thompson, (a) "Prologue" (from "I Pagliacci") (Leoncavallo); (b) "Drink to Me Only" (Quilter).  
 9.28: Vocal quartet—Dulcet Quartet, "The Curfew" (Thompson).  
 9.32: Orchestral—Studio Orchestra, (a) "Seranata" (Jacobs); (b) "Valse of the Flowers" (Tschalkowsky).  
 9.40: Grand opera—Special presentation of "The Valkyrie" (Wagner), Act 2 (H.M.V. Records D1323/7):  
 Soprano and baritone with orchestra—"Wotan Bids Brunnhilde Shield Siegmund in Fight."  
 Soprano and baritone with orchestra—"Wotan tells Brunnhilde of the Ring."  
 Soprano and baritone with orchestra—"Wotan orders Brunnhilde not to Shield Siegmund."  
 Soprano and tenor with orchestra—"Siegmund and Sieglinde Reach the Mountain Pass."  
 Soprano and tenor with orchestra—"Sieglinde is Tormented with Dread."  
 Soprano and tenor with orchestra—"Brunnhilde Appears Before Siegmund."  
 Soprano and tenor with orchestra—"Siegmund Refuses to Follow Brunnhilde to Walhalla."  
 Soprano and tenor with orchestra—"Brunnhilde Promises to Aid Siegmund."  
 10.12: Close down.

#### 4YA, DUNEDIN (463 METRES)—WEDNESDAY, DECEMBER 19.

- 7 p.m.: Town Hall chimes.  
 7.1: Request gramophone concert.  
 7.40: News session—Burnside stock sales report.  
 8.0: Town Hall chimes.  
 Presentation of the song cycle "The Little Sun Bonnet" (Hermann Lohr) by the 4YA Harmonists, with instrumental accompaniment by the Broadcasting Trio.  
 8.1: Quartet—"The Little Sun Bonnet."  
 Soprano solo—"Little Print Bonnet."  
 Mezzo-soprano and tenor duet—"Where Violets Grow."  
 Baritone solo—"Little Molly Mary."  
 Quartet, "A Lady Came to Our Town."  
 Tenor solo and quartet, "Somewhere-Town."  
 Soprano and baritone duet—"The Rose and the Nightingale."  
 Mezzo-soprano solo, "If I Had a Dolly."  
 Quartet, "So Glad of Heart."  
 8.30: Orchestral—Berlin State Opera Orchestra, "Battle Symphony" (Beethoven) (Parlophone Record E10555).  
 8.38: Mezzo-soprano solo—Miss Mollie Andrews, "Charming Chloe," (German).  
 8.41: Instrumental trio—4YA Broadcasting Trio, "Valse in B Flat" (Godard).  
 8.47: Tenor solo—Mr. H. A. Johnston, "Brian of Glenaar" (Graham).  
 8.50: Recitals—Miss Madge Yates, (a) "Out at Mons"; (b) "The Ballad of Splendid Wine."  
 8.58: Weather forecast.  
 9.0: Light orchestral—Dajos Bela Orchestra, "Eldgaffeln" (Landen) (Parlophone Record A4009).  
 9.4: Soprano solo—Miss Mae Matheson, "The Star" (Rogers).  
 9.7: Violin solo—Miss Eva Judd, "Romance" (Wienawski).  
 9.12: Baritone solo—Mr. F. M. Tuohy, "Whatever is, is Best" (Lohr).  
 9.15: Pianoforte solo—Miss Aileen Young, "Abendmusik" (Schumann).  
 9.19: Mezzo-soprano solo—Miss Mollie Andrews, "Beyond the Dawn" (Sander-son).  
 9.22: Tenor solo—Mr. H. A. Johnston, "Farewell to Summer" (Johnston).  
 9.29: Cello solos—Mr. P. J. Palmer, (a) "Elfentanz" (Jenkinson); (b) "Liebestraume" (Liszt).  
 9.39: Recital—Miss Madge Yates, "At the Dentist's" (Leacock).  
 9.44: Soprano solo—Miss Mae Matheson, "Blackbird's Song" (Scott).  
 9.47: Wurlitzer organ solo—Eddie Horton, "Ramona" (Gilbert-Wayne) (Parlophone Record A2558).  
 9.51: Baritone solo—Mr. F. M. Tuohy, "On the Road to Mandalay" (Speaks).  
 9.55: Light orchestra—Dajos Bela Orchestra, "Electric Girl" (Helm-burgh-Holmes) (Parlophone Record A4009).  
 Waltz—Dajos Bela Orchestra, "I Love You" (Waldteufel), (Parlophone Record E10560).  
 10.3: Close down.

## Thursday, December 20

#### 1YA AUCKLAND (333 METRES)—THURSDAY, DECEMBER 20.

- 3.0 p.m.—Afternoon session—Selected studio items.  
 4.0: Literary selection by the Announcer.  
 4.8: Selected studio items.  
 4.20: Sports results.  
 4.30: Close down.  
 6.0: Children's session conducted by Peter Pan.  
 7.15: News and market reports.  
 8.0: Chimes.  
 Excerpts from the musical comedy "To-night's The Night" (Rubens) will be presented by the Clarion Quartet.

- 8.1: Overture—Grand Symphony Orchestra, "Light Cavalry" (Suppe). (Parlophone Record A4001).  
 8.9: Opening chorus—Clarion Quartet, "Life is Very Jolly Down in Maiden-head" (Rubens).  
 8.13: Instrumental trio—Auckland Trio, "1st. Movement of Trio in B Flat" (Schubert).  
 8.23: Tenor solo—Mr. F. Simpson, "When the Boys Come Home to Tea" (Rubens).  
 8.27: Pianoforte solo—Mr. Barry Coney, "Polonaise in A Flat" (Chopin).  
 8.35: Duet—Mr. Duncan Black and Miss Beryl Smith, "Boots and Shoes" (Rubens).  
 8.39: Cello solo—Miss Molly Wright, "Nocturne" (Trowell).  
 8.44: Recital—Mr. Alan McSkimming, "Christmas at Sea" (R. L. Stevenson).  
 8.50: Male choruses—Parlophone Melody Company, "Convivial Songs"—(Parlophone Record A2511):  
 1. "I Married a Wife."  
 2. "John Peel."  
 3. "Sally in Our Alley."  
 4. "Rolling Home."  
 5. "Bring My Rum Ration to Me."  
 6. "We Won't Go Home Till Morning."  
 8.54: Soprano solo and chorus—Miss Alma McGruer and Clarion Quartet, "The Early Morning" (waltz song) (Rubens).  
 8.58: Weather forecast.  
 9.0: Light Orchestral—Dajos Bela Orchestra, "Faust Waltz" (Gounod) (Parlophone Record A4010).  
 9.4: Duet—Mr. F. Simpson and Miss Alma McGruer, "They Didn't Believe Me" (Rubens).  
 9.8: Pianoforte solo—Mr. Barry Coney, "Two Preludes" (Besley).  
 9.16: Humour—Mr. Alan McSkimming, "The Cup" (Arpthrop).  
 9.22: Instrumental trio—Auckland Trio, "The Shamrock" (Myddelton).  
 9.32: Contralto solo—Miss Beryl Smith, "I'd Like to Bring My Mother" (Rubens).  
 9.36: Bagpipe solo—Pipe-Major William Ross (a) "Caledonian Society of Winnipeg" (march), (b) "The Glengarry Gathering" (March). (Parlophone Record A2320).  
 Novelty vocal solo—Sidney Burchall, "Charmaine" (Leazor and Rapee) (Parlophone Record A2259).  
 9.44: Baritone and chorus—Mr. Duncan Black and Clarion Quartet, "I'm a Millionaire" (Rubens).  
 9.48: Hawaiian selection—Queenie and David Kaili, "Hawaiian Love Song" (Parlophone Record A2507).  
 9.52: Quartette—Clarion Quartet, "Finale" to Act 1 of "To-night's the Night" (Rubens).  
 9.56: Schottische—International Novelty Quartet, "Lena" (Mewes), (Zono-phone Record EE67).  
 10.0: Close down.

#### 2YA, WELLINGTON (420 METRES)—THURSDAY, DECEMBER 20.

- 3 p.m.: Chimes of the G.P.O. clock.  
 3.1: Special programme arranged by Messrs. Hamilton Nimmo and Sons, Ltd. (All piano selections and accompaniments will be played on a Standard Model "Gulbransen" Registering Piano by Mr. A. J. Nimmo.)  
 Selections from "High Jinks" (Freeman) (Hartley).  
 Tenor, Mr. E. Swain, "Lolita" (Buzzi-Peccia).  
 Pianoforte selection, "Liebestraume" Nocturne No. 3 (Liszt).  
 Contralto, Mrs. E. Swain, (a) "Smilin' Thru" (Penn); (b) "Mighty lak a Rose" (Stanton-Nevin).  
 Song, selected gramophone record, accompanied on the "Gulbransen" Registering Piano.  
 Pianoforte selections, (a) "Chapel Chimes" (Greenwahl); (b) "Remembrance" (Reber).  
 Tenor, Mr. E. Swain, "Here's to Love" (Reubens).  
 Pianoforte selection, "Prelude" (Rachmaninoff).  
 Contralto, Mrs. E. Swain, "Rose of my Heart" (Wilmot).  
 Pianoforte selection, "Invercargill," (Lithgow).  
 Selected gramophone items.  
 4.30 and 4.55: Sports results.  
 5.0: Close down.  
 6.0: Children's session conducted by Aunt Gwen.  
 7.0: News session—Market reports and sports results.  
 7.46: Lecturette—Mr. A. J. Nicholls (representative of Hutt Valley Horticultural Society: "Gardening."  
 8.0: Chimes of the G.P.O. clock.  
 Studio concert by Wellington Municipal Tramways Band, under the conductorship of Mr. T. Goodall, and assisting artists.  
 8.1: March—Band, "Pride of the Valley" (Heyes).  
 Overture—Band, "L'Amour de Village" (Bouillon).  
 8.12: Tenor solo—Mr. Chas. Williams, selected.  
 8.16: Quartet—Lyric Quartet, "Annie Laurie" (traditional).  
 8.20: Selection—Band, "The Flying Dutchman" (Wagner).  
 8.34: Recital—Mrs. M. Thomas, "The Painter of Seville" (Wilson).  
 8.39: Baritone solos—Mr. Will Goudie, (a) "Hats Off to the Stoker" (Arundale); (b) "The Garden Where My Soul Was Born" (Clarke).  
 8.46: Soprano solo—Elsa Alsen, "Rinaldo—Lascia Ch'io Pianga" (Sadly I Languish) (Handel) (Columbia Record 04136).  
 8.51: Cornet solo—Mr. T. Goodall, "Arbucklenian" (Hartman).  
 Hymn—Band, "Bradford" (arr. Scotney).  
 9.0: Weather forecast.  
 9.1: Lecturette—Mr. Johannes Andersen, "Native Birds."



- 9.11: Bass solo—Mr. W. Binet Brown, "The Sailor's Paradise" (Slater).  
 9.15: Quartet—Lyric Quartet, "All Through the Night" (traditional).  
 9.19: Selection—Band, "Romeo and Juliet" (Gounod).  
 Humoresque—Band, "Ding, Dong, Dell" (Trenchard).  
 9.31: Humour—Mrs. M. Thomas, "Reggie" (Anon.).  
 9.36: Soprano solo—Elsa Alsen, "Caro Mio Ben" (Thou All My Bliss) (Guir-dani) (Columbia Record 04136).  
 9.40: Waltz—Band, "Golden Grain" (Trussell).  
 Characteristique—Band, "Les Cloches des Noel" (Pecorini).  
 9.50: Quartet—Lyric Quartet, "Christmas Carols."  
 10.0: March—Band, "The President" (German).  
 10.3: God Save the King.

**3YA, CHRISTCHURCH (306 METRES)—THURSDAY, DECEMBER 20.**

- 3 p.m.: Afternoon session—Selected studio items.  
 4.25: Sports results.  
 4.30: Close down.  
 6.0: Children's session conducted by Uncle Hal.  
 7.15: News session.  
 8.0: Chimes.  
 Overture—Rebroadcast of 2YA, Wellington.  
 8.9: Christmas carols, followed by baritone solo—Grand Opera Quartet and Mr. Clive Hindle, (a) "Christmas Carols"; (b) "Nazareth" (Gounod).  
 8.18: 'Cello soli—Mr. Harold Beck, (a) "Adagietto" (Bizet); (b) "Bouree" (Handel).  
 8.25: Contralto solo—Mrs. Anne Harper, "Like as The Hart Desireth the Water Brooks" (Allitsen).  
 8.39: Instrumental trios—Christchurch Broadcasting Trio, (a) "Andante Quasi Allegretto" (Reissiger); (b) "Presto" (Reissiger).  
 8.40: Tenor solo—Mr. Harold Prescott, "If With all Your Hearts Ye Truly Seek Him" (from "Elijah") (Mendelssohn).  
 8.44: Orchestral—Berlin State Opera Orchestra, "Battle Symphony" (Beethoven) (Parlophone Record E10555).  
 8.52: Soprano solo—Madame Gower Burns, "Angels Ever Bright and Fair" (Handel).  
 8.56: Christmas Carol—East Belt Wesley Choir under the conductorship of Mr. J. Chaplin—"Holy Night, Peaceful Night."  
 9.0: Weather forecast.  
 9.2: Overture—Philadelphia Symphony Orchestra, "Symphony in D Minor" (Franck)—Third Movement (Allegro), (H.M.V. Records D1407/8)  
 (Synopsis: There are several interesting features in this work which deserve attention. There are only three movements of the Symphony in place of the usual four. In order to achieve a feeling of unity Franck has given the work a cyclical form: the themes of the first and second movements are introduced into the finale. The last movement is an extraordinarily virile thing. It opens with pulsating strings, and the principal new theme is announced almost at once from bassoons and cellos. The violins snatch a fragment of this and build a new theme with which the climax is made. There is a sudden return of the beautiful first melody of the Second Movement. Later, further reminiscences appear, especially after a tumultuous climax built from a simple phrase of five consecutive notes on the scale. When the climax has died down there is a feeling of unrest in the music, as if the spirit of unrest were striving to break its bonds, only to be continually repressed. Later, an important feature is the reappearance of the great theme of the first movement which, at the very moment when it is expected as a triumphant peal, melts into the theme).  
 9.14: "Messiah" (Handel)—(Soloists: Madame Gower Burns, soprano; Mrs. Anne Harper, contralto; Mr. Harold Prescott, tenor; and Mr. Clive Hindle, bass).  
 (The choruses will be sung by the East Belt Wesley Choir under the conductorship of Mr. J. Chaplin—accompanist, Mr. P. Watson).  
 Choral, followed by tenor recitative and aria—(a) "And the Glory of the Lord"; (b) "Comfort Ye, My People."  
 9.24: Contralto recitative and aria—"O Thou That Tellest Glad Tidings to Zion."  
 9.29: Instrumental—Christchurch Broadcasting Trio, "The Pastoral Symphony."  
 9.35: Soprano recitative—"There were Shepherds Abiding in the Fields."  
 9.40: Chorus—"Glory to God in the Highest."  
 9.45: Recitative and soprano and contralto duet—(a) "He Shall Feed His Flock"; (b) "Come Unto Him."  
 9.49: Bass solo—"Why do the Nations so Furiously Rage Together?"  
 9.54: Soprano aria—"I Know That my Redeemer Liveth."  
 9.59: Final full chorus—"Hallelujah Chorus."  
 God Save the King.

**4YA, DUNEDIN (463 METRES)—THURSDAY, DECEMBER 20.**

SILENT DAY.

**Friday, December 21****1YA, AUCKLAND (333 METRES)—FRIDAY, DECEMBER 21.**

- 3 p.m.: Afternoon session—Selected studio items.  
 4.8: Selected studio items.  
 4.25: Sports results.  
 4.30: Close down.

- 6.0: Children's session conducted by Nod and Aunt Jean.  
 7.15: News and market reports.  
 8.0: Chimes.  
 8.1: Overture—Orchestra, "Madonna" (arr. Moses).  
 8.8: Quartet—St. Andrew's Quartet, "The First Nowell" (traditional).  
 8.12: Pianoforte solo—Miss Doris Binns, "Polka de la Reine" (Raff).  
 8.19: Tenor solos—Mr. Robert Peter, Air and Recitative, (a) "Comfort Ye"; (b) "Every Valley" (Handel).  
 8.25: Orchestral—London Symphony Orchestra, "First Movement from 'The Jupiter Symphony'" (Mozart) (H.M.V. Record D1359).  
 8.33: Recital—Mr. T. Harris, character sketch, "Ebenezer Scrooge" (Dickens).  
 8.40: Bass solo—Mr. Arthur Colledge, "Why Do the Nations?" (Handel).  
 8.46: Male quartet with orchestra—Peerless Quartet, "The Home Over There" (O'Kane) (Zonophone Record 5076).  
 8.50: Orchestral—Orchestra, (a) "Gloria" ("St. Therese") (arr. Moses); (b) "Ave Maria" (Cherubini) (violinist soloist, Miss Ina Bosworth).  
 9.0: Weather forecast.  
 9.2: Quartet—St. Andrew's Quartet, carol, "Good King Wenceslas" (trdtl.).  
 9.6: Novelty—Orchestra, "A Dream of Christmas" (Ketelbey).  
 (Synopsis: A child falls asleep and dreams of Christmas. The melodies of carols become mixed up in the dream with dancing fairies, the waits, and the "wolf" in the pantomime. The child is awakened by the joyous ringing of church-bells and the carol "Christians, Awake!" sung by the carol-singers. The carols employed are "Good King Wenceslas," "While Shepherds Watched," portion of "God Rest Ye, Merry Gentlemen," "The First Nowell," and "Christians, Awake!"  
 9.16: Soprano solo—Miss Adelaide Taylor, "I Know that My Redeemer Liveth" (Handel).  
 9.21: Choral with orchestra—Royal Choral Society, "Amen Chorus" (Handel) (H.M.V. Record D1135).  
 9.25: Recital—Mr. T. Harris, "Sidney Carton's Farewell," from "A Tale of Two Cities" (Dickens).  
 9.32: Contralto solo—Miss Phyllis Gribben, "O Thou That Tellest" (Handel).  
 9.37: Choral—Royal Choral Society, "Hallelujah Chorus" (Handel) (H.M.V. Record D1108).  
 9.41: Chorus—St. Andrew's Quartet, "Behold the Lamb of God" (Handel).  
 9.45: Selection—Orchestra, "Beneath the Holly" (arr. Seredy-Tocaben).  
 10.5: Close down.

**2YA, WELLINGTON (420 METRES)—FRIDAY, DECEMBER 21.**

- 3 p.m.: Chimes of the G.P.O. clock.  
 3.1: Selected gramophone items.  
 4.30 and 4.55: Sports results to hand.  
 5.0: Close down.  
 6.0: Children's session, conducted by Big Brother Jack.  
 7.0: News session—market reports and sports results.  
 7.40: Lecturette—Mr. N. R. Jacobsen, "Learning a Trade."  
 8.0: Chimes of the G.P.O. clock.  
 A special programme, featuring British folk songs, Christmas poems and Christmas music.  
 8.1: Overture—Orchestra, "Norma" (Bellini).  
 8.11: Quartet—Ariel Singers, "The Ash Grove" (Welsh Air, arrgd. Crompton).  
 8.15: Pianoforte solos—Miss Marie Bown, (a) "Arabesque" (Letchitzky); (b) "Papillons" (Coleridge-Taylor).  
 8.22: Fifteen minutes of British Folk Songs—Soloist, Mr. Roy Hill. 1—"The Foggy Dew" (Irish); 2—"My Love's an Arbutis" (Irish); 3—"An Eriskay Love Lilt" (Hebridean); 4—"An Island Shieling Song" (Hebridean); 5—"The Frog and the Mouse" (English); 6—"Strawberry Fair" (English).  
 8.37: Suite—Orchestra, "In Arcady" (Nevin)—1—"A Shepherd's Tale"; 2—"Shepherds all and Maidens Fair"; 3—"Lullaby"; 4—"Tournament."  
 8.47: Mezzo-contralto solo—Miss Ngaire Coster, "Shepherd's Cradle Song" (Somervell).  
 8.51: Quartet—Zonophone Concert Quartet, "Christmas Comes But Once a Year" (Zonophone Record 2072).  
 8.55: Instrumental—Orchestra, Repeat Number.  
 9.3: Weather forecast.  
 9.4: Lecturette—Rev. J. R. Blanchard, B.A., "Christmas Poems."  
 9.19: Novelty—Orchestra, "Master Melodies from Famous Light Operas," Revue 2 (Roberts).  
 9.29: Fifteen minutes of Christmas music by the Ariel Singers:—  
 Four-part Carol—"Sweeter Than the Songs of Summer" (Bridge).  
 Bass solo—Mr. J. M. Caldwell, "Old French Carol" (arr. Liddle).  
 Soprano solo—Miss Jeanette Briggs, L.A.B., "O Holy Night" (Adam).  
 Quartets—Ariel Singers, Two Christmas Hymns—(a) "It Came Upon the Midnight Clear"; (b) "Hark, the Herald Angels Sing."  
 9.44: Organ solo—Arnold Grier, "Christmas Fantasy" (Zonophone Record A307).  
 9.48: Bass solo—Mr. J. M. Caldwell, "Young Dietrich" (Henschel).  
 9.52: Duet—Miss Jeanette Briggs and Miss Ngaire Coster, "I Heard a Voice in the Tranquil Night" (Glover).  
 9.56: Musical comedy selection—Orchestra, "Der Rosenkavalier" (Strauss).  
 10.6: God Save the King.

**3YA, CHRISTCHURCH (306 METRES)—FRIDAY, DECEMBER 21.**

- 3 p.m.: Afternoon session—Selected studio items.  
 4.25: Sports results.

- 4.30: Close down.  
 6.0: Childrens session conducted by Big Brother.  
 7.15: News session.  
 8.0: Chimes.  
 8.1: Overture—Rebroadcast of 2YA, Wellington ("Norma") (Bellini).  
 8.11: Chorus—Valencia Quartet, "Angels That Around Us Hover" ("Angelus Chorus" from "Maritana") (Wallace).  
 8.17: Selection—National Symphony Orchestra, "The Bohemian Girl" (Balfe) (Zonophone Record A340).  
 8.25: Tenor solo—Mr. W. Bradshaw, "Yes, Let Me Like a Soldier Fall" (Wallace).  
 8.29: Violin solo—Miss Irene Morris, "Thais" (Massenet).  
 8.33: Baritone solo—Mr. Fred. A. Millar, "In Happy Moments" (Wallace).  
 8.37: Instrumental trios—Christchurch Broadcasting Trio, "Minuet," "Gavotte" and "Allegro" (Bridge).  
 8.46: Soprano solo—Miss Renetta Rings, "Scenes That are Brightest" (Wallace).  
 8.50: Pianoforte solos—Miss Bessie Pollard, (a) "Folk Song" (Mendelssohn); (b) "Scherzo Capriccio" (Mendelssohn).  
 8.55: Dramatic monologue—Mr. L. T. J. Ryan, "The Scrapper and the Nut" (Hennequin Parker).  
 9.0: Soprano and tenor duet—Valencia Duo, "O Maritana" (Wallace).  
 9.5: Weather forecast.  
 9.7: Overture—National Symphony Orchestra, "Martha" (Flotow), (H.M.V. Record EF19).  
 9.15: Nautical chorus, followed by contralto solo—Valencia Quartet and Miss Anita Graham, (a) "We Sail the Ocean Blue" (Sullivan); (b) "I'm Called Little Buttercup" (from "H.M.S. Pinafore") (Sullivan).  
 9.22: Violin solo—Miss Irene Morris, "Tempo Di Minuetto" (Pagnani-Kreisler).  
 9.26: Tenor solo—Mr. W. Bradshaw, "A Maiden Fair to See" (Sullivan).  
 9.30: Instrumental trios—Christchurch Broadcasting Trio, (a) "Waltz" (Cyril Scott); (b) "Humoresque" (Widor).  
 9.38: Baritone solo—Mr. Fred. A. Millar, "When I was a Lad" (Sullivan).  
 9.42: Pianoforte solos—Miss Bessie Pollard, (a) "Shadow Show" (Macdowell); (b) "La Reveille" (Matin 1668—1733) (Grainger).  
 9.48: Soprano solo—Miss Renetta Rings, "Sorry Her Lot" (Sullivan).  
 9.52: Humorous monologue—Mr. L. T. J. Ryan, "The Man With the Single Hair" (MS).  
 9.57: Contralto and baritone duet—Valencia Duo, "Things are Seldom What Seem" (Sullivan).  
 10.1: Light Orchestra—Dajos Bela Orchestra, "Eldgaffeln" (Landen), (Parlophone Record A4009).  
 10.5: Close down.

#### 4YA, DUNEDIN (463 METRES)—FRIDAY, DECEMBER 21.

- 3 p.m.: Town Hall chimes.  
 3.1: Gramophone concert.  
 3.30: Afternoon-tea music relayed from the Savoy.  
 3.45: Studio music.  
 4.0: Relay of music from the Savoy.  
 4.15: Gramophone items.  
 4.25: Sports results.  
 4.30: Close down.  
 6.0: Town Hall chimes.  
 6.1: Children's session, conducted by Aunt Sheila and Big Brother Bill.  
 7.15: News session.  
 7.30: Book review by Mr. H. Greenwood, of the Dunedin Athenaeum.  
 8.0: Town Hall chimes.  
 8.1: Grand Opera—Special presentation of "The Valkyrie" (Wagner), Act 2 (H.M.V. Records D1323/7).  
 Soprano and baritone with orchestra—"Wotan Bids Brunnhilde Shield Siegmund in Fight."  
 Soprano and baritone with orchestra—"Wotan Tells Brunnhilde of the Ring."  
 Soprano and baritone with orchestra—"Wotan Orders Brunnhilde Not to Shield Siegmund."  
 Soprano and tenor with orchestra—"Siegmund and Sieglinde Reach the Mountain Pass."  
 Soprano and tenor with orchestra—"Sieglinde is Tormented with Dread."  
 Soprano and tenor with orchestra—"Brunnhilde Appears Before Siegmund."  
 Soprano and tenor with orchestra—"Siegmund Refuses to Follow Brunnhilde to Walhalla."  
 Soprano and tenor with orchestra—"Brunnhilde Promises to Aid Siegmund."  
 8.33: Mezzo-soprano solos—Miss Molly Vickers, (a) "Heart of the North" (Lang); (b) "Heart of Gold" (Lang).  
 8.39: Flute quartet—London Flute Quartet, (a) "Melody" from "Rosa-munde" (Schubert); (b) "Bees' Wedding" (Mendelssohn) (Parlophone Record A4023).  
 8.43: Baritone solo—Mr. Arthur Lungley, "The Devout Lover" (White).  
 8.47: Orchestral—Victor Concert Orchestra, "Minuet in G" (Paderewski) (H.M.V. Record EA240).  
 8.51: Contralto solo—Miss Irene Horniblow, L.R.A.M., "To the Angels" (Zards).  
 8.54: Pianoforte solos—Mrs. Ernest Drake, (a) "Night in May" (Palmgren); (b) "Toccata" (Paradies).

- 9.0: Weather forecast.  
 9.2: Vocal duet—Miss Vickers and Mr. Lungley, "Arise O Sun" (Day).  
 9.5: Cello solo—Pablo Casals, "Prize Song" (from "The Mastersingers of Nuremberg") (Wagner) (H.M.V. Record DB1012).  
 9.9: Baritone solos—Mr. Arthur Lungley, (a) "Teach Me to Pray" (Jewitt); (b) "God's Garden" (Lambert).  
 9.16: Organ solo—Arthur Meale, "Cavatina" (Raff) (H.M.V. Record B2695).  
 9.20: Contralto solos—Miss Irene Horniblow, (a) "Deep in the Heart of a Rose" (Ronald); (b) "Haunting Memory" (Bond).  
 9.23: Orchestral—Philadelphia Symphony Orchestra, "Hungarian Rhapsody, No. 2" (Liszt) (H.M.V. Record D1296).  
 9.31: Relay of dance music from the Savoy.  
 10.0: Close down.

## Saturday, December 22

### 1YA, AUCKLAND (333 METRES)—SATURDAY, DECEMBER 22.

- 3 p.m.: Afternoon session—Selected studio items.  
 4.0: Literary selection by the Announcer.  
 4.8: Selected studio items.  
 4.25: Sports results to hand.  
 4.30: Close down.  
 6.0: Children's session conducted by Cinderella.  
 7.15: News and market reports.  
 8.0: Chimes.  
 8.1: Special Christmas musical programme by the Auckland Baptist Tabernacle Choir of 100 voices, under the conductorship of Mr. Arthur E. Wilson.  
 Part 1: Old and New Christmas Melodies (Vocal and Instrumental).  
 Part 2: Christmas Cantata—"Bethlehem" (J. H. Maunder).  
 (Soloists: Mr. Halsey Cox, Mrs. J. Litherland, Mr. C. Turley, Mr. Clinton Williams).  
 Pianiste: Mrs. T. Brame Clark.  
 Organist and conductor: Mr. Arthur E. Wilson.  
 10.15: God Save the King.

### 2YA, WELLINGTON (420 METRES)—SATURDAY, DECEMBER 22.

- 3 p.m.: Chimes of the G.P.O. clock.  
 3.1: Selected gramophone items.  
 4.30 and 4.55: Sports results to hand.  
 5.0: Close down.  
 6.0: Children's session conducted by Uncle Toby and Aunt Gwen.  
 7.0: News session—market reports and sports results.  
 7.40: Lecturette—Mr. J. E. Hunt, "Education and the Pageant."  
 8.0: Chimes of the G.P.O. clock.  
 8.1: March—Orchestra, "Trot de Cavalerie" (Rubinstein).  
 Waltz—Orchestra, "Missouri Waltz" (Eppel).  
 8.9: Quartet—Melodie Four, "Mulligan Musketeers" (Atkinson).  
 8.13: Humorous sketch—Clapham and Dwyer, "A Day's Broadcasting" (Columbia Record 4745) (by request).  
 8.19: Xylophone solo with orchestral accompaniment—Mr. L. W. Probert, "Dance of the Toy Regiment" (Shilkret and Green).  
 8.24: Tenor solo—Mr. Frank Bryant, "Maire My Girl" (Aitken) (by request).  
 8.28: Vocal solo with violin, steel guitar, cello and piano, "The Adorable Outcast" (Hayes) (Parlophone Record A2450).  
 8.32: Quartet—Melodie Four, "She's the Sweetheart of Six Other Guys" (King).  
 8.36: Humorous Military number—Mr. Jack Wilkinson assisted by Mr. C. Bradley, "When the Bugle Calls" (Leo).  
 8.42: Baritone solo—Mr. R. S. Allwright, "A Charmed Cup" (Roeckel).  
 8.46: Soprano and male quartet—Norah Blaney and the Ramblers, "Sweet Suzanne" (Leslie and Gilbert) (Columbia Record 01170).  
 8.50: Instrumental—Orchestra, Repeat number.  
 8.58: Weather forecast.  
 8.59: Waltz—Eddie Thomas's Collegians, "Moments With You" (Shilkret and Yellen) (Columbia Record 01135).  
 9.3: Tenor solo—Mr. Sam Duncan, "Silver Threads Among the Gold" (Danks).  
 9.7: Novelty—Orchestra, "Snacks in Bars" (SuperMedley) (Egerer).  
 9.23: Humour—Mr. Jack Wilkinson, "The Underworld of London After Dark" (Weston and Barnes).  
 9.28: Saxophone solo—Ruby Wiedoeft, "Minuet" (Beethoven) (Columbia Record 01176).  
 9.32: Bass solo—Mr. W. W. Marshall, "The Yarn of the Fiddler's Ghost" (Trottere).  
 9.36: Marimba Orchestra—Rio Marimba Orchestra, "My Isle of Golden Dreams" (Medley Waltz) (Blauffuss) (Columbia Record 02685).  
 9.40: Quartet—Melodie Four, "Lullaby" (Brahms).  
 9.45: Instrumental—Orchestra, dance numbers.  
 9.55: Dance programme.  
 11.0: Close down.

### 3YA, CHRISTCHURCH (306 METRES)—SATURDAY, DECEMBER 22.

- 3 p.m.: Afternoon session—Selected studio items.  
 4.25: Sports results.  
 4.30: Close down.  
 6.0: Children's session conducted by Chuckle and Aunt Pat.



7.15: News session.  
8.0: Chimes.

### "VAUDEVILLE."

Special engagement of The Revellers Concert Party in  
HUMOUR AND SONG.

#### 4YA, DUNEDIN (463 METRES)—SATURDAY, DECEMBER 22.

7.15: News session.  
8.0: Town Hall chimes.  
8.1: Relay of orchestral music from the Octagon Theatre Orchestra under the direction of Monsieur Henri De Rose.  
8.11: Humorous songs—Mr. Norman Scurr, (a) "Our Little Garden Subbub" (Lee); (b) "I Had a Little Drop With Martha" (Moore).  
8.18: Hawaiian selection—Queenie and David Kaili, "Fijian Farewell" (Mertort).  
8.22: Popular song hits—Miss Betty Roberts, "Where the Sun is Ever Shining" (Elliott).  
8.26: Humorous sketch—Miss Sheila Neilson and Mr. J. B. McConnell.  
8.36: Humorous Scottish song—Mr. Buster Brown, "Breakfast in My Bed" (Lauder).  
8.40: Relay of orchestral overture from Octagon Theatre.  
8.55: Popular songs—Miss Frances Charnerm (a) "Sing Song Sycamore Tree" (Wood); (b) "Just a Cottage Small" (Hanley).  
9.2: Weather forecast.  
9.5: Waltz—Dajos Dance Orchestra, "The Swallows" (Strauss) (Parlophone Record A4010).  
Cinema organ solo—Eddie Horton, "The Adorable Outcast" (Hayes) (Parlophone Record A2557).  
9.13: Humorous song—Mr. Norman Scurr, "Let's Have a Song About Rhubub."  
9.17: Hawaiian selection—Queenie and David Kaili, "Hawaiian Love Song" (Parlophone Record A2507).  
9.21: Popular song hits—Miss Betty Roberts, (a) "Blue Room" Rodgers; (b) "Love, Goodbye" (Lehar).  
9.23: Humorous sketch—Miss Sheila Neilson and Mr. J. B. McConnell.  
9.38: Humorous Scottish songs—Mr. Buster Brown, (a) "Bonnie Maggie Tamson" (Lauder); (b) "I'm the Man They Left Behind" (Lauder).  
9.46: Bell solo—Billy Whitlock, "The Joker" (Whitlock) (Parlophone Record A2503).  
Xylophone novelty—Rudy Star Three, "Polly" (Zamecnik) (Parlophone Record A2548).  
9.54: Popular waltz song—Miss Frances Charmer, "Charmaine" (Pollock).  
9.57: March—U.S. Navy Band, "All Hands" (Benter) (Zonophone Record EE105).  
10.2: Close down.

## Sunday, December 23

#### 1YA, AUCKLAND (333 METRES)—SUNDAY, DECEMBER 23.

3 p.m.: Afternoon session—Selected studio items.  
4.0: Literary selection by the Announcer.  
4.8: Studio items.  
4.30: Close down.  
6.0: Children's session conducted by Uncle Leo.  
7.0: Relay of service from the Baptist Tabernacle (preacher, Rev. Joseph W. Kemp; organist and choirmaster, Mr. A. E. Wilson).  
9.0: Orchestral—Ketelbey's Concert Orchestra, "In a Fairy Realm" (Ketelbey) (Columbia Record 02694).  
9.8: Duet—Hazell-Sutherland Duo, "Hold Thou My Hand" (Briggs).  
9.12: Violin solo—Albert Sammons, "Elegie" (Massenet) (Columbia Record 02687).  
9.16: Contralto solos—Miss Phyllis Hazell, (a) "He Shall Feed His Flock" ("Messiah"—Handel); (b) "O Thou That Tellect."  
9.24: Pianoforte solos—Percy Grainger, (a) "Sheep and Goat Walking to the Pastures" (Gulon); (b) "Gigue" (Bach) (Columbia Record 04097).  
9.28: Baritone solos—Mr. Frank Sutherland, (a) "But Who May Abide" (Handel); (b) "The People That Walked In Darkness."  
9.36: 'Cello solo—W. H. Squire, "Angels Guard Thee" (Godard) (Columbia Record 04179).  
9.40: Duet—Hazell-Sutherland Duo, "Break, Diviner Light" (Allitsen).  
9.44: Close down.

#### 2YA, WELLINGTON (420 METRES)—SUNDAY, DECEMBER 23.

3 p.m.: Afternoon session—Selected studio items.  
4.30: Close down.  
6.0: Children's Sunday service conducted by Uncle George.  
7: Relay of service from St. Thomas's Anglican Church (preacher, Rev. C. V. Rooke, M.A.; organist and choirmaster, Mr. Wenzel Collie, L.L.C.M.).  
8.30 (approx.): Sacred concert by the Choir of St. Mary's of the Angels, under the conductorship of Signor A. P. Truda.  
Choral—Choir of St. Mary's of the Angels, "Messe Solennelle," from "St. Cecilia" (Gounod). Soloists:

Soprano ..... Mrs. A. P. Truda  
Tenor ..... Mr. Samuel Duncan  
Baritones ..... Messrs. Len Barnes and Staunton  
Organist ..... Mrs. G. P. Aldridge  
Pianist ..... Signor Cattaneo

Kyrie and Gloria from "Messe Solennelle" ("St. Cecilia"—Gounod)  
Duet—Mrs. A. P. Truda and Mr. L. Staap, "The Crucifix" (Faure).  
Credo, Benedictus, Sanctus, and Agnus Dei from "Messe Solennelle" ("St. Cecilia"—Gounod).  
Contralto solo—Mrs. T. Treacey, "Ave Maria" (Luzzi).  
"Adeste Fideles" (arr. Vincent).

Close down.

#### 3YA, CHRISTCHURCH (306 METRES)—SUNDAY, DECEMBER 23.

3 p.m.: Afternoon session—Selected studio items.  
4.30: Close down.  
5.30: Children's song service, conducted by Uncle David.  
6.15: Hymn and carol chimes.  
6.30: Selected gramophone items.  
7.0: Relay of service from the Christchurch Anglican Cathedral. Preacher, Very Rev. Dean Julius. Organist and choirmaster, Dr. J. C. Bradshaw, Mus.Doc.  
8.15 (approx.): Studio concert.  
Soprano solo—Madame Gower-Burns, "Hear ye, Israel" (Handel).  
8.20: Orchestral—Berlin Philharmonic Orchestra "Carnaval Romain" (Berlioz) (H.M.V. Record D1365).  
8.28: Tenor solo—Mr. Harold Prescott, "How Vain is Man" (from "Judas Maccabaeus") (Handel).  
8.32: 'Cello solo—Pablo Casals, "O Star of Eve" (from "Tannhauser") (Wagner) (H.M.V. Record DB1012).  
8.36: Contralto solos—Mrs. Ross Brodie, (a) "Largo" (Handel); (b) "He Shall Feed His Flock" (Handel).  
8.43: Suite—Philadelphia Symphony Orchestra, "Casse-Noisette" (Nutmacker Suite) (Tchaikowsky), (a) "Arab Dance"; (b) "Chinese Dance"; (c) "Dance of the Flutes" (H.M.V. Record D1215).  
8.51: Soprano solos—Madame Gower-Burns, (a) "Oh, for the Wings of a Dove" (Mendelssohn); (b) "Hear My Prayer."  
8.59: Wurlitzer organ solos—Reginald Foort, (a) "Schon Rosmarin" (Kreisler); (b) "A Brown Bird Singing" (Haydn-Wood) (H.M.V. Record B2664).  
9.7: Tenor solo—Mr. Harold Prescott, "Sound an Alarm" (from "Judas Maccabaeus") (Handel).  
9.12: Flute quartet—London Flute Quartet, "Carnival de Venice" (with variations) (Benedict) (Parlophone Record A4023).  
9.16: Contralto solo—Mrs. Ross Brodie, "Abide with Me" (Liddle).  
9.20: Choir—British Broadcasting Company's Choir, "A Few More Years Shall Roll" (Bonner) (Columbia Record 01211).  
9.24: Soprano and tenor duet—Madame Gower-Burns and Mr. Harold Prescott—"My Song Shall Always Be Thy Mercy" (from "Hymn of Praise") (Mendelssohn).  
9.28: Military Band—H.M. Coldstream Guards, "Der Freischutz" (Weber) (H.M.V. Record C1335).  
Close down.

#### 4YA, DUNEDIN (463 METRES)—SUNDAY, DECEMBER 23.

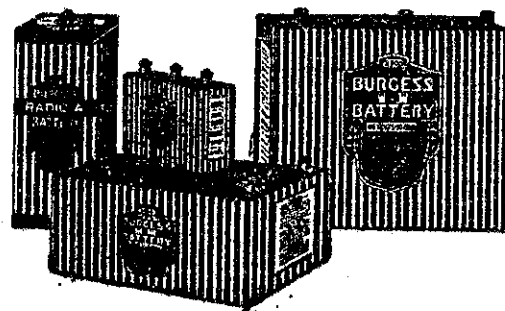
5.30 p.m.: Children's song service conducted by Big Brother Bill.  
6.30: Relay of service from Knox Church (preacher, Rev. Tulloch Yuille, B.D., M.A.).  
7.45: Organ voluntaries by Mr. Roy Spackman, relayed from Knox Church.  
8.5: Relay of concert by the St. Kilda Band from St. Kilda Band Rotunda.  
9.15: Close down.

### The Use of Multiple Wire Aerials

IN an article it has been said that six feet is the optimum distance for aerial wires to be separated. The reason for this is that the second wire, if too close, will act as a condenser such as that which might be used in combination with a high resistance to form a "grid leak." There are then two conductors separated from each other with an insulator. The capacity of such

a condenser can be altered by varying the distance between two conductors or plates of the condenser. Usually this is done by moving plates passing in between or out from the fixed plates. The closer the conductors are together the more strongly they act on one another—hence the greater the capacity of the condenser.

The capacity of the aerial is therefore dependent upon the distance between them, and of course the capacity of any aerial is one of the factors which determines the wavelength to which that aerial can be tuned most effectively.



**BURGESS  
RADIO  
BATTERIES**

# Byrd's Departure for the South

## Special Speech through 4YA

**W**HEN the Byrd Antarctic Expedition was in Dunedin, 4YA took every opportunity of rendering service. The famous American broadcast on two occasions—at the civic reception and on the morning of departure from Dunedin.

For some days prior to sailing for the Antarctic, the two ships of the expedition, "The City of New York and the Eleanor Bolling, were moored at the Rattray Street and Victoria wharves, where crowds of people were to be found daily. The cargo from each boat had to be unloaded and stored in the Harbour Board's shed, where it was resorted and loaded again

on the ships, not only all the crew but all members of the expedition, which included many scientific and university men, being engaged in the work.

The eighty-two Alaskan dogs were in camp on Quarantine Island, down the Otago Harbour, near Port Chalmers, and to this place each day ferry boats carried large crowds of people to see the dogs which will play such an important part in the expedition, once the Antarctic is reached.

4YA was able to keep listeners in touch with the various activities in

connection with the expedition, but while listeners hoped to hear Commander Byrd it was doubtful if he could be induced to broadcast. At first he had firmly declined. Later on, however, he consented to speak into the microphone at the Dunedin civic reception tendered to him in the Council Chamber at the Town Hall.

### Civic Reception.

4YA officials at the reception endeavoured to get the local speakers to talk into the microphone, but without great success. Upon Commander Byrd being called upon to address the gathering, he adjusted the microphone so that he might speak directly into it. This resulted in every word he said being heard. He gave a most interesting address, outlining some of the tasks before the expedition, and amusing his hearers with some quaint humour.

The big event which listeners were looking forward to, however, was the departure of the ships. This was scheduled to take place at noon on Saturday, December 1. The Otago Harbour Board rendered valuable assistance to 4YA by building a wooden stand on a roof adjoining one of the storage sheds. Upon this the microphone and relaying equipment were installed, and this enabled the announcer to obtain a fine view of the ships and all operations on the wharves. When noon arrived on the Saturday it was found that the departure would have to be delayed for some hours, as rain during the morning had impeded the progress of the final loading, and although hopes were held that the expedition would sail at 5 p.m. and later 7 p.m., it was finally found that sailing could not take place before daylight on Sunday morning. Accordingly, the last of the cargo was taken aboard, including the eighty odd crates containing the dogs.

At 4.30 a.m. on Sunday morning 4YA officials arrived at the wharves to test the line and commence the relay description. At that hour there was no sign of life on either of the ships, but within half an hour the silence changed into great activity. By this time numbers of people were beginning to arrive. Further small lots of cargo were taken on, and at last everything was in readiness.

During this stage, when apparently all members of the expedition were up and alert, one member at least was unconcerned, rolled up in blankets with his head on a comfy pillow. This member was fast asleep up on the fore-deck, and although cranes were creaking, and dozens of dogs were yelping the sleeper did not stir. His slumbers continued, until four members of the crew awoke him with severe shaking. His surprise was exceedingly great when he became conscious of the fact that he had provided amusement for a large number of people, who had congregated on the wharf alongside the boat.

### Byrd Speaks Again.

COMMANDER BYRD had previously been prevailed upon to speak a few words before the boats' departure,

and accordingly, a few minutes before the moorings were taken in, he was seen coming ashore towards the microphone. In a short speech he thanked the people of New Zealand and particularly those of Dunedin for the kindness and help that had been extended to himself and the expedition. He stated that the expedition would be away two years. He also spoke of the high hopes held in connection with securing scientific data, which was the chief aim of the expedition. A large crowd had gathered round the microphone while the Commander was speaking, and at the conclusion of his talk gave three hearty cheers. Within a few minutes The City of New York, which had been lashed to the side of the Harbour Board's tug, commenced to leave the wharf, and after turning, headed for the channel, amid loud cheering from the people on the wharves and waving of the men on the boat. A few minutes later the Eleanor Bolling turned and steamed down the channel to the accompaniment of further cheering.

4YA's announcer gave an interesting description of everything that went on at the wharf and with the aid of a pair of glasses watched and described

**New!  
Different!**



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the boats passing into the distance beyond Port Chalmers.

On reaching Tairoa Heads, The City of New York, which is a wooden auxiliary sailing ship, was released from the tug, and taken in tow by the Eleanor Bolling and the vessels headed for the far South.

The Eleanor Bolling, being an iron steamship, is unable to go through the ice-floes until much of the melting has set in, so she is towing The City of New York to the edge of the ice-fields where the C. A. Larsen will be waiting to tow the first unit of the expedition through to the Bay of Whales, on the edge of the Antarctic.

The Eleanor Bolling returns to Dunedin to load the balance of the cargo, leaving finally about Christmas for the Bay of Whales.

## Auckland Notes

(By Listener.)

1YA again rendered service to the big army of country listeners who cannot afford regular trips to the city, and to the many in hospitals and other institutions, when it relayed particulars of the Takapuna race meeting last Friday and Saturday. Soon the biggest racing week of the year, the Christmas carnival, will be upon us, and again thousands will be in the position of not being able to attend at Ellerslie and at Alexandra Park. For them there will be no certainty of participating "over the air" in the big meetings of the week, though it is certain the Broadcasting Company will do its best under harrassing conditions for them. Surely the time has now come when there should be some reconsideration of a ban which all sane people regard either as idiotic or as petty. New Zealand is a land which has a large number of peculiarities, and a remarkable series of restrictions, but the one upon the broadcasting of racing de-

scriptions is that which, of all, must create most amusement to outside observers.

A NEW concert party under Madame Steward made its initial appearance before the 1YA microphone on Wednesday night, and provided a delightful programme. There was something in it for all, and not the least enjoyable portions were the grand organ relays, most suitable for broadcasting, and the vocal items with organ accompaniment. The amount of static observable when distant stations were tuned in indicated that there would be difficulty in southern listeners enjoying the programme, but to those who did get it well it was a real treat.

INTERFERENCE from howling valves is again becoming a menace in Auckland, and on every side one hears growing complaints regarding a nuisance which we had hoped was a thing of the past. On Monday nights, when many wish to tune-in our two small stations, they find these programmes marred by the persistence in vain endeavour of the inconsiderate ones who wish to hear Sydney in summer time upon receivers which were never intended for such duty. There is keen interest here in the Australian crickets tests, but it is hard to make out the 2FC announcer's voice through the oscillation, and several have given up the attempt in disgust. 1YA, however, has come to the rescue, and, on time, it has beaten the Sydney stations with its information as to the state of play. The early information regarding the scores which Mr. Culford Bell has been able to supply has been much appreciated.

CHRISTMAS is approaching, the radio trade is looking forward to a busy time, and the Broadcasting Company is assisting by putting on midday broadcasts which will be welcomed by many who are not dealers. "Lunch to music" will be the order of the day in many homes and restaurants during the coming weeks. There is every indication that this season's radio business will far surpass that of previous Christmases. Good programmes have contributed towards this outlook, but the chief contributing factor is the wonderfully quick and reliable service which New Zealand radio is now giving in the dissemination of important news, and the broadcasting of great events.

FOR some time now we have had no band items, and listeners regret the absence. It is time that they combined and made such representations to the City Council as would make that body reconsider its exorbitant demands which have resulted in shutting the municipal band off the air. No one blames the Broadcasting Company, which is prepared to pay a fair thing, but, unless some further consideration is given, there is bound to be much heard regarding the broadcasting of municipal music ere the civic elections eventuate next year.

THERE is one radio to every three farms in the State of Iowa, U.S.A., according to a recent report of the Iowa Department of Agriculture compiled from figures gathered by township assessors. The number of radios on Iowa farms increased from 10,566 in 1926 to a total of 76,032 in 1927.

# Our Mail Bag

Will correspondents please practice brevity, as heavy demands are now made on space. All letters must be signed and address given as proof of genuineness: nouns de plume for publication are permitted. Address correspondence Editor, "Radio Record," P.O. Box 1032, Wellington.

2FB, Northland: The music you heard shortly before 3 p.m. no doubt was 2YA testing prior to opening. The other music was probably radiation as explained by "Switch" some few weeks ago.

### An Uncommon American.

WHILST listening in on my six-valve set last Wednesday evening at about 7.30 I picked up an American station just a degree or two above 2BL. I could not detect his call sign (which was a four-letter one with, I think, a W and a K in it), but he said something about transmitting from Lucyana, U.S.A. Could any listener who has heard this station tell me who he is?

[This may have been WWL, New Orleans, Louisiana, broadcasting on a wavelength of 352 metres.—Ed.]

### Seven Days a Week.

I HOPE you will spare me a few lines in your "Record" to make one or two suggestions. Would it be possible for 2YA to give a short gramophone recital during the news session, when there is no lecturette? Sometimes there is nearly half an hour between the end of the session and the beginning of the concert. I am sure it would not be much trouble to play a few selected items. I think that radio broadcasting in New Zealand has passed its infancy, and that the four chief stations could be on the air for seven days a week as in Australia. If this scheme were adopted it would give owners of valve sets an opportunity of hearing other stations without the howling of small sets trying to pick up stations beyond their reach.

### Unsigned Letter.

WE have received an unsigned typewritten letter bearing the address "Richmond Avenue, Nelson," under date November 26, 1928, asking us to forward the "Radio Record" for one year. The letter states that a postal order for 12s. 6d. is enclosed, but this was not attached on receipt by us. As the letter is unsigned, we are unable to communicate with the writer. We would be glad to hear from anyone who can locate the sender.

### A Correction.

IN your issue of November 23, "Northlander," of Whangarei, reports having received 2XAF on 280 metres, and he asks if this would be a harmonic. Your reply was in the affirmative—but is it not more probable that "Northlander" picked up a re-broadcast by 2ZF on 285 metres? This station has rebroadcast parts of the two-way conversation between 2XAF and 2ME, and it seems more probable that this was picked up, rather than a harmonic of a station as far distant as U.S.A., especially as it was of loud-speaker strength. Trusting you will correct the statement.—K. L. Collinson (Palmerston North).

[Yes, in the circumstances, your suggestion seems correct.—Ed.]

UNLESS your aerial is less than forty feet long it is better to use one wire than two, in most circumstances.

## LEARN LIVE MUSIC



If you can already play the piano, learn to play it like your favourite dance Pianist. Dance music must be syncopated to be successful—not merely played as written. BILLY MAYERL the world's greatest syncopated pianist, can make any pianist a brilliant dance musician—BY POST.

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# A Crystal Set with Unusual Volume

(By "Pentode")

WITH the advent of the commencement of the "Crystal Corner" in this issue of the "Radio Record," the writer will endeavour to interest readers with the description of one or two crystal receivers, that may be justly claimed to be a little out of the ordinary. These sets are a little more expensive to build, but no doubt there will be many cases where readers have a "junk" box containing sundry components which will find good use if built into one of the following circuits. These sets are of special use to listeners situated just too far away from a broadcast station to be able to comfortably hear the broadcast on the usual type of crystal set. Also, for those constructors who reside close to a powerful transmitter and wish to receive on the loudspeaker without the aid of any amplifier. No guarantee, however, for speaker reception from any crystal set can be made, but the writer can tune in the local station any evening, quite loud enough on the speaker for domestic entertainment. Situation, length and height of aerial, efficiency of earth connection are important factors in the performance of crystal receivers. The only energy available to operate a crystal receiver is that given out by the transmitter, and it behoves one to collect as much energy as possible and not waste any by using poor insulation and absorption by having the aerial or lead-in too close to buildings, trees, etc.

Crystal receivers are essentially all the same. There are hundreds of crystal sets described in the various periodicals and journals, but when analysed, they can all be reduced down to some form of tuning system and a detector.

The tuning system may consist of the coil and condenser, variometer, or

merely a solenoid coil arranged with a slider. The circuit may include two or more coils loosely coupled. The chief advantage of this is to increase selectivity. Or an untuned aerial coil may be arranged more or less tightly coupled to a tuned secondary coil in which circuit is included the crystal detector and phones.

## Rectification.

VARIOUS types of crystal detectors can be employed, but each attributes its action to the fact that it will allow a current of electricity to pass in one direction and retard the flow in the opposite direction. Thus the incoming signals being alternating current are rectified by the detector to pulsation of direct current to operate the reproducing mechanism, whether phones or speaker.

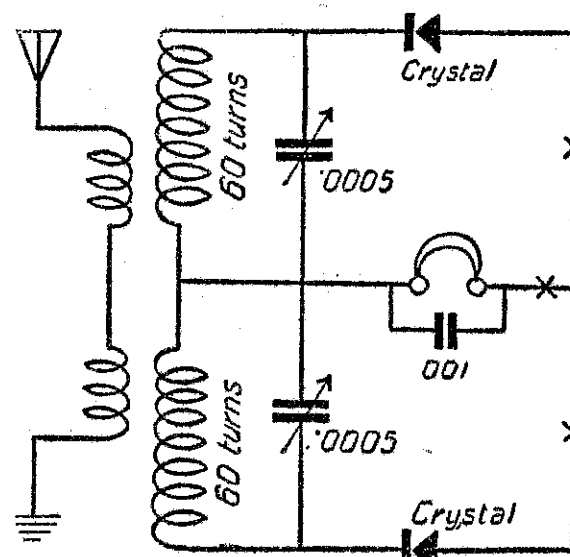
Now, in receivers using only one detector, one half of the cycle is suppressed and is, as it were, wasted. The other half-cycle is used only to operate the phones. Therefore, in the usual single detector circuit there is a certain amount of energy that is not being used. A more detailed description of the theory of reception will be given in later articles in the "Radio Record" and the reader is advised to read them over, as it explains in a simple way just what happens when you are tuned into a station and the reason that audible sounds can be heard miles from their origin. A brief outline was given last week in "Our Crystal Corner."

Returning to the subject under discussion. If this waste energy could be turned round to flow in the same direction as the rectified current, then the signal strength would be increased

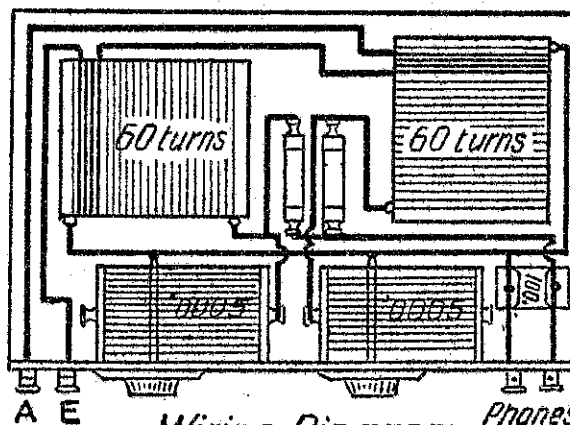
with the increase of current fed into the phones.

## Dual Tuning System.

THE most satisfactory way to do this is to employ two tuning systems, two crystal detectors and either arrange the circuit so that available energy from both sets operate a single pair of telephones, or feed both the outputs into a transformer which has two primaries and one secondary. Below is given a circuit diagram showing the former method, although instructions are given for using with the extra output transformer.



Theoretical Diagram



Wiring Diagram

As will be seen, two separate crystal sets are employed. These must be kept quite separate by placing the coils at right angles. Although it is quite possible to only use one tuning coil, the results are not quite so good as when using the arrangement shown.

Two separate condensers are shown, but two gauged together will do quite well, but care must be exercised to see that both tuning coils are identical with regard to number and spacing of turns, gauge of wire, diameter of coil former, etc., otherwise one of the sets will be constantly out of tune and no advantage will be gained. Although two fixed crystals are used by the writer, two cat's whisker types will do quite well and can be mounted on the front panel.

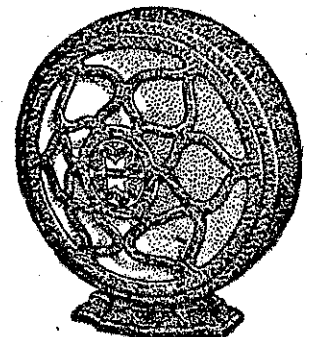
## The Coils.

THE coils are the only components needing much attention. In the ebonite or cardboard former, drill two small holes, 1-8 in. from each end, on the same side to fix down to the baseboard. Two small wooden blocks can be made with holes drilled down the centre so that when a screw is passed through the former and this block, the

former will stand about an inch from the baseboard. Both coil formers are treated in the same way and are wound with exactly the same number of turns in each case. Starting from one end, wind on 60 turns of the 22 s.w.g. DCC wire and fasten the wire by passing in and out of two small holes drilled in the former. Note which is the beginning and end of each coil, and over the wire at the beginning end wrap a strip of brown paper 1 1/2 in. wide and about 2 ft. 6 in. long. This will give three layers and can be given a liberal coating of shellac varnish or celluloid solution. Over these layers of brown paper wind 20 turns of the 22 DCC wire, fastening each end by tying with cotton. Leave about 9 inches free wire and this can be used to fasten direct on to the terminals.

Mount these two finished coils on a baseboard 11 in. x 7 in., toward the back

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**12/6 each**

OBTAINABLE FROM ALL RADIO DEALERS.



and at right angles to each other. The ebonite panel is drilled to take the two condensers and terminals for aerial, earth and 'phones. If square busbar is used to wire up the receiver, the two crystals can be held in position by this wire. If not, then two clips will have to be devised to hold the detector cartridges away from the baseboard. Do not screw metal clips direct to the wooden baseboard, but mount on a small strip of ebonite.

#### Wiring.

THE wiring is a comparatively simple matter, and no error can be made if the diagram is followed closely. The two aerial coils are joined in series and the two free ends joined to aerial and earth terminal respectively. The two sets of moving plates of the condensers are joined together and also run to the earth end of each coil, that is the end of the secondary under the aerial coil. This wire also joins to one end of 'phone terminal, which ter-

whether the crystal detectors are connected the correct way round.

This can be determined only by actual test. Listen to the strength from the local station and reverse either, one, not both, of the crystal detectors and note signal strength again. It will be either louder or softer and the constructor will soon know which is the right way round. If a gauged condenser is used and signal strength does not seem up to scratch, a midget balancing condenser will be found useful to adjust both coils to resonance with the transmitting station.

#### Using an Output Transformer.

IF the reader has a push-pull output transformer it would be quite worth while to include it in the set as a trial. To connect up the transformer break the three wires marked with a small cross. Connect the two outside ones to the centre tapped prim-

### Keeping a Crystal Set in Order

THERE is very little to go wrong with a crystal set, but, nevertheless, there are a few points about the maintenance of this class of receiver which are worth watching. For instance, the telephones themselves should not be worn for very long periods, and then put away without being wiped gently with a fine cloth, or otherwise moisture may collect in the diaphragms, which will eventually rust the telephones, and probably do a good deal of damage.

(Telephones are extremely sensitive instruments, so all wiping, etc., should be very carefully done.)

It is especially important not to bend the diaphragms of the telephones in any way. Another important point is to keep the whole set free from dust. This is especially true of the crystal

itself, which should be kept as clean as possible, and not handled with dirty fingers.

If sensitive spots become difficult to find, the crystal should be broken in order to get a new surface. The cat-whisker itself also should not be neglected, and should be kept sharply pointed, the degree of pressure upon the crystal itself being varied according to the pressure which gives the best results. The most important proviso of all is to keep contacts clean. If the set is kept covered over and free from dust, and the foregoing precautions are taken the set will give continuous satisfactory service.

VALVE tubing such as is used for bicycle tyres makes an excellent device for preventing the shorting of leads against a screening box and can easily be slipped over the wire before soldering inside the box is carried out.

### Components for Full Wave Crystal Set

Two Variable Condensers, .0005 m.f.d. (separate or gauged).

Two Crystal Detectors.

Two Cardboard or Ebonite Formers, 3in. dia., 4in. long.

Panel.—Wood or Ebonite.

4 Terminals.

Fixed Condenser, .001 m.f.d.

22 Gauge D.C.C. Wire.

minals are bridged by the .001 fixed ary and the middle one to the centre condenser. The other 'phone terminal tap. Short circuit the 'phone terminals and connect the two 'phone joins to one end of both of the crystal detectors. The free end of detectors leads to the secondary of the transformer. It is not worth the expense of buying a special transformer for opposite to the aerial primary coil. the job and the arrangement described This finishes the wiring and a test will be an improvement over the usual will have to be made to determine crystal set.

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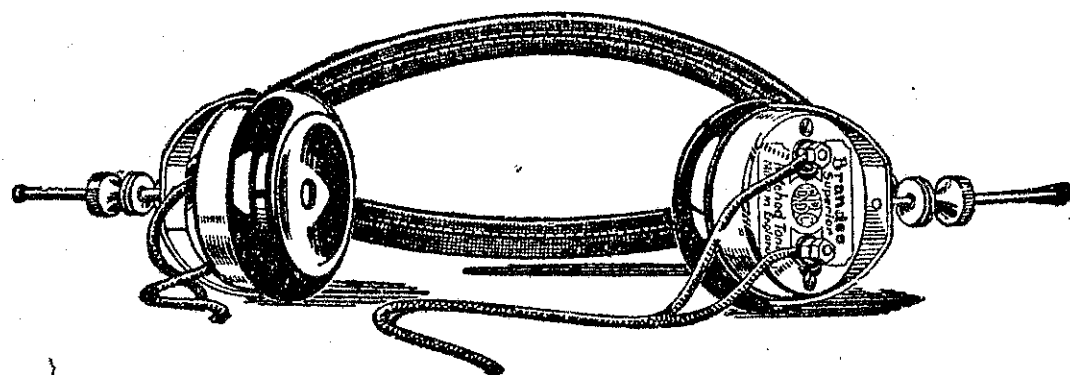
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# A Crystal Set and Amplifier to work from $22\frac{1}{2}$ Volts

(By "Galena")



Of crystal sets and amplifiers there are literally hundreds, yet all are modifications of a simple plan. The following is another to be added to that category, but should make a strong appeal to all who desire the local station on good loudspeaker strength with a minimum of running cost. A crystal set is described, together with the amplifier, but any crystal set may be used by hooking the speaker terminals to the transformer.

A small cabinet contains everything, and if carefully constructed, well-

age and consumption. Under these conditions the set will work from one small B battery and three dry 1½-volt cells. The drain is very small and, providing the set is moderately used, the cost of renewing the batteries will be trifling.

Prospective constructors should not expect to get beyond the local station,

resistance of 4500 ohms. The low plate voltage, filament voltage and consumption renders it highly suitable for a one-stage amplifier. The 241 valve requires only 2 volts on the filament, and as three volts are provided by the batteries a 30 ohm resistance must be placed in the circuit to prevent the filament from being spoiled.

baseboard panel and components, and connect these by long leads to batteries, either concealed or lying about the set. A cabinet may be constructed, but usually not till some time afterwards, if then.

This time procedure is reversed and the cabinet is constructed first, and the amateur will not find this difficult. Diagram (1) will give an idea how this should look when finished.

The timber is half-inch, well-seasoned heart; 8 x ½ inch dressed lining is very suitable, and is readily obtainable from a timber yard for a very small sum. About 7 feet will be ample.

Space will not permit full constructional details of the cabinet. Measurements are fully given, and no difficulty should be encountered. Outside measurements are given in each case.

The front portions should be joined as in diagram II. The edges can then be rounded off and polished. It is advisable to fit the bottom and back into the front and sides; that is, like the end of a fruit box.

The top forms a lid and is provided with hinges. A small overlap, say half-inch, is preferable in the front. This should be bevelled off to give a neat appearance. When complete, smooth with sandpaper, stain, varnish, and allow to dry. Not until thoroughly dry is it advisable to carry on with the assembly.

## The Coil.

THE coil to be used is of the basket type. Although being perhaps a little more difficult to construct than the ordinary plain coil, the writer considers it better in this circuit. Many have been tried, but this was found to be the best.

On a piece of timber draw a circle with a radius of 1½ inches, divide this

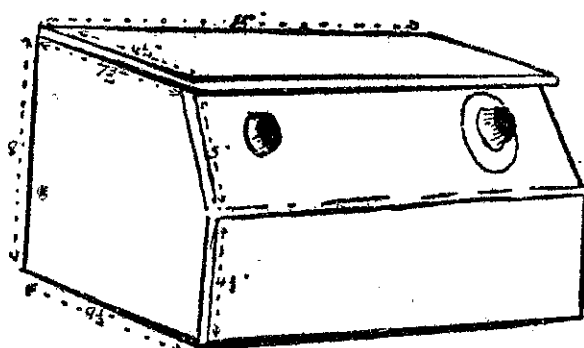


Diagram I.

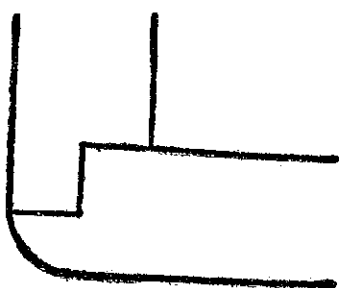


Diagram II

stained and polished, will become a fine piece of furniture.

Only one valve is used, but it is of the double grid type, requiring only 22½ volts on the plate and auxiliary grid, with the usual low filament volt-

**T**HERE are four stages in the evolution of the wireless "fanatic," the crystal, the amplifier, the broadcast valve receiver, and the short wave receiver. The advent of Christmas will mark the initiation of many newcomers to the joys of radio. Of these a large proportion will start with the simple crystal. But Christmas broadcasting, with all its cheer, calls everyone to listen-in, but how—on a crystal? To fill that gap this set is described. Both initial and running costs are low, while quality and volume are truly remarkable.

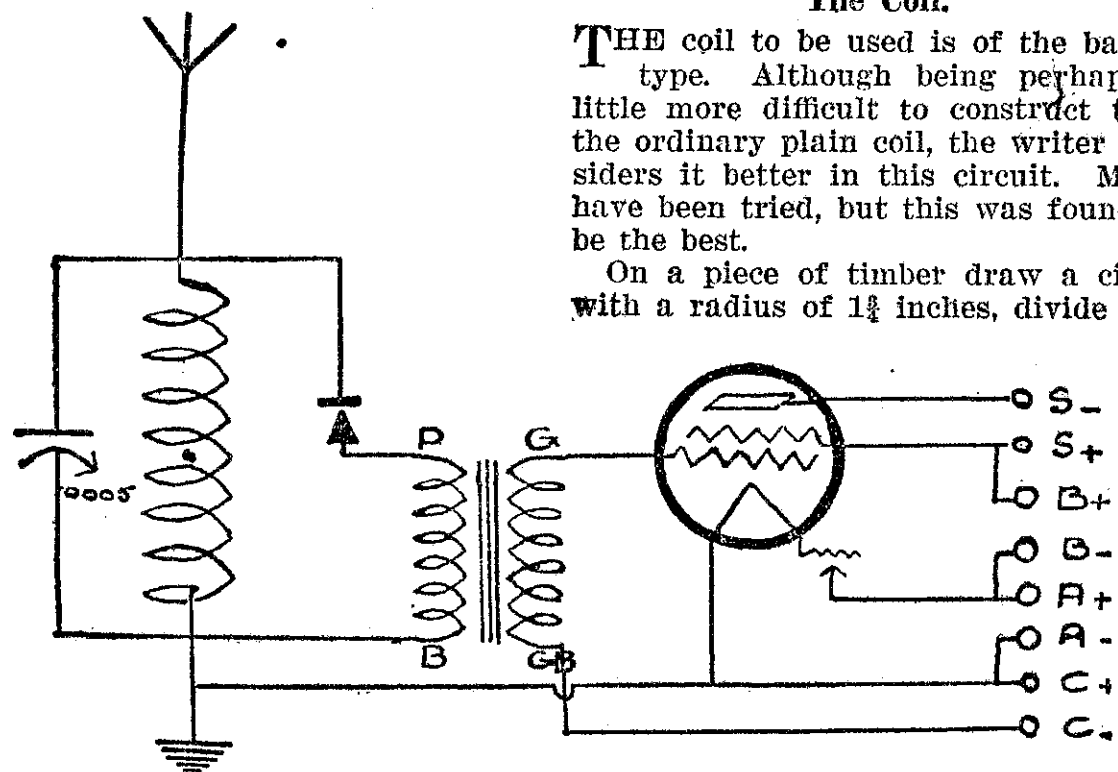
that is not claimed, but it is claimed that there are few, if any, sets that can be run on such low voltage and give amplification that will far exceed that of the ordinary one-valve amplifier.

The circuit is not original, but an individuality has been given which renders it different from the usual type of set.

The writer knows of no other make of double grid valve on the New Zealand market but 241 which can be readily obtained.

## The Double Grid Valve.

THE valve is provided with two grids, and is thus enabled to give in the case of Philips 241 an amplification factor of 4.5 with the low internal



Theoretical Diagram.

## The Cabinet.

THE usual procedure in construction is to build a set, comprising a into 15 equal parts, and drill to take 15 pieces of meat skewer each 2½ inches long. Twenty-four gauge double

## CHEAP HOLIDAY FARES FOR CHRISTMAS and NEW YEAR HOLIDAY TRIPS.

Holiday excursion fares will be in operation from December 14 to January 5, inclusively, and they will be available for return until February 9.

For full information regarding holiday travel, communicate with the nearest Station-master, Passenger Agent, Central Booking Office or District Manager.

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cotton-covered wire is to be used for the winding. Making one end secure to the timber, start winding in and out of the uprights, passing inside one and outside the next.

It will be noticed that each lap passes on the other side of the skewer from its predecessor. Thus series of diamond shapes are formed, the centres being the skewer. The whole will somewhat resemble a basket, hence the name. Wind on from forty-five to fifty turns, according to the length of the aerial: the longer, the aerial the fewer the turns.

To secure the meshes cut fifteen pieces of the 24 wire, each four inches long. Pass one end down each diamond shape and up the adjoining series of diamonds. Thus a U shape, with long arms, will connect each series of diamonds. Twist the ends of each wire together to form a firm support for the corners of these cavities. When firmly secured twist each end of the coil to the U nearest and remove from the former. Place this in the cabinet as shown in the lay-out diagram (III).

#### Lay-Out.

IN selecting components use only the best. They cost more, but amply reward; especially does this refer to

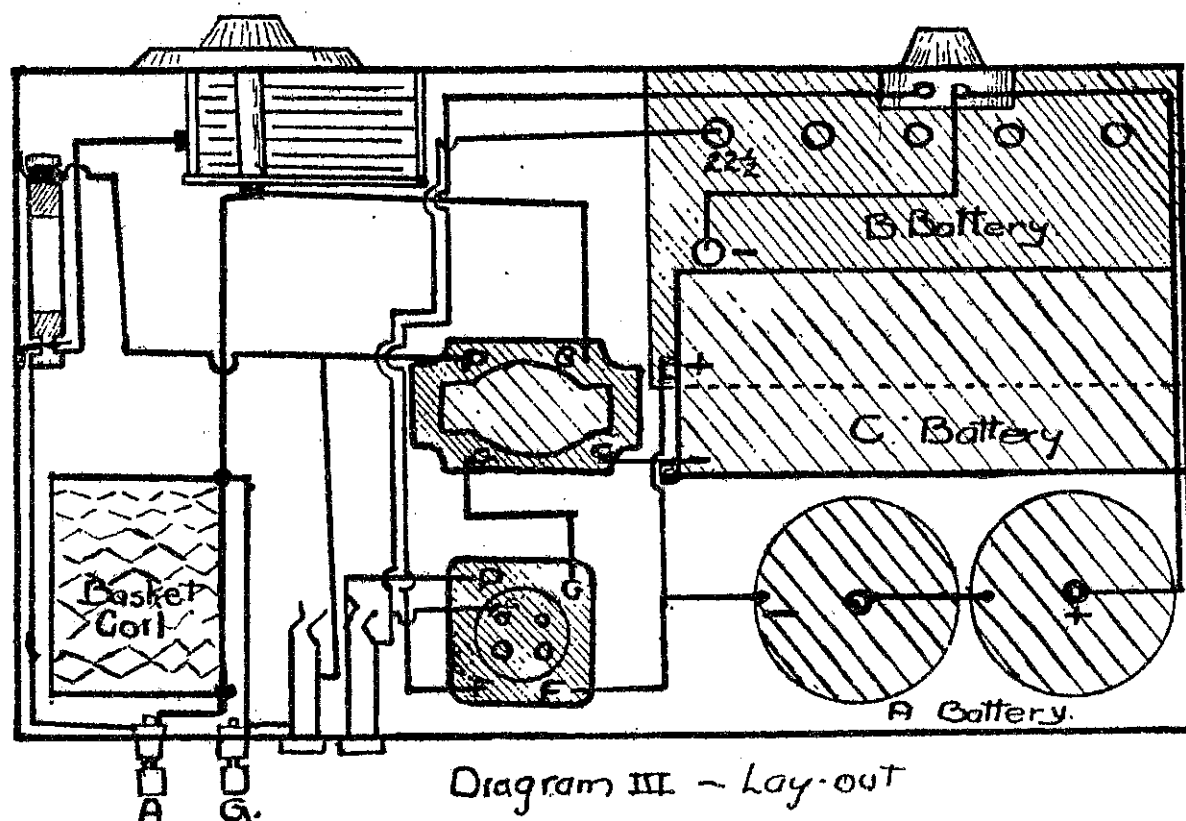
diagram a large 1½-volt cell is shown, but a torch cell would be sufficient. This is to economise space. For safety's sake the valve base and transformer should be fixed to a piece of timber of suitable dimensions, say, seven inches by four. This would allow both to be removed when an alteration is necessary. Care should be taken that the letters G and GB (C) of the transformer should be opposite P and G of the valve base.

A permanent crystal has been selected and should be mounted vertically about two inches from the top of the right-hand end of the cabinet. It is shown horizontal in order to simplify the wiring diagram.

The terminals marked A (ANT) and G (GND) should be two inches from the top. Two jacks are provided; one will plug into the crystal set alone for 'phone use, the other into the amplifier for speaker use. They may be mounted as shown, or with the speaker jack below the 'phone jack. All joints should be soldered.

#### Wiring.

BY the aid of the diagrams no difficulty should be encountered in wiring. Square 18 tinned wire may be used if covered with spaghetti. Ordin-



the condenser, the transformer and the rheostat. A list is appended.

Drill the upper half of the panel 2½ in. from the top and three inches from each end. On the right-hand side fit the condenser, on the left the rheostat, that is when one is facing the cabinet. A chisel may be introduced to make a neat fit. Lay out the remaining components as shown in diagram III. It will be noticed that the C battery overlies the B. In the

any insulated 18 wire will do if the outer insulation is stripped away, leaving the rubber covering. Wherever possible wire along the sides and floor of the cabinet. To the aerial terminal attach two wires, one to one end of the coil and the other to the crystal, and on again to the fixed plates of the condenser. Connect the moving plates to the free end of the coil and to B of the transformer. From the soldered joint of the coil

pass a wire along the floor of the cabinet, up the back to the ground terminal.

A wire passes from this terminal to the portion of the jack connecting with the tip of the plug as shown. Join the free end of the crystal to P of the transformer. From about the centre of this wire a branch runs to the other prong of the 'phone jack.

This completes the 'phone winding. Plug in and try out. A round or two might have to be taken from the coil, but the use of a .0005 mfd. condenser would make up for any inaccuracy in number of turns. If, on tuning in, it is found that the loudest point is 100, more turns should be added. If loudest at O, the number should be reduced.

#### Amplifier Winding.

CONNECT G of the secondary of the transformer to G of the valve base and GB (or C) to the negative terminal of the cell lying on the B battery. Connect the positive of this cell (C battery) to the negative of the A battery, that is, to the outside terminal of the two cells on the left back. From this terminal (A—) run a wire to one of the filament (F) terminals of the valve base. Connect the other filament terminal to the rheostat. Do this

This completes the filament wiring, turn on the rheostat and test by connecting a torch bulb to the F terminals, this should light.

To complete connect the terminal on the valve base marked P to the longer prong of the speaker jack (that is, to the prong connecting with the tip of the plug). Connect the remaining prong to B+. Repeat the test with the torch lamp and if everything is in order introduce the valve.

On one side of the valve is a terminal. Connect this to B+ or to the B+ terminal of the jack, as shown.

Plug in the speaker and turn on the rheostat only partially—to turn it on full would ruin the valve.

By following the diagrams it will be seen that the wiring follows the sides and bottom of the cabinet wherever possible. Do this for neatness as well as efficiency.

#### Working Hints.

FOLLOWING are a few hints that should aid the beginner to look after the set and keep it in tip-top order.

Do not let the batteries get too low. Batteries tend to burn out slightly more rapidly than B, so keep a voltmeter handy.

If torch batter cells are used for

### Components for Crystal and Amplifier

#### CRYSTAL

½ lb. 24 S.W.G. D.C.C. Wire.  
Permanent Crystal.  
.0005 S.L.F. Condenser.  
Lightning Arrester.  
Wire for connections.  
Two Terminals, Gnd. and Ant.  
Phone Jack and Plug.

#### AMPLIFIER

Transformer small ratio (3½ to 1).  
Double-grid Valve (241).  
Valve Base.  
30-ohm Rheostat.  
Plug and Jack.  
22½-volt B Battery.  
3 1½-volt Cells.

by running a wire along the bottom of the cabinet and up the inside of the front. From the other end of the rheostat take a wire round to A plus, and another to minus. Connect the two free terminals of the A battery.

test frequently, otherwise quality will be lost.

The writer found an improvement effected by placing a celluloid screen between the condenser and the coil. A (Continued on Page 30.)

## CHRISTMAS GIFTS!

Are now the most prominent thought. The question of what shall I buy? is easily solved when you think of Wireless. Give something in Radio—a few of our Christmas bargains are set out below.

Crystal Sets, complete with 'phones and aerial wire, 17/6  
Loud Speakers, guaranteed ..... 10/6  
Six-valve Sets ..... £7/7/-

J. A. SMYTH, 71 VICTORIA STREET, WELLINGTON.

## SAVE TWO SHILLINGS IN THE POUND

By presenting this Advertisement, cut out of this paper any time before Christmas Eve, a reduction of 10 per cent. will be made on all Radio purchases above 5/-.

### The Practical Gift for the Whole Family---RADIO

Crystal Sets, from 5/6. One-Valve Amplifier, from 22/6  
Crystavox Amplifying Loudspeaker £6/10/-.  
Magnetic Bar Amplifier, with Battery complete, 35/-.  
Two-Valve Receivers, complete, from £9/10/-.  
Latest Model Five-Valve Shielded Crosley Bandbox Price, complete, £24.

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CROSLEY RADIO SALES AND SERVICE,  
95 WILLIS STREET, WELLINGTON. Telephone 45-865.

## Hawke's Bay Notes

**RUMOUR** has it that a certain enterprising firm in Hastings is about to install a broadcasting outfit—just a small plant, a ten-watter to start with, and if business warrants it, its power will be increased. All that is being awaited now is the permit. If this turns out correct, it will relieve the local radio society of some worry and trouble. Some time ago, the question of a station in Hastings was thoroughly thrashed out and it was decided to get on with the job. A lot of work was done, but the financial support stayed away, the idea was dropped, and a receiver was placed in the Hastings Hospital instead. Now that this hospital job has been completed (or at least it will be within a week or so), some members want the broadcasting station proposal brought up again, and to discuss it a meeting is being held on December 18. The news that a

local firm is getting in first, however, may alter things, for it is useless to think of two stations in the one town, especially a town the size of Hastings.

**OTHER** matters which are to be discussed on the 18th, are the idea of holding a ladies' night, and also a proposal to hold a Christmas tree for radio kiddies. These are worth considering and it is hoped there will be a good attendance of members. It is a great idea to get the ladies and also the kiddies interested.

**THE** outstanding feature of the past week was the consecration of Rev. F. A. Bennett, as first Bishop of Aotearoa. The Right Rev. the Bishop is president of the Hawke's Bay Radio Society, and has held the position for the last two years. He takes a keen interest in radio, and as far as his new duties will allow, will continue his interest in the society and radio generally.

**AN** effort was made to have the consecration service broadcast by the Radio Broadcasting Company, but it

was found impracticable, so the society ranged with Messrs. Rees and Longley, two of its members, to install a microphone and two dynamic speakers, to cope with the crowd outside the cathedral. This was successful.

With the coming of Christmas local radio dealers report that business is looking up.

### The "Rotorua" Portable

(Continued from page 3.)

ible wire to the two terminals provided on the set. If the outside aerial and earth are used, then the aerial is fastened to the centre terminal, and ground terminal to the bottom terminal, top and bottom terminals connected as before to the two on the set.

The lid and box can now be rehinged and the various fittings screwed into place. A leather carrying handle on the top is fastened by four small nuts and bolts with washers inside to prevent the nuts from tearing through with the weight. Before starting on the receiver itself the batteries can be arranged and clamps made for holding them in their places. On the bottom on the left the two Hellesens batteries stand. Two small blocks of wood can be fastened on the bottom and side to hold these in position.

The two dry cells also are fastened with aluminium strips as shown so that they will not fall over on the speaker unit. The C battery is similarly fixed.

This completes the construction of the carrying case, and on completion the reader is ready to commence on the receiver itself. The next issue of "Radio Record" will contain a concise description of this part of the set. Meanwhile the work laid out above can not be done in a day.

### Crystal and Amplifier

(Continued from page 29.)

piece of celluloid underneath the coil would guard against leakage in the case of the wood being green.

When the set is going well, don't tinker round, sit down and enjoy the programme. Remember, if investigating the set whilst going, you may be amusing yourself, but be probably annoying someone else.

The set is designed to give good entertainment from the local station, so don't strain batteries and valves by trying to get distant stations, you will be disappointed in more than one sense.

If desired the jacks may be placed on the front of the panel, but they look better on the back.

To put the set out of action, turn off the rheostat. This automatically cuts out the A, B and C.

**IN** commending this set, "Galena" would like to hear of readers having constructed it, and with a view to helping the amateur will try to help out anyone who gets into difficulty or whose results are unsatisfactory.

### Appreciated in Christchurch

In Saturday's issue of the "Lyttelton Times" the following comment appeared:—Crystal set users in Christchurch listened in last evening to a concert given in the Opera House, Wanganui, and the reception in Christchurch was wonderful. For artistic merit the concert was one of the highest quality ever broadcast in New Zealand, and was one of the best advertisements Wanganui talent have ever had. The artists were headed by Queen Alexandra's Own Regimental Band. The concert was relayed to Wellington, over 125 miles of land line from Wanganui, and 3YA rebroadcast 2YA. This was the longest relay yet attempted in New Zealand, and the excellence of transmission was a tribute to the work of the P. and T. Department. The Broadcasting Company, too, exerted every effort to ensure the success of the broadcast, and its chief engineer was sent up to Wanganui from Christchurch.

## RADIO DIRECTORY

### What to Buy and Where

#### CITIES

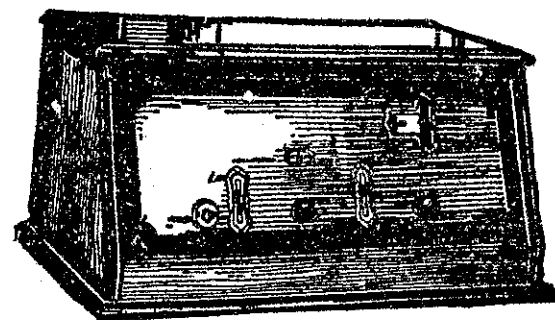
<b>ALTONA &amp; HAMMARLUND.</b>	<b>Johns, Ltd.</b>
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<b>ATWATER-KENT RADIO</b>	<b>Frank Wiseman, Ltd.</b>
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<b>BREMER-TULLY RADIO</b>	<b>Superadio, Ltd.,</b>
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<b>BURGESS RADIO BATTERIES,</b>	<b>All Radio Dealers.</b>
<b>CROSLEY RADIO</b>	<b>Abel, Smeeton, Ltd.,</b>
	27-29 Customs St. East, Auckland.
<b>FERRANTI RADIO COMPONENTS</b>	<b>A. D. Riley and Co., Ltd.</b> Anzac Ave., Auckland, and all leading dealers.
<b>GREBE RADIO</b>	<b>Howie's,</b>
	Dilworth Building, Custom st., Auckland.
<b>MULLARD VALVES</b>	<b>All Radio Dealers.</b>
<b>PREST-O-LITE. Car and Radio Battery Service</b>	<b>L. J. Purdie &amp; Co., Ltd.</b>
	97 Dixon Street, Wellington.
<b>RADIOLA RECEIVERS and Expert Radiola Service.</b>	<b>Farmers' Trading Co., Ltd.,</b>
	Hobson Street, Auckland.
<b>RADIOTRONS AND MARCONI VALVES</b>	<b>All Radio Dealers.</b>
<b>T.C.C. CONDENSERS</b>	<b>A. D. Riley and Co., Ltd.</b> Anzac Ave., Auckland, and all leading dealers.

#### COUNTRY TOWNS

<b>ANCHORADIO, BREMER-TULLY, RADIOLA, BROWN-ING-DRAKE, AND ATWATER-KENT RADIO</b>	<b>Radio House,</b>
	Hamilton. G. S. Anchor, Manager.
<b>GREBE, CROSLEY AND RADIOLA SERVICE</b>	<b>E. Dixon and Co., Ltd.,</b>
	Hawera.
<b>RADIOLA DEALER AND SERVICE</b>	<b>G. C. Carrad.</b>
	140 The Avenue, Wanganui.
<b>PHILIPS VALVES AND APPARATUS</b>	<b>All Good Radio Dealers.</b>

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## "Macbeth" at 1YA on December 19

SHAKESPEARE'S great tragedy, "Macbeth," contains many of the bard's best-known lines. Here are a few of them, taken at random:—

"Nothing in his life became him like the leaving it."

"After life's fitful fever he sleeps well."

"Sleep, that knits up the ravelled sleeve of care . . . chief nourisher in life's feast."

"Throw physic to the dogs; I'll none of it."

"Life's . . . but a poor player that struts and frets his hour upon the stage, and then is heard no more."

"Vaulting ambition that o'erleaps itself, and falls on the other."

"All the perfumes of Arabia will not sweeten this little hand."

"Lay on, Macduff, and damned be him that first cries 'Hold, enough!'"

"Fallen into the sere, the yellow leaf." (Not, as usually quoted "the sere and yellow leaf.")

"Golden opinions from all sorts of people."

These are just a few of the many familiar lines from "Macbeth" which have become part of our everyday speech.

## Equipping a Hospital

THROUGH the generosity of Mr. Arthur Morton, Mount Pleasant, Christchurch, in presenting a modern multi-valve wireless receiver to St. George's, the Anglican private hospital in Christchurch, the hospital is in process of being fitted up so that the patients may, at will, have the benefits of the wireless service to while away the tedium of the hours of their illness or convalescence and, the greatest factor, perhaps, take their minds off themselves and their ailments through concentration on other matters. The wiring will enable a pair of earphones to be installed at each bed. In order to avoid the irritating effect of static, only the local stations will be listened to.

## Wellington Radio Society

### Meeting of Executive

A MEETING of the executive of the Amateur Radio Society of Wellington was held last Thursday afternoon. The chair was occupied by Mr. Byron Brown, president. Complaints were made respecting the quality of the transmission by 2YA, Wellington. It was mentioned that the gramophone

items were harsh and worse than the studio and relay items. There was a tendency to blast in the case of the studio and relay items. A deputation was set up to wait upon Mr. A. R. Harris, general manager of the Broadcasting Company, on his next visit to Wellington, with regard to the transmission by 2YA.

IN tendering his resignation as honorary secretary of the society, Mr. W. H. Taylor explained that he had been promoted by his employers to new duties which would take him out of Wellington except during brief intervals. A hearty vote of thanks for his invaluable services was accorded Mr. Taylor by the executive, who, while regretting his resignation, congratulated him on his advancement. It was decided to present Mr. Taylor with a solid silver cigarette case as a token of appreciation and esteem. Mr. Lawes was appointed to succeed Mr. Taylor as secretary of the society.

## Notes by "Switch"

A COUNTRY visitor told "Switch" the other day that the news items broadcast by 2YA, Wellington, are exceedingly welcome to him and his family, seeing that they receive only three mails a week owing to the remoteness of his home. Radio in this particular respect has proved a great boon to way-back settlers. City folk, with their morning and evening newspapers, must make allowances when news items which they have already read, are put on the air. The people in distant areas are eagerly listening to every word.

THE Wellington Hospital Board proposes shortly to extend the broadcast receiving installation, with which a number of wards are now equipped, to the new wards adjoining Riddiford Street. The new building was specially wired for the purpose during the course of its construction. Broadcast listening by the patients in the hospital continues to work wonders in hastening their recovery. The diversion from the dread monotony of a sick bed provided by listening-in is now recognised far and wide as a remarkable curative agent.

A NATURAL result following the habit of listening-in by patients in the Wellington Hospital is that many, on being restored to their health, have so missed listening-in that they have purchased radio sets which they otherwise would not have thought of. An ex-patient informed "Switch" that after enjoying broadcasting for many hours in the hospital he found on his discharge that, although funds were low, he simply had to invest in a set—a crystal outfit, which is to give place shortly to a valve set.

AS a matter of general public policy, "Switch" is adverse to the proposal of licensing additional broadcasting stations in New Zealand centres, which already possess a full-powered station. In Sydney the air is cluttered with local broadcast stations, and thousands of listeners near the metropolitan area seldom, if ever, have an opportunity of hearing stations in other States.

A JUVENILE listener in a New South Wales country district recently addressed his letter solely with the words "Uncle Bass" and posted it. The letter duly arrived at Station BL, Sydney, where "Uncle Bass" officiates during the children's sessions. The same thing could quite easily happen in the case of "Uncle Ernest," "Aunt Gwen," "Uncle Toby," "Uncle Jeff," or "Big Brother Jack."

## Features Held Over

Because of special pressure on our space, occasioned by the articles devoted to Crystal and Portable Receiving Sets, several of our regular features of interest are either condensed or unavoidably held over.

BECAUSE of the reduction of royalties on wireless valves in England, the crystal set, which has for so long been the dominant type of receiver, is fast going out of fashion.

# RADIO for Christmas

During the year, your Radio Set has indeed been a good friend to you; always ready, day or evening, to entertain you, your family and friends, and brighten the home with Music, News, Concerts, etc.

Treat it generously this Christmas—it deserves it.

It would appreciate for a Christmas present a Kuprox "A" power pack. This means discarding the old acid battery which is always a source of trouble and expense, and operating the receiver direct off the electric light mains.

## KUPROX "A" POWER PACK

Delivering a guaranteed humless and constant, 2 amps, at 6 volts. . . . . £11/10/-

For your Crystal Receiver, we suggest a 2-Valve "Silver" Amplifier, fitted with 2 Phillips Valves, 90 Volt Burgess Battery, 4 Volt Accumulator, Burgess C. Battery and Crosley Musicone Loud-speaker. Price complete . . . . . £9/15/-

And don't forget that shabby aerial. Improve its appearance with a Laker 25 feet Light Steel Mast, complete with fittings. . . . . 27/6

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# Mullard

THE MASTER VALVE

Embodies all improvements  
known to Valve Manufacturers.

AT two of the New Zealand stations next week the oratorio "Messiah" is to be presented. An interesting history is attached to the writing of this magnificent work. No other musical composition ever created has such drawing power. It crowds concert halls and churches; it is the one work that never fails to fill the Albert Hall. And yet this composition, with all its genius, was a failure when it was first produced in London. The following article is from the pen of Mr. Norman Flower, the well-known London publisher and authority on Handel:—

"MESSIAH" was the outcome of the most torturing period in Handel's life. The cabal of his enemies had well-nigh broken him. It had bought all his singers, taken the theatre from over his head. His purse was empty; his health failing. In desperation he composed two operas, "Imeneo" and "Deidamia." When he put them on his enemies tore down his playbills; footpads, rounded into service for the purpose, molested in the dark lanes those who, still faithful to Handel, went to the theatre. The two operas only ran five nights between them. Then he shut the theatre, a broken man, and retired to his house in Brook Street. This was the state of Handel when in 1741 he achieved the greatest feat in the history of music. He composed the whole of the "Messiah" from the overture to the last Amen in twenty-four days. He composed Part 1 in seven days; the second part in nine days; the third in six days.

IT was as if tragedy had beaten him into some stupendous effort—almost a superhuman effort. Whilst the work was in progress he did not leave his house in Brook Street (now a furniture shop). He scarcely slept; he

scarcely ate. His friend, and man-servant, John de Bourke, brought him food, and as often as not took it away when, an hour later, he entered the room. On one of these occasions the servant found the master in tears. He had just completed the "Hallelujah Chorus." He was weeping heavily. "I did think that the heavens opened and that I did see the Great God himself," he exclaimed.

THE words of the "Messiah," which are selections from the Bible, were supposed to have been made by a man of wealth and pomposity, Charles Jennens. But whilst delving about some years ago for a life of Handel, I was engaged upon, I discovered that the selection was not made by Jennens at all, but by a half-starved curate named Poley, whom Jennens employed as a secretary.

WHEN Handel completed "Messiah" he put it in a drawer. He had no immediate intention of producing it. London hated him; the venom of his enemies had gone too deep. Indeed, only a fortnight after he completed "Messiah" he began the composition of "Samson." For two months "Messiah" lay in that drawer in Brook Street. Then the Governors of three charitable institutions in Dublin asked him to go to the Irish city and give some concerts for the prisoners there. The ob-

ject of these concerts was this: The prisoners were not fed by the State; they had to subsist on food provided by their relatives or by charity. If these sources failed they starved. The call of charity ever appealed to Handel. When he closed the theatre in London on "Deidamia" and was practically without a shilling, he promptly gave a concert for the Society for Decayed Musicians. He could never resist the cry of the unfortunate; the human understanding of the man figures in all his notes.

HE arrived in Dublin in November. His singers followed at intervals. Mrs. Cibber, the greatest actress of her age, a contralto in whose voice lay all the fullness of human emotion, followed, and a little later Signora Avolio, the soprano, came in a yacht. A fierce gale raged in the Irish Sea and the singers had a terrible time.

HANDEL took rooms in Abbey Street, Dublin. A music publisher named Neal had recently built a music-hall, and he set it at the disposal of Handel for the concerts. Here, on April 13, 1742, Handel produced "Messiah" after having given some performances of his other works for the same charity. Expecting a crowd, Handel issued an announcement asking ladies to come without their hoops and gentlemen without their swords.

## Handel's "Messiah"

### An Interesting History

"MESSIAH" created a sensation. So wonderful was Mrs. Cibber's singing of "He Was Despised" that Dr. Delaney, well aware of the singer's turbulent past, rose up in the audience, and exclaimed, "Woman, for this thy sins be forgiven thee."

IN June Handel gave a second performance of "Messiah." A heat wave had set in, so he announced that, in order to ventilate the hall, he would have one pane of glass removed from each window. The hall was again crowded. From the first performance of "Messiah" each of the three charities received £127.

WHEN Handel returned to London and sought to produce "Messiah" he was attacked by the Churches for having used words from the Bible for his music. So bitter was the onslaught that he changed the name of the work to "A Sacred Oratorio," and under that title "Messiah" was known in London for many years. But when it was produced it was only performed three times that season. London frankly did not want it.

NOT until 1767—a quarter of a century after its production—was the work put into print as "Messiah," so violent was the ecclesiastical antagonism. It was then sold by Randall and Abell at a guinea a copy by subscription, plus another half-guinea on delivery of the book.

IN his later years of blindness, Handel performed "Messiah" frequently. The eyes of London were opened; its ears that would not listen came to hear. We, who are accustomed to hear eight hundred singers in "Messiah" at the Albert Hall, and 4000 at the Handel Festivals, may well remember that Handel never had more than thirty-five singers in his choir. And, as the years of his life waned to their close, he packed Covent Garden Theatre at each performance of "Messiah" with these small choirs.

ON April 6, 1759, he gave his last concert at Covent Garden. It was "Messiah." Weeks beforehand every seat had been sold. The blind figure sat there by the organ emotionless, so it seemed, to the riot of applause.

BUT when the audience poured out of the theatre he fainted. They carried him to the dressing-room, and then back to Brook Street. His old friend, Dr. Warren, came in; for hours he watched the slowly-breathing figure on the bed. He could do nothing; there was nothing he could do. Handel said he was waiting for Good Friday. Good Friday came and he died alone in the night.

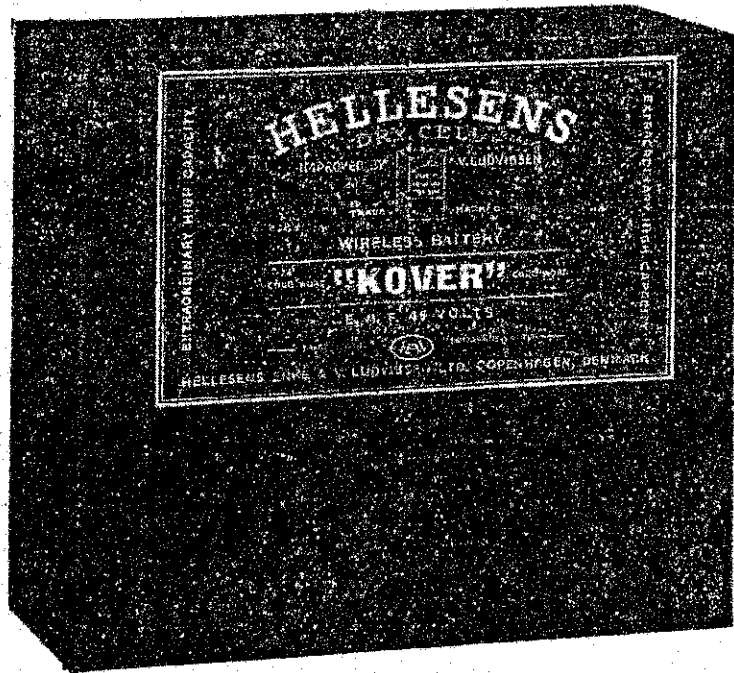
ON the H.M.A.S. "Australia," 55 loudspeakers have been fitted in all quarters, in order that a command given by one man in an ordinary speaking voice may be heard throughout the ship. Hearing the speakers in operation, one is struck by the extraordinary clarity and mass of volume.

Printed and published for the New Zealand Radio Publishing Company at the registered office, Wakefield Street, Wellington, of the Wellington Publishing Company, by Archibald Sando, of 47 Freyberg Street, Lyall Bay, FRIDAY, DECEMBER 14, 1928.

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