

THE RADIO RECORD

Published Weekly
REGISTERED G.P.O., WELLINGTON, N.Z., AS A NEWSPAPER.

Vol. III., No. 22.

WELLINGTON, FRIDAY, DECEMBER 13, 1929.

(Price, 3d.)

Imperial Wireless Communications



IRELESS telegraphy and telephony will presently be recognised as the greatest inventions of the age. The conquest of the Ether will have a greater effect than the conquest of the Air. The invention of "wireless" will shape future history to a greater extent than the discovery of gunpowder affected past history. Gunpowder overthrew feudalism. Wireless will unite mankind.

It is only a question of a few years before every part of the civilised world will be in instantaneous communication with every other part of the civilised world by word of mouth. Already, to-day, it is easier for the President of the United States to speak from Washington to his Ambassador in Paris or for the Prime Minister of England to speak to the Prime Minister of Canada than it was for Mr. Gladstone to speak to the Mayor of Birmingham.

If, to-day, a business man, or statesman, sitting in an office in London can talk to another in New York, Montreal or Johannesburg, and, to-morrow, in Australia or Japan, it is obvious that distances in the world are annihilated. Yet these wonders have actually happened. It is only twenty-nine years ago since Senatore Marconi sent the first message by wireless telegraphy from Cornwall to St. John's, Newfoundland; yet, despite four years' interruption by the Great War, to-day we can hear a speech as clearly across the Atlantic or from Egypt to England, and talk to each other over these immense distances with as much ease and understanding as two persons can telephone to each other from adjoining rooms in the same building.

BUT this is not all. By the latest invention the same stations can be used for speech over distances of thousands of miles between them by

beam wireless and at the same time and on the same wavelength, telegraph messages can be sent two, and even four, at a time. Thus, while the man in London is talking to the man in Montreal, four commercial messages by telegram are being sent from the same stations through the ether at the rate of hundreds of words a minute. This has been made possible by a recent invention which is not very elaborate or expensive

IT is at least a possibility that the world, in the comparatively near future, will be united as one huge empire, linked together commercially, socially, and politically by the modern marvel of wireless telephony and telegraphy. At the present day the general public are apt to think of wireless only as a wonderful means of securing entertainment and instruction. On the more serious side of Imperial and world communications, however, the effect of recent and, as yet, little known discoveries will be the most far-reaching of all. The following article, by Lieut. Commander the Hon. J. M. Kenworthy (published recently in the "Nash" magazine), reveals and discusses the supreme importance which wireless will undoubtedly assume in the near future as a means of Imperial communication.

and which can be easily adjusted to the existing wireless installations at the popular stations.

The clearness with which speech can be heard over these immense distances is uncanny. As soon as one speaker pauses in his conversation an automatic regulator switches over and permits the reply. If the two parties to the conversation try to speak at the same time the result is jamming. But equal confusion results if two people try to talk at the same time on the ordinary short-distance telephone! As soon as they stop one can begin again and the words come through as clearly as before. And by the directional beam system of wireless telegraphy almost complete secrecy can be preserved.

FRANCE, Germany, Japan, India, the South American Republics—all can communicate with each other in this way now; and presently the whole world will be encircled. This wonderful and magical development of the great invention of wireless telephony will bring about far-reaching and inevitable results.

First, let us take commerce. Remember we are only on the threshold of the uses of the wireless telephone. As is so often the case, the inventor has outstripped the public understanding. Neither the business man nor the journalist nor the statesman nor the diplomat has yet grasped the possibilities. We all use telephones within the frontiers of our own countries. We have hardly begun to use the existing facilities for communicating with overseas nations. The long-distance wireless telephone is, at present, an expensive means of communication. So was Edison's early invention of the telephone. It has been cheapened by use, and so will the beam wireless be, especially, as I have stated above, now that it can be used for the double purpose of speech

and telegraphic signalling. As the business world, which will probably lead in this matter, grasps the possibilities, commerce will be facilitated, international trade will increase, and international economic interests be enhanced.

Commercial "arrangements," cartels and trusts, between merchants and manufacturers engaged in the same line of business in different countries will be facilitated. This will be the future tendency of international trade and enterprise in any case. The unregulated international trust may have dangers for the general public in the future; but it is bound to come, and certain advantages should come with it. For the more international business is developed and

—Continued on page 2.



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Imperial Communications Radio in the Antarctic

(Continued from front page.)

interlocked, the clearer will be the realisation of the disruptive effects of war or even of strained relations between peoples. In this direction, therefore, wireless communications will tend to cement world peace.

Another effect will be the facilitation of the transmission of news. As peoples get to know and understand each other better, the old international antagonisms, fears, and suspicions will gradually fade and pass. Broadcasting is sure to have an effect on the language of the world. It is impossible to resist the conclusion, and the more the subject is studied the firmer that conclusion becomes, that English will become the universal world language for all purposes, as it practically is for commerce and finance to-day. An international language is badly needed in any case, and will become essential in the future.

Politically the effect must be very great also. In a very short time from now the British Prime Minister, from his room in Downing Street, will be able to sit at his desk and telephone to his fellow colleagues in the British Dominions with perfect ease, clarity, and secrecy. His spoken words, transmitted by land-line to one of the powerful wireless stations, will be heard by his colleagues in Canberra and in Wellington. Their speech will be heard as clearly in London or in each other's capitals.

Radiovision will be the next step. Some of the best brains in the world have been working to perfect the transmission of living pictures by wireless. As the British Postmaster-General stated in his written opinion of the recent radiovision demonstrations witnessed by him, "the experiment represented a noteworthy scientific achievement." In his words, "the demonstration showed that the system was capable of producing with sufficient clearness to be recognised the features and movements of persons posed for the purpose at the transmitting point." Though radiovision is admittedly still in its experimental state, and though the images when received are, as yet, imperfect, yet who would have believed it possible, even twenty years ago, to have actually transmitted by wireless telegraphy the moving and living picture of an actual person? It may be that some years will elapse before actual events can be reproduced over great distances by wireless, but that it will be accomplished one day is a certainty.

Who can set limits to the ultimate results of this annihilation of distance and the bringing together of all parts of the globe within speaking distance? The human race will soon be one unit. And that the ultimate effects will be for great good, no one of vision and faith can doubt.

Broadcasts for the Byrd Expedition

IN the lonely wastes of the Antarctic, a small company of sixty men, comprising the well-known Byrd Expedition, are solely dependent while in their voluntary two-year exile upon radio as a means of securing news and entertainment from the world they have temporarily forsaken.

In order to ensure passable reception at least for the expedition, the engineers of station WGY, Schenectady, spent many months in designing and perfecting a special transmitting aerial known as the "Byrd antenna." This has been used in every special broadcast to Commander Byrd and his party, and, so far, every programme has been clearly received. The first transmission took place on March 23, and within fifteen minutes after the conclusion of the programme word came in code from WFA (Byrd's station) that the entire programme had been received through loudspeakers.

The aerial is of the horizontal "checker-board" type, and is one among a dozen that sway above a 54-acre field occupied by the transmitter laboratory at South Schenectady, New York. They hang from steel masts 150ft. to 300ft. high, from plain wooden masts, and from masts with crossbars. This new aerial is really twelve in one, consisting of two sections of a checkerboard, each section made up of three squares. One section is used as a reflector. Only the horizontal wires function as an aerial, the vertical wires affording support or power transmission to the radiating wires. This is said to increase by ten times the directional power of W2XAF, the short-wave radio station of WGY, on which the "Byrd antenna" is used. In other words, increase in the directional power would make a 20 kw. station the equivalent of one of 200 kw. in effectiveness in one direction.

A number of special programmes have been prepared and transmitted for the particular benefit of Commander Byrd's party. One such was recently arranged, and included artists and speakers who had gathered together from places so far apart as Chicago and Atlantic City by motor, aeroplane, and train.

In acknowledgement of the special programme, Commander Byrd dispatched a message of thanks for the programme, and stated that every word came through clearly.

Greatest of all, have these intrepid explorers cause to be thankful for the invention of radio, which is solely responsible for materially reducing their sense of isolation and loneliness.

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A CAMPAIGN has been commenced in several districts in France against noisy loudspeakers. At one small village in the South of France, an article of French law has been invoked whereby it is an offence to create a "nocturnal uproar," even inside a house, if it is audible in the street. A by-law has already been created in several French towns forbidding "open window" loudspeakers after 10 p.m.

A New Zealand Ornithological Romance

Interesting Story from 3YA

ONE of the most interesting stories given from 3YA for a long time was that by Mr. A. F. O'Donoghue, N.Z. Inst. R.A.O.U., upon the rare Takahe, or Notornis Hochstetteri.

OF all the quaint and wonderful birds inhabiting the highland forests and marshy lowlands of this unique country, the takahe stands out as one of the most mysterious and romantic. Needless to say it is one of the rarest of New Zealand's rare birds; and apparently it has always been a rare bird with a limited habitat.

The takahe, scientifically known as Notornis Hochstetteri, is about the size of a turkey; it has very strong legs, heavy wide-spreading toes, a heavy wedge-shaped bill and a thick powerful neck. It is decked in a wonderful plumage of indigo blue shaded here and there with darker blue to black and dark greenish tinges, and the legs and bill are coloured dark vermillion. The wings are from nine to twelve inches in length, but the bird is flightless; as a compensation for the loss of its flying powers, however, it has developed a wonderful speed on foot, this fact being only once demonstrated, and that was when the first bird captured was observed with a dog in hot pursuit.

The colour of the plumage, the shape of the bill, the white under-tail coverts

that his great reputation as an ornithological biologist was further enhanced; and that piece of work ranks among the greatest biological research feats even to the present day. Sir Richard completed his task with only

telli. And notwithstanding the fact that every muscle, every sinew, and every bone of the takahe's body has since been subjected to the closest examination in the biologists' laboratory the work accomplished by Sir Richard

Mantelli by Sir Richard Owen, after Mantell, the discoverer of the fossil bones, the South Island species has since been named Notornis Hochstetteri. No living specimen of Notornis Mantelli, the North Island species, has ever been recorded.

Two years after the discovery of the fossil remains in the North Island by Mr. Mantell a party of foreign sealers who were operating in the West Coast Sounds, located and secured the first living specimen of the takahe. This was in the year 1849. The first indication to this foreign sealing party that a large bird was present in their vicinity, was the discovery of its great footprints in the recently fallen snow. Anxious to obtain a glimpse of the stranger a stalking party with dogs set off on the trail. After a short trek they sighted the great bird out on the open snow. Immediately the dogs broke and gave chase, the bird set them a task, but after a long chase the dogs closed with it and the precious takahe was their prisoner. It was taken alive and kept on the sealing schooner for some days. Eventually the cook decided on the blending of a delicacy with the rather rough fare of the ship, and the takahe was ac-



MISS MARIE GAUDIN

A member of the Auckland Comedy Players. These talented entertainers are very popular with listeners to 1YA.

—S. P. Andrew, photo.



THE BOHEMIAN DUO.

Mr. and Mrs. W. Clinch, one of the most popular "turns" at 1YA. They are talented vocalists and instrumentalists who combine music and humour in a delightful manner. They have toured the principal theatres throughout Australia and New Zealand under the direction of J. C. Williamson's Celebrity Vaudeville. Listeners-in to 1YA greatly enjoy their quaint renditions of Maori and Hawaiian songs and popular hits. The lady member of the Duo is well known as "Nell, the Bohemian." She possesses a very pleasing radio voice that has endeared her to all listeners-in.

—S. P. Andrew, photo.



MRS. ELVIRA MEBAN

Is a mezzo-soprano with a large repertoire of songs. Prior to her departure for Christchurch Mrs. Meban was a regular performer at 2YA.

—S. P. Andrew, photo.

as well as other characteristics of the takahe immediately suggest, even to the most casual observer, that there is an alliance between this bird and the pukeko, and further that the bird belongs to that great family of rails which has a world-wide distribution.

The first indication that such a bird existed in New Zealand was brought to light in the unearthing of a few fossil bones in the North Island away back in the 1840's. These were sent home to Sir Richard Owen, a world-famed biologist, who, after a prolonged and careful examination, and comparison with the skeletons of many species, drew a description of the original so true to life, as was evidenced when the first live bird was taken two years later,

one or two bones on which to work, chief among these being the skull. With the very, very scanty material at his disposal he succeeded in placing the bird in its order, located its family, established the genus and created the species, naming it Notornis Man-

Owen, with a fossil skull as his foundation, stands unshaken.

It has been discovered, however, that the South Island bird is a different species from that which obtained in the North Island, and while the North Island species was named Notornis

cordingly slaughtered. The skin of the bird was preserved, but those priceless bones that were worth their weight in radium to the ornithological world were cast overboard as though they were nothing more than the bones of a domestic fowl. Mr. Mantell, the discoverer of the fossil bones, secured this skin and forwarded it to the British Museum.

This is the only instance on record of the takahe having been seen out in the open, and the only record to the present day of the swiftness of the bird on foot when pursued by an enemy.

We next hear of this rare and lonely bird a few years later when a single specimen was captured by a Maori

party on Secretary Island; again the skin was secured by Mr. Mantell and forwarded to the British Museum.

Long years of silence now intervened, thirty years had passed, and in the midst of the regrets of the scientific world that this extraordinary and interesting bird should have become extinct without a fuller investigation having been made of its life history, reports broke into circulation that another specimen had been taken, this time on the upper reaches of the Mararoa River, in the Lake Te Anau district. This was in the year 1870. The capture was made by a rabbit's dog. The bones and skin were preserved, sent abroad, and purchased by the Dresden Museum authorities for the sum of £110. This specimen created the widest interest in Europe. Ornitho-

logists from all parts of the Continent paid hurried visits to the museum to inspect and examine this rare species. Many papers were written and read by eminent ornithologists and biologists before the most important scientific organisations of the Old World, and not the least among these was the paper read by Sir Richard Owen, who, thirty-five years previously, wrote up the accurate history of this lonely bird from fragments of fossil bones.

It was Dr. Meyer, a famous Hungarian biologist who, after a close examination of the specimen in the Dresden Museum, declared it to be a distinct species from the extinct North Island bird, and renamed it *Notornis Hochstetteri*.

A further long silence and no tidings of the takahē were reported.

Twenty years passed, and it was now thought that the mysterious takahē had vanished for ever. Then suddenly much excitement was caused by the report of a capture, again in the Lake Te Anau district. This was in the year 1898. A dog owned by Ross Bros., who were camped at the lake, ran the bird to earth one evening at dusk. Immediately realising the value of their prize the lads hurried off with it to Dunedin. Press cablegrams were flashed over the world bearing the tidings of the capture of another specimen of the rarest of rare birds.

Bidding for the specimen from overseas museums and collectors commenced the following morning, but New Zealand ornithologists were determined that this specimen would not leave the country. Foreign bidding, however, was so persistent and so high that it cost £300 to retain the specimen in New Zealand; this amount was eventually paid by the Government and the bird was placed in the Dunedin Museum, where it may be seen at the present time. This bird, however, is not a particularly fine specimen. It is a young, undersized female with an immature plumage.

This specimen was immediately handed over to Dr. Benham, at that time Professor of Biology at Otago University, and this is the only instance of a scientific examination of the bird having been made. Professor Benham made drawings of every section of the bird's anatomy and forwarded them with his detailed report of his examinations and findings to the Zoological Society, and these are embodied in the society's proceedings. He also read a paper before the Otago Institute, and this paper is embodied in the "Transactions of The New Zealand Institute."

Since the capture of this specimen, away back in 1898, nothing further has been reported, now thirty-one years of silence. Yet we hope and believe the takahē still lives away back in the dense secluded valleys of that vast rugged expanse of practically unknown country in the south-west of New Zealand.

The four specimens that I have referred to provide the only official records that such a bird lived in New Zealand during the past century. There is still, however, yet another record, though without official confirmation, as the specimen was merely used for what it was worth to the soup-pot, no examination of any part of it having been made. Some four years ago when writing on this subject my reference came under the notice of the late Mr. T. Murphy, of South Westland, who was at that time in his eighty-fourth year. Mr. Murphy, who was a keen observer, was so impressed with the description of the bird that he wrote to say that an identical bird came into his possession many years ago. Away back in the 1870's he was employed with a survey party in the Okarito district, South Westland. The party were camped on the borders of the great Okarito lagoon. One evening at dusk the camp dog arrived home dragging a huge bird, which they named a swamp turkey. The members of the party were deeply interested in this rare inhabitant of the swamp, but no attempt was made to preserve the skin or bones and a complete record was lost, but I have no doubt that this "swamp turkey," captured on the Okarito swamp, was another lonely specimen of this scattered species.

Radio Picture Service

Between London and New York

THE trans-Atlantic service for the transmission of facsimile pictures between New York and London has recently been greatly improved. New equipment has replaced the apparatus which has been in use for the last three years, thus speeding up the service and making possible a substantial reduction in the rate of charge.

The new equipment is much more compact than the old type, and offers the advantage of working directly from the original pictures submitted for transmission, without the necessity of photographic copying. The facsimiles are transmitted on high frequencies by a method similar to that used on the Continent for broadcasting "still-pictures."

At the receiving end, the operations have now been smoothed out so successfully that direct recording on photographic paper is possible. On development this paper gives a copy immediately available for delivery to the customer. A 5 by 7-inch picture may now be sent complete, including the developing and drying operations at the receiving end, in thirty minutes, at a cost of a little over £13.

Various refinements to improve the sharpness of detail have been applied, with the result that it is now possible to transmit with clearness ordinary small newspaper type. A growing demand for the service is predicted, as it is now possible to transmit facsimiles of documents across the Atlantic as quickly as a letter may be transported between various parts of the same city.

Olympia Exhibition

THE many enthusiasts in England who predicted a record success for the 1929 National Radio Exhibition at Olympia have been more than justified. During the first three days, over 40,000 visitors passed through the turnstiles, and the average daily attendance, exceeded that of 1928 by 3000. Within a few hours of the opening of the show, enough business had been transacted to cover the entire cost of the exhibition.

So far as we are concerned to-day little is known of the domestic life of the takahē; we know nothing of its mating or nesting habits; no eggs have been found to help us over certain difficulties; and the few isolated, widely scattered specimens that have been taken have aided us but little in unravelling the mysteries surrounding its lonely existence. We do know, however, as a result of the examination made by the Hon. G. M. Thomson, of the contents of the gizzard of the specimen reported on by Professor Benham, that its food consisted of vegetation, principally swamp grasses. It would be quite safe to assume, too, that insects would furnish a large portion of its diet, as would seeds and berries in season. Such foods are all eagerly sought after by members of the rail family.

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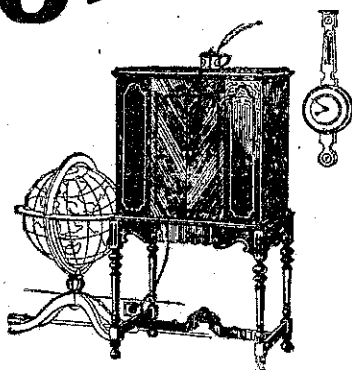
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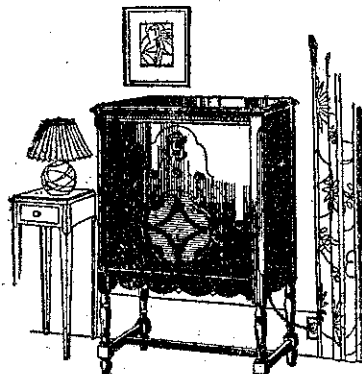
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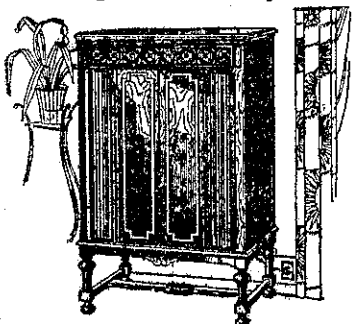
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IN view of the many reports on the state of perfection which radio-vision has reached, it is interesting to note an opinion on this subject by the manager of the Radio World's Fair, held at New York recently. The development of radiovision, he states, has proceeded with increasing rapidity during the past year, and in the near future should be quite suitable for inclusion in broadcast programmes. Several new and advanced radiovision receivers were on view at the fair, and with one it is possible to view the radiovised images at a distance of 60 feet, an achievement hitherto associated only with motion picture theatres.

A RECENT report from America states that an aeroplane pilot, while totally enclosed in a light-proof cockpit, succeeded in taking off and landing after a 200 mile flight along the coast, with no other aid than that derived from the lighted instruments on the dash-board. Various instruments showed the pilot his relation to the ground, and reception of signals from a radio beacon enabled him to keep on his course. The successful accomplishment of this "blind" flight will prove of great importance to aviation in general, and in particular to commercial airways where it is necessary to maintain a set schedule in practically all kinds of weather.

THOUGH the construction of "Broadcasting House," the new home of the B.B.C., has already been commenced, it is predicted that the building will not be ready for occupation until June, 1931. A unique feature of "Broadcasting House" will be the absence of a central well which all normal buildings of its size require for lighting and ventilation. The centre will be taken up by a tower with sound-proof walls of solid brick three feet thick, and this will house the main studios and a theatre capable of accommodating 1000 people. The artificially ventilated studios will be two stories in height, and will be acoustically insulated from one another by single floors accommodating offices.

THE rotating wireless beacon recently built by the Air Ministry on the coast of Suffolk, England, has proved so successful in enabling shipping to find accurate bearings out of sight of land, that numerous similar stations will be built around the English coasts. Outwardly the beacon resembles a windmill without sails, but inwardly it consists of a hollow tower sheltering a large frame aerial which makes the complete revolution every minute and is electrically controlled to maintain absolute accuracy of time in rotation and automatically to send out certain signals at known points of the compass. It is, in effect, an aerial "lighthouse," from which a wireless instead of a light beam is sent out in such a way that during each revolution of the beacon the signals received by the observer rise and fall in intensity, passing through a maximum and minimum twice in each minute. The positions of minimum intensity are very sharp, and can be very accurately observed, so that they are used for navigation purposes, and all the mariner, or the aircraft pilot, needs is a wireless receiving set and a stop-watch.

THE latest annual report of the British National Institute for the Blind states that since the invention of Braille no special apparatus has more influ-

enced the destinies of the blind that the wireless set. Although the Institute spent £819 during the current year on radio equipment, it has received hundreds of requests for sets which cannot be supplied. Radio broadcasting, from the very nature of its distribution and reception from an invisible source, is probably the one source of entertainment which may be enjoyed without handicap by persons afflicted with blindness, and as such is greatly appreciated by them.

EXTENSIVE developments in the use of radio by Scotland Yard and the County Police Force throughout England have been planned to take effect shortly. The wireless transmitter at present in use at Scotland Yard has a range of between 50 and 100 miles, but the new equipment to be installed will make possible inter-communication between London and every provincial headquarters in England. It is also intended to instal "Fultograph" equipment for the wireless transmission of photographs and fingerprints.

AN interesting wireless telepathy test was recently organised in America through a number of the National Broadcasting Company's stations by Mr. Joseph Dunninger, a professional mind-reader and pupil of the famous Houdini. Of the 2000 listeners who sent replies, more than 55 per cent. received an accurate impression of at least one of the three objects on which the broadcasting "mind" was concentrating. Only 2.5 per cent. received three accurate impressions. A sealed envelope containing memoranda of the objects transmitted—a United States President's name, a number of three digits, and a simple diagram—was not opened by the test committee till a week after the tests, when the classification of the letters was completed. Mr. Dunninger considers that the experiment has established the desirability of farther telepathy tests.

THE B.B.C. for the first time provided the technical facilities for a foreign broadcast on the recent occasion of the England versus Germany athletic meeting at Stamford Park. Dr. Laven, the sporting commentator who broadcast a description of the meeting for the benefit of German listeners, was enthusiastic in his praise of the excellence of the technical arrangements made. On behalf of the German Broadcasting Company Dr. Laven is shortly to undertake a novel series of broadcasts in various parts of Europe. He will visit leading cities, have microphones fixed at prominent centres, and interview at each microphone someone who can talk about a typical aspect of the city's life. The scheme is intended to give German listeners an interesting insight into the life and customs of foreign nations.



"It is, it is a glorious thing to be a pirate king!" or so the song runs. And that is what some Italian gentlemen of doubtful honesty must be singing, for Italy claims to possess 1,000,000 radio pirates. Yet broadcasting continues there. The mentality of a radio pirate must be fatuous. In a country having a million pirates, the standard of programmes cannot be anything like so good as if all were to contribute. The pirate defeats his own object.

A PART from its ordinary virtues, such as helping to save lives and cargo and assisting generally in navigation, radio has recently proved that it can react favourably upon the economics of sea transport. For the Institute of London Underwriters has now agreed to suspend the additional premiums charged on the insurance of vessels calling at St. John, New Brunswick, if those vessels are equipped with radio direction-finding apparatus.

A FRENCH wireless paper, having given credit to Dr. K. Kohl of the University of Erlanger for being the first to succeed in experiments with wavelengths of 14 centimetres, has received a letter from Professor C. Gut-ton, of Nancy University, stating that Monsieur E. Pierret had already demonstrated in May last, during the Exhibition of the Societe de Physique, at Paris, that he could transmit on wavelengths varying from 10 to 18 centimetres and had also published

several papers on the subject. Further experiments in transmission on wavelengths as short as 7.12 and 19 centimetres have recently been conducted by Professor Protoff, of the Soviet State Laboratory at Nijni-Novgorod. According to the Russian radio journals, Prof. Protoff's signals have been heard clearly at distances of several thousand miles with a transmission power of only 20 watts.

IT is reported from Copenhagen that two Danish architects have designed the ideal house (says "Popular Wireless"). The doormat vacuum cleans your boots, the motor-car entering the garage opens the door by itself, and aerials on the roof pick up electrical energy for light, heat and odd jobs. Sounds rather like a labour-saving scheme run a bit wild. However, it is a pity they could not provide a night-silencer for the baby, and wireless forks to combat the smell of fish.

THE following passage, extracted from "Radio Broadcast," supplies convincing evidence on the question of the inferiority of the American system of broadcasting:—"A brief review of the British Broadcasting Corporation's latest edition of 'Talks and Lectures' is sufficient to convince any American listener that we are overlooking many of the richest possibilities of radio broadcasting. While no educational lecture is greeted with enthusiasm by a majority of the audience, those whom it does serve are served significantly, and the benefit accruing to them is of far greater permanent value than could possibly be derived from the type of programme which is the stand-by of American listeners."

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The New Zealand Radio Record

(Incorporating the "Canterbury Radio Journal.")

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 13, 1929.

THE EFFECT OF WIRELESS.

AS we read in our daily Press the record of astounding feats of wireless in everyday aspects of life, the imagination is stirred to visualise the possibilities of the future. Less than 20 years ago wireless was harnessed to crime detection by facilitating the arrest of Crippen. To-day we read that the transmission of a photograph by wireless facilitates the arrest of another wanted man. Further, the transmission of a photograph of a document exposed a forgery. In another field the world listens to the flight of Commander Byrd as he wings above Antarctic wastes. In other realms wireless facilitates the mental contact of commercial men, politicians and statesmen thousands of miles apart. What is to be the outcome of all this? What will the inevitable reaction be upon the history of humanity?

IN our front page article this issue we reproduce a reasoned analysis of the probable course of events, from the pen of Commander J. M. Kenworthy. This article records the growing use of radio in widely diverse fields of activity. It indicates that science is continuing its advance in blazing the trail for the progress of humanity, and that humanity now has facilities for intercommunication which, although they are beginning to be used freely, have not yet attained their fullest utility and freedom in use. The progress in scientific attainment recorded by this writer is astounding, and indicates the immeasurable possibilities of the future. When people separated by oceans can converse as freely over the radio telephone as citizens of any important city can now do over the ordinary wires, a tremendous stride forward is made in mutual understanding. The commercial effect of this is already being felt. The political effect is a growing factor. Radiovision looms in the distance as a supplement to present-day attainments. In each field barriers of misunderstanding are being broken down. With the facilities for intercommunication there will develop the use of a common language. By force of circumstance English seems destined to occupy this place. In that use there will be made available to the world, not only the language itself, but the principle underlying British literature, British political evolution, British commercial integrity, and administrative capacity. The inevitable effect of these forces will be the promotion of unity. That the world will one day be a single unit in the political sense seems at this moment an impossible conception. Political and geo-

graphic distinctions will unquestionably always remain; but in the realms of international understanding and communion of spirit, with their influence upon human life, the future plainly holds unity as the ideal.

Total Radio Licenses Nearing 50,000

Official Statistics as at October 31

THE following is a summary showing the total number of radio licenses issued as at October 31, 1929:—

	Receiving Licenses.	Dealers' Licenses.	Other Licenses.
AUCKLAND	15,774	277	151
CANTERBURY	8,555	195	82
OTAGO	4,163	151	53
WELLINGTON	19,802	417	108
	48,294	1,040	394
GRAND TOTAL: 49,728			

Hutt By-Election

M.C.C. Team

2YA to Announce Results

Speeches from 2YA

GREAT interest is certain to be taken throughout New Zealand in the Hutt by-election caused by the appointment of the Hon. T. M. Wilford to the position of High Commissioner in London. This will be the first seat contested by the United Party since it came into power, and the result of the three-cornered election will be keenly awaited. Though Wednesday is usually a silent day, 2YA will go on the air at 8 o'clock on December 18 for the purpose of announcing the progress results.

ON the evening of Thursday, December 12, the programme of 2YA will be interrupted at 9 o'clock, to permit three members of the M.C.C. cricket team to make a few remarks to listeners. The speakers will be Messrs. Woolley, Duleepsinghi and Gilligan. In view of the intense interest being taken in this team, the enterprise of 2YA in securing these speakers will be appreciated by listeners.

"Talkies" on the Air

Home Science Talks

Broadcasts by 2YA

To Be Given at 4YA

AN interesting feature introduced into 2YA programmes is a weekly broadcast from the "talkies" at the Majestic Theatre. This is being done by arrangement with the Fuller-Hayward management. Broadcasts are of selected pieces and are much appreciated by listeners.

One correspondent, in a country town in Taranaki, writes: "Friday last we had the pleasure of hearing the 'talkies' broadcast by 2YA. It came through splendidly. The only fault was that there was not enough of it. You know, people living in country towns do not get much of a chance of going to the 'talkies' unless it is some travelling show of which we had a sample a couple of weeks ago. It was quite enough to put people off 'talkies' for all time. Would it be asking too much if I suggest that you let us have some more. I am sure lovers of 2YA would feel grateful. Your broadcasting always comes through splendidly and one is almost always asked to 'leave it on Wellington'."

A VERY interesting series of talks on home science has been arranged by the 4YA Primary Productions Committee. The talks are as follow:—

1929.
November 27: Introductory Talk (aims of extension service; request for suggestions and inquiries).—Mrs. Robin Allan, Organiser Home Science Extension Department.
December 4: Food in Hot Weather.—Miss McMillan, of the Home Science Extension Department, University of Otago.
December 11: Holiday Problems.—Mrs. Robin Allan.
December 18: Christmas Menus.
1930.
January 8: The Sun as Friend and Foe.
January 15: Common Problems of Bottling.
January 22: The School Wardrobe and Genuine Bargains.
January 29: Dry Cleaning. (Invitation to name the most disliked household task.)
February 5: Removal of Stains. (Broadcast list of disliked tasks and invite suggestions.)
February 12: The School Lunch.
February 19: Best Methods of Dealing with Unpopular Tasks.

HE KNOWS!

"He that knows, and knows that he knows, is a wise man; follow ye him!" Mr. Sidney Hall, dentist, Levin, knows that Sydal is good for keeping the hands soft and free from cracks, chaps and roughness. "I find it most beneficial and have used it for 25 years," he writes. Good example to follow.

C. R. RUSSELL M.Sc.,
M.I.R.E., A.M.I.E.E. (Lon.)
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From 2YA

Farewell to New Zealand

THE Hon. T. M. Wilford, High Commissioner for New Zealand, prior to sailing for London on Saturday last, bade farewell to the Dominion from 2YA. His remarks were relayed by 3YA.

Mr. Wilford said he wished to thank the Broadcasting Company for giving him the unique opportunity of saying goodbye to his many friends in New Zealand. He felt it was fitting after his thirty years' connection with Parliamentary life in this country that he should make a few remarks before he left.

"I am delighted to be going, naturally, because I am achieving the ambition of my life," he said, "and no man can ask more than that. On the other hand, I am full of regrets at leaving what I feel to be the most beautiful country in the world." His work in the Hutt constituency had been arduous at times, but it had been a labour of love. In the last year he had been absent from Wellington only 18 days, so that he would welcome the voyage to England.

"In relinquishing my portfolio of Defence I am satisfied that the heads of this department are men of whom this country should be proud," continued Mr. Wilford. "Capable, loyal and experienced, I have received wonderful assistance from them, while the wise counsel I have received from my secretary (Mr. Dixon) has made my task a light one."

In going on to deal with aviation, Mr. Wilford drew attention to the growth in number of leading newspaper articles that were now written on the subject as compared with a few years ago, and said the personal interest he had taken in that important development had in many cases communicated itself to others. "I believe the future will show that the skyways will largely be the highways of this country," he stated.

"I hope any companies that are formed to develop commercial aviation will have as their watchword 'Safety and Service'," he went on. "We have as the material for the making of airmen as there are anywhere. The young New Zealander has resource, independence and quick initiative, and these three attributes make for successful pilots."

"Let each one hitch his wagon to a star," said Mr. Wilford, in giving a message to young New Zealand. "By that I mean: have some objective in life. Strive for some achievement, remembering there is always room at the top. Take trouble with little things."

Mr. Wilford returned thanks for all the good wishes that had been given him. He would endeavour to deserve the appreciations and hoped that when he returned to New Zealand there would be "something accomplished, something done."

Mrs. Wilford also spoke briefly. She farewelled her friends and said she would look forward to the time when she would return to the Dominion.

WANTED AND FOR SALE.

For column of casual advertisements see page 32.

Handel's "Messiah" for the Xmas Season

Broadcast Arranged by 1YA, 2YA and 3YA

THE first broadcasts ushering in the Christmas season of 1929 will take place next week, when there will be presentations, in studio and by relay, of Handel's "Messiah." In all, there will be three broadcasts of this noble work.

On Sunday evening, December 15, 2YA is relaying from Lower Hutt the Methodist Church choir's rendition of "Messiah." On Tuesday evening it will be performed by the 1YA Broadcasting Choir under Mr. Len Barnes. On Wednesday evening the Christchurch Royal Musical Society is giving a public performance in the Civic Theatre, and a relay by 3YA will be carried out. In every instance first-class soloists have been engaged, and listeners who appreciate oratorio may look forward to very enjoyable performances.

A VERY interesting story is associated with Handel and "Messiah." "I did think I did see all Heaven before me, and the great God himself!" cried Handel when he had written the last notes of the "Hallelujah" chorus, thus completing the second part of "Messiah." Nearly two centuries after its composition it is generally regarded as Handel's supreme achievement, and one of the greatest musical works in existence.

When Handel set himself in the autumn of 1741, at the age of fifty-six, to compose "Messiah," he was under a cloud of misfortune and bitter disappointment which must have overwhelmed any but the stoutest spirit. His last two operas had failed, largely, so we are told, through the plots of his opponents. In those days music was taken seriously, almost as seriously as football is now, and feeling between rival factions ran high. It is believed that Handel's opponents even engaged hired ruffians to prevent people reaching the theatre where his operas were being given. He was in anything but good health; his eyesight was beginning to fail him, and he was almost penniless. He shut himself in his house (he was living at Brook Street), and, seeing no one, hardly stopped even to touch the food which his faithful man brought to his room, he set himself to the composition of "Messiah" with such wholehearted zeal that the work was completed in little more than three weeks. But he had no prospect of an immediate performance of it, and it was simply laid aside for the time being. In November of the same year, the Lord Lieutenant of Ireland, the Duke of Devonshire, and the presidents of three big charitable societies, invited him to Dublin to organise concerts of his own music on behalf of the charities they had at heart. One was the provision of food for prisoners. It was at one of these concerts that "Messiah" had its first performance, in April, 1742. The singers also went over from this country. Mrs. Cibber, the actress, being the contralto. The oratorio had a magnificent success, and it was repeated in the following June. So great was the crowd at the first performance that ladies of the audience were asked to come without hoops, and men without swords. When the work was first given in English, in the early part of 1743, at Covent Garden Theatre, it was practically a failure, although "Samson," given at eight performances just before then, had been a triumphant success. Only when it was performed by the Foundling Hospital, in 1750, did it win its way to the hearts of Londoners, and since then it is safe to say it has been the most popular of all oratorios.

For a long time it was believed that the text for the oratorio had been arranged from Scripture for Handel by Charles Jennens, who was responsible for the libretti of a number of the other works, both sacred and secular. From recent researches by Mr. Newman Flower, however, it appears that the work was actually done by an assistant of Jennens, of the name of Poole. It is certainly done with taste and discrimination, and is no doubt partly responsible for the fact that "Messiah" is more shapely and consistent in design than any of Handel's other big sacred works. The different parts of it lead one to another, with something of that inevitable significance which belongs to good drama, and the chorus takes its place in building up the effect in a logical way that does a good deal to enhance the power and meaning of the story.

The Holiday Season

Talks on Motoring

VERY interesting talks of great value to motorists who will be frequenting the roads during the holiday season are now being given by Mr.

R. E. Champtaloup, touring manager of the Auckland Automobile Association. Mr. Champtaloup speaks from 1YA and the text of his lectures is also read from 2YA. He has already broadcast talks on new motor routes in out-of-the-way places in the North Island and on Thursday, December 19, he will describe "Road Conditions for Christmas Touring." The information broadcast will be right up to the minute.

Talks to Farmers

4YA's Splendid Service

THE newly-appointed 4YA Primary Productions Committee has prepared a comprehensive schedule of talks over a period of four months. Some of these lectures have already been given. The complete list of talks is as follows:—

1929.

November 27: "The Development of Agriculture in the South."—Mr. R. B. Tennent, Field Superintendent, Department of Agriculture.

December 4: "Review of Principal Articles in 'Journal of Agriculture'."—Mr. L. W. McCaskill, Dunedin Training College.

December 11: "Hogget Mortality."—Mr. D. Marshall, Waihi.

December 18: "The Farm Garden."—Mr. F. Hollingsworth, c/o Secretary, Hospital and Charitable Aid Board, Dunedin.

1930.

January 8: "Review of Principal Articles in 'Journal of Agriculture'."—Mr. L. W. McCaskill, Dunedin Training College.

January 15: "Frost Control in Orchards."—Mr. W. K. Dallas, Fruit Instructor, Department of Agriculture.

January 22: "The Management of the Corriedale."—Mr. J. A. Johnstone, c/o Wright Stephenson and Co., Ltd., Dunedin.

January 29: "Distemper in Dogs."—Mr. C. V. Dayus, District Superintendent, Department of Agriculture, Dunedin.

February 5: "Review of Principal Articles in 'Journal of Agriculture'."—Mr. L. W. McCaskill, Dunedin Training College.

February 12: "The Principles of Rotational Grazing."—Mr. R. B. Tennent, Field Superintendent, Department of Agriculture.

February 19: "Farmers' Organisations and Their Work."—Mr. S. P. Cameron, Secretary, Otago Provincial Branch New Zealand Farmers' Union.

February 26: "Management of Sheep on Hill Country."—Mr. Jas. Beggs, Chairman Board of Agriculture.

March 5: "Review of Principal Articles in 'Journal of Agriculture'."—Mr. L. W. McCaskill, Dunedin Training College.

March 12: "Trees for Shelter."—Mr. D. Tannock, Reserves Superintendent, Dunedin.

March 19: "The Marketing Conditions of the Farm."—Dr. A. G. B. Fisher, Professor in Economics, Otago University.

March 26: "Hydatid Disease."—Dr. C. E. Hercus, Otago Medical School.

April 2: "Review of Principal Articles in 'Journal of Agriculture'."—Mr. L. W. McCaskill, Dunedin Training College.

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TRAVEL IN COMFORT BY CAR

WELLINGTON - PALMERSTON
NEW PLYMOUTH

A Night with Otago Pioneers

Something Unique at 4YA

ON the night of December 21 4YA, Dunedin, will recapture the atmosphere of the earliest days of pioneer settlement in New Zealand and broadcast it for the entertainment of listeners. The romance of the emigrant sailing ships, the arrival and welcome by the Maoris, the primitive, and astonishingly successful amenities with which the pioneers laid the foundation of social life and culture in New Zealand will all be, as far as is humanly possible, incorporated in this unique programme.

The first section of the programme will deal with the voyage out in the emigrant ships. A number of old diaries in the custody of the Otago Early Settlers' Association have been placed at 4YA's disposal in order to obtain the proper atmosphere. These contain some really good stories, to be used for the first time since they were written long ago by the first emigrant settlers. Mr. Bert Rawlinson, chanty leader of the Otago Master Mariners' Association, with a group of master mariners, at least half a dozen of whom will be retired captains of the sailing ship days, will sing sea chanties as they were really sung in the days of sail ships—capstan chanties, when the fiddler sat on the capstan whilst the men sang as they tramped the circle and weighed the anchor; and hoisting chanties, when the men sang as they pulled up the ropes and pulled to the time of the chanty, will be a feature of this section of the programme.

The second section of the programme will be the arrival of the emigrant ships. There will be a distinctly Maori atmosphere, with haka, plaintive Maori melodies, poi dances, Old Scottish songs as sung by the pioneers will be a feature of this section. Mr. Steele, a member of the Board on Maori Antiquities, will tell a Maori legend of the coming of the pakeha.

The third and last section of the programme will deal with the settlement of Otago. The southern station has been exceedingly fortunate in obtaining the co-operation and assistance of Mr. William Paterson, secretary of the Otago Early Settlers' Association, and a relay line will operate from the very fine museum in Mr. Paterson's charge at Dunedin. Selections will be played on the first piano made in New Zealand; on the first organ imported into Otago—a barrel organ actually used in the first Episcopalian Church, and still wonderfully sweet in tone in spite of its great age; one the first locally-made pipe organ; and on an old oboe used and admired by "Rabbie Burns," Scotland's national bard.

The skirl of the pipes will be heard in this section of the programme, the

pipes in this case being none other than those actually used in the Relief of Lucknow, probably the most famous set of pipes in the world. In spite of their age they are very well preserved, and will give a good account of themselves. It is interesting to recall that the public telephone was used in those early days between Invercargill and the Bluff, a primitive instrument that called with a blare of sound, and in which transmitter and receiver were combined. The sound of this early instrument will be heard from 4YA in this part of the programme.

Not the least delightful and interesting part of this section should be the "Round the Mike" chat between Big



MISS MERLE MILLER

A mezzo-soprano of rare dramatic ability, Miss Miller is also a brilliant pianiste. She is the official accompaniste at 3YA. While at the Sydney Conservatorium, where for three years she studied piano playing and singing, she appeared frequently on the concert platform. The most noteworthy of her public performances was in the Sydney Philharmonic Society's presentation of "Faust." For this, she and Joseph Hislop had been specially engaged. Miss Miller took the part of Siebel. Besides gaining her L.A.B., Miss Miller has the honour of having been awarded the Conservatorium's diploma for singing.

—Stefano Webb, photo.

Brother Bill and some of the remaining pioneers. An effort will be made to have among these Mr. John Bain, almost the last survivor of those who came in the first group of emigrant ships. Mr. Bain is naturally of great age, but his memory of those earliest days is still unimpaired, and his stories well worth hearing. Another of the Pilgrim Fathers is Mr. McKay, chairman of the Taieri Road Board, who will also be heard during the programme.

The entertainment will commence with the striking of the hour on the

Morrinsville Concert

To be Broadcast on December 16

1YA will not observe a silent day on Monday, December 16; but will go on the air at 8 p.m. to broadcast a concert relayed from Morrinsville. This concert is in aid of the school prize fund and has been organised by Mr. E. McGregor. A very enjoyable programme has been arranged, all popular numbers, both vocal and instrumental.

Called to Antarctic

Radio Operator Wanted

A LUCKY call has come to one New Zealand radio enthusiast. At short notice, Mr. Orbell, formerly engineer-in-charge of Station 1YA, and now construction engineer of Radio Limited, Auckland, has received an urgent invitation to proceed to the Antarctic to render services to the radio department of Commander Byrd's expedition. Mr. Orbell was one of the pioneers in amateur two-wave communication between New Zealand and England, and was earlier associated with the Radio Broadcasting Company on the technical side. Last summer Mr. Orbell became friendly with the radio technicians of the Byrd Expedition during a holiday he spent in Dunedin, and attributes his present invitation to that factor.

Radio Ads. Condemned

Less advertising over the air is a strong plea being made in America.

This was revealed on questionnaires answered by 4000 San Francisco Bay region and California residents. The survey was conducted by the radio section of the Commonwealth Club of San Francisco. Only 47 per cent. of the answers stated that they were led to buy through radio advertising. More than 53 per cent. admitted that they were "constantly annoyed" by radio advertising, and another 7 per cent. by some kinds of this form of advertising. Cigarette advertising was criticised in hundreds of replies.

ship's bell of the old "Magnet," the first sailing ship to bring emigrants to Otago, in this case the famous Johnny Jones and his Waikouaiti settlers of 1840, and will end with the pipes skirling again "The Campbells are Coming" and "Auld Lang Syne," the same pipes and the same tunes that brought hope to the besieged in the City of Lucknow in Indian Mutiny Days.

In between the beginning and the ending of the programme, listeners will feel again the motions of hope and victory, of courage and endeavour, that belonged to the long ago days when the pioneers emigrated from their native land to carve out another national home, and make cities for themselves and their descendants in the wilderness.

Musical Committee

Meeting at 3YA

A MEETING of 3YA Musical and Dramatic Committee was held at 3YA studio on Wednesday evening last, there being present:—Mr. R. J. Loughnan (in the chair), Mr. E. C. Clements (Operatic Society), Mr. T. W. Dent (Orchestral Society), Mr. Geo. Manning (W.E.A.), Mr. Sydney Williamson (Society of Professional Musicians). Apologies were received from Mr. W. H. Dixon (Royal Musical Society), Mr. A. Brewins (Christchurch Competitions Society) and Mr. M. Richards (Harmonic Society).

A sub-committee which was set up to prepare a "New Zealand" programme, submitted a report containing the following recommendations as to the definition of a New Zealand composer:—(a) Born in New Zealand, and living there continuously for not less than ten years, or (b) not born in New Zealand, but has resided there continuously for ten years, or twelve years, at periods.

These definitions would therefore include: Alfred Hill, Frank Hutchens, Dr. Thomas, Claude Haydon; Arnold Trowell, R. A. Horne, Arthur Lilley, Dorothy Filkins, Mae Burnes Loughnan, Dr. Bradshaw, Victor Booth, Frederick Moore, Arch. Don, Maughan, Barnett, Hugo Anson, Gordon McBeth, Eric Moss, Arthur Alexander, J. T. Sinclair, late R. L. Hutchens, Sydney Francis Hoben, etc.

The sub-committee also submitted the following definition of New Zealand music:—(a) Compositions by any composer in above categories, in any form, or on any subject, or (b) works by any composer—irrespective of composer's birthplace or residential qualification, provided that the sub-committee appointed to adjudicate thereon is satisfied that the composition has a definite relation to the life, customs, scenery, history or legends of New Zealand, native, or otherwise.

With regard to the general manager's scheme for co-operation with amateur musical and dramatic organisations, it was reported that arrangements had been made to broadcast the Royal Musical Society's rendition of Handel's "Messiah" on December 14, and the programme of the Orchestral Society's final concert of the season on December 19.

Mr. Clements reported that the Amateur Operatic Society would be glad to co-operate by presenting either excerpts from operas or full performances.

It was decided that on account of the holidays no meetings should be held in January; the next meeting of the committee would therefore be held on Wednesday, February 5.

THE new B.B.C. frequency monitoring receiving station which is situated in Surrey, was recently completed, and is now busy checking the wavelengths of British and foreign stations. There are ten receivers, five being for short waves, and by this means watch is constantly kept on station frequencies. Should any deviate from their official wavelength, the offending station is at once warned by telephone and thus adjustments can be made.

Mullard
THE MASTER VALVE

Embodies all improvements
known to Valve Manufacturers.

Those "Tacets" — Their Real Significance

A LISTENER who protested strongly some time ago concerning the tacets in the dinner music session now writes as follows:—

"I have to modify my previous opinion regarding the 'tacet' intervals. When the dinner music session is used as an extra period of musical entertainment, the tacet does not find favour, but when the dinner music is used as **Dinner Music** the tacet is an excellent idea. So far as my own experience goes, I have lately been using this session in the manner in which it was intended to be used, i.e., as **Dinner Music**, and find that the intervals permit table talk comfortably, and listeners are inclined to listen at the proper times and talk at the intervals, thereby appreciating the music better. The selection of records for this session is splendid, and reflects great credit on those concerned."

posed to instal 100 per cent. modulation equipment to replace that now in posed to instal 100 per cent. modulation. The San Francisco "Examiner" secured renewal of its license for Station KUP. This is engaged in general Press service. The Kansas City "Star" also operates Station WDAF, and has renewed its license.

Press and Radio

ACCORDING to American advices, some of the important newspapers of the United States are becoming more and more interested in radio as a means of supplementing their news-gathering facilities, as well as rendering additional service to their public by a radio news and entertainment service. The Federal Radio Commission has recently granted a permit to the Chicago "Daily News" to work a 1000-watt experimental relay broadcasting station. Permission has also been granted to the same newspaper to build a new 5000-watt experimental visual broadcasting station at Chicago. The Chicago "Daily Tribune," in competition with the "Daily News," has also been given authority to install up-to-date broadcasting equipment. The station now operates on 720 kilocycles with power of 25,000 watts.

A New One on Radio

THE "New York Times" publishes a statement by a trainer of racing pigeons that radio broadcasting has been responsible for the loss of some of his birds and the delaying of others in their return to their base. He states that until the advent of radio broadcasting on a large scale he rarely lost a bird. He says that radio waves now cause some of the birds to lose their bearings and fail to return, while others, when they fly into the waves, have to circle for some time to get their bearings.

WANTED AND FOR SALE.

For column of casual advertisements see page 32.

Children's Sessions

At 1YA.

TUESDAY, DECEMBER 17: A new set of performers to entertain us this evening. Miss Sale is bringing her pupils to assist Uncle George with songs, piano solos and duets.

WEDNESDAY: Here's Uncle Tom with his usual store of jokes and stories, and cousins with sketches and recitations.

THURSDAY: Peter Pan with us for the last time before his holidays. More piano duets and recitations from cousins.

FRIDAY: What do you think Nod and Aunt Jean have for the Happy Family this evening? A Christmas play entitled "The Old Toys." Now doesn't that sound jolly?

SATURDAY: Good news this evening. Ariel back again, so there will be some Christmas music and old-time music to tune in to. Of course Cinderella will also be present with stories and birthday greetings.

SUNDAY: Children's Song Service conducted by Uncle Leo, assisted by Howe Street Brethren Sunday School.

At 2YA.

MONDAY, DECEMBER 16.—Uncle Jeff to-night—perhaps he will have a Christmas puzzle. Joyce and Maurice will be here with their ever-welcome music, and Irene, Glyn, and Gwendolin, who sing, recite, and play.

TUESDAY.—Many little cousins are coming with music, song, and story. Birthday greetings, too, from Uncle Jim.

THURSDAY.—Cousin Betty will recite and Mrs. Percy Woods will bring a few of her clever pupils. Uncle George is coming, and will send birthday messages over the air.

FRIDAY.—Christmas Day will soon be here. Listen to the carols to-night. They will be sung by the Seaton Children's Choral Society under Mr. D. Keith. Brother Jack, with the help of Robinson, will send merry cheer.

SATURDAY.—Hallo, Children! We are all joy for a trip to Toyland. Uncle Toby will take Mr. Announcer and Aunt Gwen in his aeroplane and then we will find the uncles—somewhere.

SUNDAY.—The Children's Song Service will be conducted by Uncle George assisted by Combined Choirs.

At 3YA.

MONDAY, DECEMBER 16: Whose birthday is it to-day? Why, Canterbury's, to be sure. So Scatterjoy will wish Canterbury "Many Happy Returns" in story, song and greetings.

WEDNESDAY: Mother Hubbard says "Good-bye" for the holidays and wishes you all a merry Christmas, while Uncle Frank promises to keep the home fires burning with music and song. The pupils of Mr. Munro will provide some violin music for us all.

THURSDAY: To-night we are having a rare treat, for besides Uncle John's stories we are to have a talk all about the big Scout Jamboree which was held in England this year by Rev. Rich, who accompanied the New Zealand Scouts on their trip. Songs by Cynthia and Hilary.

FRIDAY: Storyman entertains with his splendid stories of things that have happened and that matter, and the



MRS. M. THOMAS AND COUSIN AUDREY.

The latter's recent splendid performance of "The Backward Child" was greatly appreciated by the children of 2YA.

boys from the Presbyterian Home provide us with some choruses.

SATURDAY: Now, where do you think "Aunt Pat," Chuckle and Birdman are off to to-night? Why to the circus, and the menagerie! To say hello to Mr. Elephant and Mr. Monkey and to tell you about all

Across the Tasman

SINCE the Australian Broadcasting Company commenced broadcasting from 3LO and 3AR, Melbourne, the issue of wireless receiving licenses in the State of Victoria has increased until at the end of October—according to a statement issued by the Postmaster-General's Department—the quota of licenses per one hundred of population reached the world's record of 8.23 as against 4.88 for the whole Commonwealth, 6.96 for U.S.A. and 6.02 for Great Britain. It was thought some time ago that the issue of licenses had reached saturation point, but although there have been fluctuations from time to time, listening-in is now more popular in Victoria than ever before.

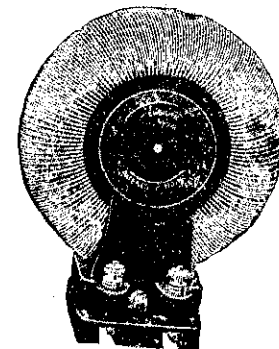
THE A.B.C. will commence broadcasting from 4QG, Brisbane, on January 1 and from 5CL, Adelaide, on January 14. Arrangements are well in hand for the taking over of these stations, and although there will have to be considerable reorganisation in order to bring about the co-ordination of the services according to the policy of the A.B.C., there will be no break in the broadcasting. The change-over from the Queensland Government which controls 4QG and from Central Broadcasters, Ltd., which controls 5CL, Adelaide, will take place overnight.

AN up-to-date radio set purchased and installed from contributions received at the Lord Mayor's 3LO hospital radio community singing held every week in Melbourne, has been officially handed over to the president of the children's hospital. The set was personally tuned in by the Mayor to the joy of the hundreds of child inmates at the hospital.

IN an attempt to introduce an interesting and original programme, the A.B.C. recently held a "relay" programme composed of entertainment from four different stations as far apart as Holland and Manila. The other two stations to be relayed were Melbourne and Perth. An endeavour was made to conclude the evening's entertainment with a relay from 5SW, Chelmsford, England, but conditions were unfavourable.

the animals. Listen-in and join in the fun.

SUNDAY: The Children's Song Service will be conducted by the Presbyterian Sunday School this evening.



DUBILIER
RADIO PRODUCTS

SHORT WAVE

22.5 to 45 M. Coil and Base 17/-
44 to 90 M. Coil and Base 17/-
H.F. Choke 5/6
Special Vernier Condenser 15/-
Ask for NEW PRICE LIST.

A. E. STRANGE
404 Worcester St., CHRISTCHURCH

SCIENCE has long been recognised by police organisations throughout the world as an important and infallible ally as a means of crime detection. With the rapid development of all branches of science in the past few years has come the application by criminals of new technical methods to many forms of crime, and to combat this development it has been found necessary to apply modern scientific methods to crime detection.

Perhaps the most interesting adoption for this purpose is the utilisation by police officials of radio as a swift and efficient weapon in the never-ending battle against crime; and its efficacy has been demonstrated in an almost unbelievable fashion by the Detroit Police Department during the past two years.

The perfection of the radio system of communication between swift, powerful police automobiles and the radio station at headquarters has enabled arrests to be made in less than 30 seconds for the transmission of the alarm. Eight hundred arrests, at an average time of less than 90 seconds each, have been made by the radio-equipped automobiles of the Detroit police during the past fifteen months. More than 15,000 messages have been transmitted to the cars, and of these more than half have been direct orders to proceed to the scene of some actual or reported crime. The balance of the messages have been descriptions of wanted and missing persons, license numbers of stolen cars, and other police information.

Four to six seconds after the report of a major crime reaches the Detroit police, every radio-equipped police automobile in the city has received the warning simultaneously—a city-wide alarm in a matter of split seconds. One or more of the cars, depending on their location at the time and the seriousness of the crime, speed off to the scene of the trouble.

The dispatcher at headquarters on receiving notification of a crime plugs in on a switchboard and thus establishes connection with the transmitting station which is situated some miles

away. The transmitter is thus automatically put on the air, and the dispatcher at headquarters broadcasts his message, repeating it twice to ensure accuracy. The alarms are clearly received by the automobiles scattered throughout the city, and as they are speeding towards the location of the reported crime, further details as to the nature of the crime and descriptions of the criminals are broadcast.

Two types of automobiles, termed cruisers and scouts, are in use at present. The former are high-powered, seven-passenger touring cars, manned by a crew of four officers armed with automatics, shot-guns, and tear-gas bombs. Complete equipment for the taking of finger-prints is carried also. The scouts are light, fast cars, manned by a crew of two. Each automobile is allocated to a district patrol, but are often ordered to proceed to the location of crimes committed in other parts of the city. When a serious crime such as a bank hold-up or a murder takes place, every police automobile is ordered to converge on the scene of the happening, thus making the task of escaping extremely difficult for the criminal.

The receiving sets are of the six-valve type, and are tuned in to the police radio station, locked in position, and then padlocked in a metal cabinet. The crews of the patrol cars have access to the volume control, but cannot tune to any other station than the one situated at headquarters. The aerials, consisting either of numerous strands of wire or of copper gauze, are mounted in the hoods of the cars. Extra receiving sets are always ready for installation, and the substitution is effected in a few seconds. These sets are tested every eight hours, and half-

hourly test calls enable the patrol crews to determine whether or not their sets are continuously working throughout the day.

Crimes are actually prevented by the speed of the radio-dispatched cruisers. Recently the actions of three men in a large sedan parked in front of a store aroused the suspicions of an alert shopkeeper, who telephoned the police. A cruiser was ordered by radio to proceed to the locality, and in less than two minutes after reception of the message the crew sighted the three suspects. The trio immediately fled, but after a pursuit of some miles were overtaken and secured. All three were fully armed, and were later identified as the perpetrators of a hold-up robbery which had taken place some weeks previously.

Countless incidents such as the one mentioned above, where criminals have actually been caught red-handed, testify to the efficiency and importance of radio when used for police purposes. It is not in the least surprising that criminals of all varieties have come to view the police use of radio with fear. Seconds count with the criminal, so narrow is the margin of escape and capture. With the radio enabling the police to reach the scene while he is still engaged in a crime, or even before he actually attempts a crime, the chance of escape become poorer every day.

The results obtained in the use of radio by the Detroit police were not secured overnight, but are the result of ten years of research in this direction. The Commissioner of Detroit police recently remarked that radio communication for police patrol work is the greatest development of modern times in the prevention of crime and the apprehension of criminals. He predicts that in the near future every policeman on duty in the city will be equipped with a portable receiving set. Experiments to design a suitable lightweight set for this purpose are at present being carried out, and when perfected instantaneous communication with every police officer in the city will be possible.

SOMETHING happened recently which in reality stamps 1929 as a wonder year (states "Popular Wireless"). This was a medical consultation by wireless telephony between doctors in Berlin and Buenos Aires, and was preceded by the transmission to Buenos Aires by wireless of a photograph of the patient's eye. This occurrence is probably one of the most remarkable incidents of the twentieth century, all the more significant inasmuch as it was not a "stunt," but the application of the most recent developments of science to everyday work.

Radio and Crime Detection

An Efficient Organisation

Our Mail Bag

A Protest.

IN protest against the manner in which a recent children's session was brought to a close while a child was at the microphone finishing a little recitation at 4YA. I am sure Mr. Announcer could have waited for two or three minutes after six o'clock before he started the dinner music, as I am sure the children's hour is just as pleasing as the dinner session.

P.S.—This is not the first time our children's session has been cut short. It is not like Wellington's Mr. Announcer and his do Spot.—Disgusted (Comedian).

A Pal in Sickness.

HAVING been confined to my bed for the past three months as a result of a serious illness, I have been unable to write and express my appreciation of the splendid programmes broadcast from 2YA. Mr. Announcer has been a pal of pals to me during my illness, and I have longed for three o'clock to come and hear his cheery voice. I particularly wish to express my most grateful thanks to the sporting commissioner at 2YA. The sporting items were wonderful during my illness, and the manner in which 2YA supplied information, results, etc., of the recent Riccarton Carnival was nothing short of amazing considering the distance Christchurch is from Wellington. There is no more devoted listener to the sporting sessions than I am, and my reason for taking up wireless twelve months ago was the splendid service supplied by 2YA. I have personally recommended to seven of my sporting friends the service provided by 2YA, with the result that they are now enthusiastic listeners. Where I am employed, the railway workshops, the men are good advertising for our local station's sporting service. So long as 2YA supplies the goods the Broadcasting Company need have no fear of the "sports" not-renewing their licenses in March next. We are looking forward to the same service from 2YA during the holiday season, and hope we will not be disappointed. Listeners would very much like the sporting man to appear before the microphone nightly and give us his reviews, etc., on the racing. This is done in Australia, and the company should consider this improvement. "One of the Satisfied."

A Useful Booklet

All about the Holiday Trains!

Now that everybody has decided *where* they will go for the holidays, the next problem is—How to get there? This is where the free railway holiday booklet will help—it tells you all about the holiday trains for the Christmas and New Year period.

Call for a Free Copy at your nearest Railway Station or City Booking Office—or 'phone or write for one to be sent to you by first mail.

WHY?

Kingsford Smith uses Burgess Batteries. Commander Byrd uses Burgess. More Burgess Batteries are sold in New Zealand than any other make. Why?

BURGESS RADIO BATTERIES

THE D.X. CLUB

Views and News.

Identification Wanted

HAS any short-wave listener heard what must be either an harmonic or the short-wave of 3UZ, Melbourne? I received them at 11 p.m. on November 27, wavelength 65 metres (approximately), the call-sign being clearly heard.—J. V. McMin (Wellington).

TO-NIGHT (December 4) at about 7.45 o'clock, I heard a station broadcasting gramophone music on a wavelength of about 220 metres (1360 k.c.). The call-sign, which I only heard once, sounded like —TM, Texas. Can anyone identify this station?—"New Chum" (Morrinsville).

ON the evening of December 2 I heard a foreign short-wave station transmitting on approximately 49 metres. Time of reception 11.30 p.m. I could not get his call on account of insufficient volume.—A. D. Rogers (Wellington).

COULD anyone give me the call-sign and location of an American station on about 32 or 32.5 metres. The carrier is on the air nearly every evening, and sometimes a male or a female announcer reads out messages and broadcasts birthday greetings. Most of the time, however, the carrier is on the air, but the station is silent. It closes down without giving a call-sign at about 6.45 p.m. N.Z. Summertime. Reception is at fair speaker strength. I notice Mr. Sellens mentions apparently the same station in his short-wave notes of issue dated November 29.—E. W. Anglesey (Nelson).

Stations Identified

IN answer to "New Chum's" request in issue dated December 6, 1929, for identification of a station which announced "Station CIN, broadcasting direct from Brunswick Buildings, New York," I would like to state that he was probably listening to 2ZQ, Master-ton, broadcasting a descriptive sketch, entitled "Radio Impressions" (a Brunswick record). 2ZQ's frequency is 1180 k.c. (254 metres).—J. V. McMin (Wellington).

IN your D.X. Club notes of November 29 Mr. C. MacFarlane, of Dunedin, asks the identity of a short-wave station on 49 metres, which was transmitting on evening of November 16. This station was W2XAL, West 67th Street, New York, broadcasting on 6040 k.c. or 49.7 metres. They asked for reports on their transmission. The items they presented were: British National Anthem, "Star-Spangled Banner," song by male. Closed down at 8.15 p.m. New Zealand S.T. W3XAL, Bound Brook, New Jersey, W2XAL (the above station), and

W9XF, Chicago, are all close together on the dials.—W. J. Tonkin (Otago).

DX Topics

I NOTICED in your issue dated 29.11.29 a reference to station 3DB, Melbourne. This station has been as loud as 8LO, and sometimes as strong as 2BL for some months. I wrote for verification some time ago, and the following are a few particulars I have recently received:—Station 3DB is operated by the "Herald Broadcasting Coy.," and transmits on a wavelength of 257 metres (1165 k.c.). Address, Capitol House, Melbourne. At time of reception, power was 500 watts, but an enclosed letter stated that they were doubling their power and installing new transmitters by October 1. Thus they are now on 1 k.w.

Their daily transmission period is from 11 a.m. to 1.45 p.m.; 2.15 p.m. to 4.15 p.m., and 5.00 p.m. to 11 p.m. daily (Australian time). I recently received 3DB at 3 p.m., N.Z. Summertime, on a sunny day, at fair headphone strength, but this I regard as a freak reception. My set is a 4-valve, including 1 stage of S.G. R.F.—E. W. Anglesey (Nelson).

I NOTICE there has been some uncertainty about the wavelengths and power of the Japanese stations. The following particulars were on a verification card received from JOAK on 2/12/29:—

	k.w.	Metres.	k.c.
JOAK, Tokio	10	345	870
JOBK, Osaka	10	400	750
JOCK, Nagoya	1	370	810
JOFK, Hiroshima ..	10	353	850
JOGK, Kumamoto ..	10	380	790
JOHK, Sendai	10	390	770
JOIK, Sapporo ...	10	361	830

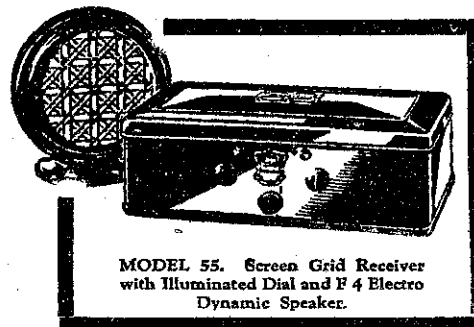
I received a verification from 3DB, Melbourne, some weeks ago, and in it was stated that their new transmitter would be on the air soon. This accounts for the increase of volume, which "Switch" remarks upon in his notes. On November 20 (I am not sure of the date as I do not keep a short-wave log), I heard a strange station on approx. 245 metres (1225 k.c.) testing. Occasionally he would ask a listener how the transmission was coming over. At the end of a record he would say, "Hullo, Bill; how's that?" "Hullo, Bill, give me a ring on the 'phone," etc., etc. This stranger seems to be the one heard by Mr. S. Ellis, Okato. Has any S.W. listener heard 3UZ, Melbourne, on 69 metres? I hear him practically every evening, and heard him give the call 3UZ quite clearly several times. A letter was received from GBX, England, this week, but no particulars given. On Tuesday evening, 2/12/29, 5SW at 12.30 a.m. with Big Ben was excellent at R9 and continued at that strength

till 1 a.m.—A. D. Rogers (Wellington).

I AM afraid Mr. MacSherry (Auckland) is unjustified in claiming to be the first to receive WLW, Cincinnati. I have received several letters from that station, and one is a verification of reception in June, 1927.—W. G. Sturgess (Christchurch).

A USEFUL safeguard against threshold howl in a short-wave set is the provision of a 5-megohm resistance across the secondary of the audio transformer.

IT is not safe to assume that ordinary coils can be used anywhere instead of binocular coils, for the latter are often employed by designers specifically on account of their relatively small fields.



MODEL 55. Screen Grid Receiver with Illuminated Dial and F 4 Electro Dynamic Speaker.

An always enjoyable Gift

Reflecting pleasure as a many-sided gem reflects the light—the Atwater Kent Screen-grid Radio brings to you the inspiration of fine music... the vivid picture of world events... with new power... new sensitivity... new needle-point selectivity... you hear the true voice of Radio. Let your own ears and eyes tell you the story in time to make someone's Christmas happiness last all year long... and through the years to come.

ATWATER KENT SCREEN- GRID RADIO

Electro-
Dynamic
... of course!

N.Z. Distributors:
C. & A. ODLIN
& Co. Ltd.
Wellington.

The Greatest Set in all the years of Radio

Dealers Everywhere

Christmas Sessions

BOTH dealers and listeners will be interested to know that, as has been the custom in past years, extra Christmas sessions will be given from all stations.

Starting from the 16th inst., 1YA, 2YA, 3YA and 4YA will commence operations each day at noon instead of 3 p.m., and will continue till further advice. In the case of 1YA, the start of the Christmas sessions will be made on Tuesday, the 17th inst. In all cases efforts are being made to provide the fullest possible service concerning sporting relays and items for the festive season. Listeners and dealers may rely on the best service possible being given.

1YA Overhauled

MR. J. M. BINGHAM, Chief Engineer to the Radio Broadcasting Co., was in Auckland last week making the annual overhaul and inspection of the 1YA transmitting plant in preparation for the specially heavy demands likely to be made upon it over the Christmas season.

In accordance with the latest practice the aerial was changed to a single wire. This has obtained for some time past at 2YA. A special condenser microphone was also installed for use in outside relays and in particular in connection with the relays from the Town Hall of the popular Municipal Band. The installation of this microphone has already effected a marked improvement in the clarity of the transmission and will obviate certain complaints recently prevalent as to "buzz" on the occasion of the Town Hall relays.

Talkies from 1YA

FOLLOWING on arrangements effected with the Fuller-Hayward organisation in Wellington for the relaying of portions of the talkies programme as given in the Majestic Theatre, arrangements have now been made for the same service to be given from the Fuller-Hayward Theatre in Auckland. 1YA, starting in about a fortnight's time, will give this service, and will again make available those enjoyable relays from the Majestic Theatre which previously provided such pleasure to 1YA listeners. The plants in use at both of the Fuller-Hayward theatres are RCA talkie equipment, which are particularly marked in technical efficiency. This feature has already evoked appreciation from 2YA listeners, and it is certain the same pleasure will follow the installation of the service from 1YA.

Radio Equipment for Aeroplanes

For Two-way Communication

A NEW light-weight radio equipment for use on the American Trans-Continental Air Transport aeroplanes has recently been perfected in America. The apparatus, which is light enough to permit its installation in the tail of the 'plane rather than in the passenger cabin, is of such compact design that it can be installed or removed in five minutes.

The transmitter is designed for both telephony and telegraphy transmissions, and is operated by remote control. The old and dangerous system of using a trailing wire for an aerial has been abandoned. Instead, a ten-foot copper rod mounted vertically in front of the pilot's cockpit is utilised. The transmitting and receiving equipment is adequately screened to prevent interference from the aeroplane's motors. The maximum distance covered in a two-way communication test between a ground station and a 'plane carrying the new equipment was 617 miles.

Future of Broadcasting

Speech by England's Premier

AN interesting speech on the future possibilities and development of radiovision and broadcasting was recently broadcast from Geneva by Mr. Ramsay MacDonald, the Prime Minister of England. Though radiovision is still but in its experimental stages, the time is not far distant when it will have a definite and important place in the broadcast programmes of the world.

After a reference to radiovision and the prospect of hearing and seeing at the same time at one's fireside Mr. MacDonald said, "It is a great prospect, full of possibilities, and who can foretell the changes in thought and habit which will follow? The public mind and the public taste will be subjected to an influence of terrific import, but it is part of the joyous effort of progress not only to make the great discoveries but also to control them and to see that man gets the maximum good and the minimum of evil."

This new power of omnipresence should conquer distances and bring the cultures and peoples of the world together and increase their understanding of one another, thus helping in that peacemaking to which all the enlightened statesmanship of the world must be directed.

A Wireless Alarm

For Unannounced Broadcasts

DR. RISTOW, the German scientist who invented distance-control for receiving sets, has recently patented a device by means of which a transmitting station may call listeners when their receiving sets are not actually in use. The device, the effect of which is similar to a call to a subscriber from his telephone exchange, can be employed for individual receiving sets and selected transmissions or adapted for general use by broadcasting listeners.

Although, by reason of its cost, the apparatus is not thought likely to be of immediate use in broadcasting, it is possible that a simplification may later on render it of use for this purpose also.

The calling is done by Morse signals, the receiving set being adjusted to respond to particular combinations of dots and dashes. The response to the call is dependent upon a calculated rhythm in the Morse signals. To obtain this rhythm a special Morse apparatus, also designed by Dr. Ristow, is used at the transmitting end. The call is made at the receiving end by an alarm bell (the device is called the Funkwecker—wireless alarm), but any other means, such as a lamp, could be employed.

As in the case of the distantly controlled receiving set (which enabled the Police Presidency in Berlin to overcome the difficulty of local disturbances), Dr. Ristow's invention was made primarily for official purposes. The advantages of being able to call up any particular receiving station—and the German police have many dozens of receiving stations throughout the country—immediately before the transmission of an official message, are obvious. The system would also be of use, it is thought, to the fire brigade, who are to be supplied with

A Famous Entertainer

SIR HARRY LAUDER, who sang and jested his way from a coalmine to world fame, has just arrived in California after his Australian and New Zealand trip. Coincidental with his arrival, there came the announcement of the National Broadcasting Company that, after long and consistently rejecting offers, Sir Harry at last will sing "on the air." He made his American radio debut last Sunday night, through Station WJZ. He actually sang in Winnipeg, although the rest of the programme came from the studio in New York. Lengthy negotiations by cable were required to obtain his signature on a contract.

Record-Hunting

An American Enthusiast

RADIO seems to affect people in different ways. A young man in the State of Illinois, U.S.A., 2000 miles from the Pacific Coast, is out to set a world's record for the number of programmes received over a distance of 8000 miles. In doing so he is likely to become well-known to all broadcasting stations. His first letter to 2YA, outlining his campaign, has been received.

It is the practice of the Broadcasting Company to reply to all letters which necessitate reference to the station logs for the purpose of verifying reception, for in many instances the claims of the correspondents cannot be substantiated. A letter from an enterprising young man in Illinois is interesting in its claims, although his items do not correspond with the log.

An excerpt from the letter reads as follows:—

"Gentlemen,—I have the greatest pleasure in letting you know that I have received your radio broadcasting station with call letters 2YA.

"To begin with, let me tell your station what I am out for. It is the world's record in programmes received over a distance of 8000 miles. The world's record is 119 programmes over a length of three months. This record is held by the owner of a 10-valve set.

"I am out to beat this record with a four-valve set and I know I can do it with the earnest help of such stations as yours. I want you to send me a station card, also a letter of verification.

"Your station certainly came in with a wow! As you will know and understand by reading my letter later on.

"Now, every time I send you a letter I want you to please send me a letter of verification.

"Throw in all the old power you've got and I will do my best to get your station. Please answer each and every one of my letters individually."

DR. E. O. HULBERT, physicist at the United States Naval Laboratory, has delivered the opinion that communication with Mars is impossible on wavelengths below 100 metres owing to the density of the Martian atmosphere.

WHEN a pick-up is being used with a gramophone a certain amount of sound and "chatter" will still be heard direct from the instrument unless it has a shut-down lid.

A HIGH magnification factor for a valve is nearly always associated with high impedance, and a low magnification factor with low impedance.

EXTRA QUALITY AT NO EXTRA COST

Diatron Precision Radio Valves

Look for the VALVE in the "BLUE DIAMOND" CARTON. N. R. CUNNINGHAM, Ltd., Distributors, Masterton.

NOTWITHSTANDING the tremendous popularity of the a.c. sets, Wellington radio dealers state that the battery-operated set will continue to be used by thousands of listeners in the Dominion for some years yet. A correspondent writes to a New York exchange that probably three-fourths of the listeners living west of the Mississippi River depend entirely upon battery-operated sets, and they take their batteries as far as 15 miles to have them re-charged.

THE director of 2YA, Wellington, is ever on the look-out for interesting subjects for broadcasting, and he does not miss much. On Thursday evening, December 12, Woolley, Duleepsinghi and Gilligan, of the visiting English cricket team, will speak from 2YA at 9 o'clock. It has come under the writer's notice that the 2YA programme organiser pursues every visiting notability who would provide an interesting broadcast as soon as he or she arrives in Wellington. In fact, the organiser is always on the watch for interesting personages who have been interviewed by the Press in other centres, and who are likely to visit Wellington. "Switch" can assure listeners that there is no lack of enterprise, in this respect, at 2YA.

THERE is a no more enthusiastic listener than Mr. W. McIntosh, mate of the coastal steamer Hawera, which runs between Wellington, Paten and Wanganui. He takes his 3-valve short-wave set to sea with him, and, being musically inclined, employs a plug-in coil which adapts his set to the broadcast band so that he can listen to 2YA, Wellington. It was anything but a mild night at sea when the little steamer Hawera was out in Cook Strait on the occasion of the relay by 2YA of the Wanganui Choral Society's final concert of the season. Despite the tempestuous conditions, Mr. McIntosh had 2YA on his loud-speaker, and enjoyed the concert which was entertaining the large audience at the Wanganui Opera House, and also thousands of listeners comfortably seated in their homes.

OCCASIONALLY certain gramophone records put on the air by the "YA" stations make an instantaneous appeal to listeners, and it is due to the programme directors to mention these successes. A record, "Rose of Malaya," broadcast by 2YA Wellington, appeared to make a widespread appeal, judging by the numerous favourable comments heard by "Switch." The music was tuneful, and the words thoroughly effective, and the male vocalist had caught the atmosphere of the theme in such a manner as to delight many listeners. "Switch" mentioned the popularity of the record to the programme director of 2YA, who kindly repeated the item last Saturday night.

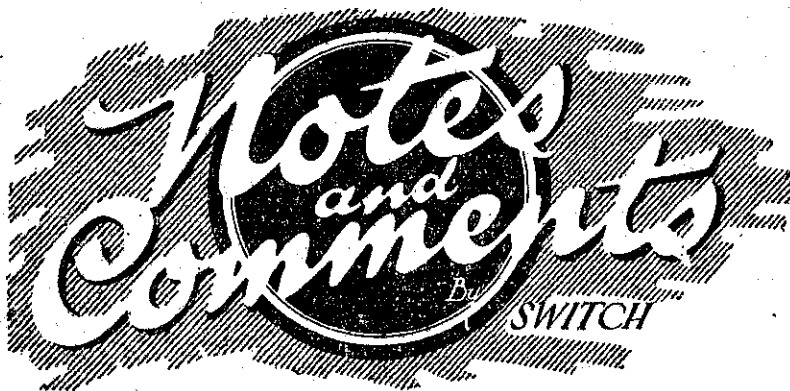
"SWITCH" has heard much favourable comment upon the recent first appearance of the Boys' Institute Military Band at 2YA Wellington. This was the band's initial performance before the microphone, and their playing took listeners by storm. There are 35 performers, mostly youths who are members or ex-members of the Wellington Boys' Institute, a kind of club with a well-appointed club-house and tepid swimming baths. Mr. A. Ire-monger, the conductor, has every reason to be proud of his band, judging by the broadcast performance. "Switch" commends the players for

their excellent combination and tone, and has a special word of praise for the bass section. The band will be heard again from 2YA in the near future.

THERE are few stage productions which make completely successful radio plays, but the famous play "Caste" is an outstanding example of the exception. 2FC, Sydney, is broadcasting this play on Thursday evening, December 12. "Switch" would like to hear Mr. Montague, of Auckland, and a select little company put "Caste" on the air. Though "Caste" has been performed in all parts of the world since 1907 it still proves a big attraction. It deals with the problem of marriage between people of different social stations, and the subject is just as vital now as it was 50 years ago.

"WHAT has gone wrong with the Australian stations?" writes "Tinwall" (Wanganui). "They appear to be suffering from an attack of the talkies. Night after night one hears nothing but speech from Sydney. First a radio play, then a lecturette, then speeches from a dinner or reception, until one is glad to tune back to one of our own YA stations." "Tinwall" can obtain an abundance of musical entertainment from the New Zealand stations without tuning in the Aussies. "Patronise your own" should be the slogan of our listeners.

NEW ZEALAND listeners who tune in from 4.30 o'clock in the afternoon may shortly hear some short-wave as well as ordinary broadcast transmissions from W2XAG, Schenectady, New York State, which is about to test with a power of 200,000 watts. An American exchange says: "The advantages of high power in broadcasting will be determined in tests at 200,000 watts by the General Electric Co., of Schenectady, N.Y. The Federal Radio Commission has renewed the experimental license held by the General Electric Company for the power tests. The experimental station, with the call letters W2XAG, operates on broadcast as well as short-wave channels. The test station is associated with WGY. The licenses authorise the tests between midnight and morning, subject to conditions which will prevent interference with regular broadcasting and reception." The short-wave broadcasts, "Switch" understands, will be on 35 metres. WGY operates on 790 kilocycles equal to 379.5 metres, which works out at about halfway between 3LO, Melbourne, and 4QG, Brisbane, on the tuning dials.



CONTROL of radio broadcasting through a world organisation under the jurisdiction of the League of Nations was recommended by the International Parliamentary Economic Congress which recently met in Berlin. A proposal that an international statute shall govern world radio activities was made, this statute to provide among other things the elimination of transmission conflicts between various competing stations and also guarantee more equitable distribution of short-wave allocations. The fact that radio is of an international structure, which makes it a valuable agency for the promotion of peace, was pointed out. While its functions are akin to those of the press, the stage and literature, it commands an unique position in relation to problems which affect human endeavour, it was further stated. Recommendations for the erection of an international broadcasting station at Geneva were also made.

TRYING to explain to your guests that the roar that is obliterating "outside" stations is merely an electrical leakage from a loose tramrail bond, or a neighbour operating a violet-ray outfit or some such other disturber, is not always an easy task. Your innocent guests are prone to ask

you. "Why don't you shut it out?" "Why don't you tell these people to stop that noise?" and then a lady will say, "Our set never brings in that horrid uproar. We get 2YA without the slightest extraneous noise." Then you meekly ask, "How do you get on when you tune in 3YA, 1YA or 4YA? Don't you get a little static occasionally?" The reply comes, "Our set has only two valves and is only for local reception." Your murmur "Ah!" and get back to 2YA.

RECENTLY 2FC, Sydney, relayed a programme from Holland, and the principal item which came through was "Sonny Boy"! This reminds "Switch" of one evening, not so long ago, when he was listening to JOHK, Japan, and he heard "O! Man River" sung by a Japanese girl in her native language.

"GOOD Manners" (Kelburn) writes suggesting a few hints on radio etiquette. (1) When you invite friends to your home to listen in to a first-class concert, and you find their ceaseless chatter is being interfered with, turn off your set. (2) If your guests prefer "There's a Rainbow Round My Shoulder," don't insist on making them listen to the sextet from "Lucia di Lammermoor." (3) If you tune in 3YA, Christchurch, and you get a roar like a steamer blowing down her boiler, don't attempt to explain that the noise is from a near-by electrical leakage. (They wouldn't understand if you did.) Just say that it's a radio play with realistic effect, and that a train is rushing through a tunnel. Then tune in the good old reliable 2YA, sans static, sans electrical leakage, sans silly questions.

Have you secured your copy of

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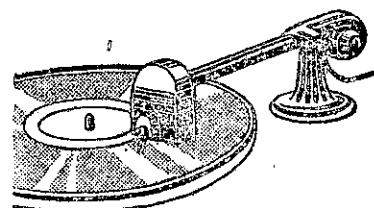
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Next Week's Features

1YA Features

ON Sunday evening the service will be relayed from the Strand Theatre, where the mission service will be conducted by Rev. Seringeour, the song leader being Mr. T. T. Garland. Following the church broadcast, a concert will be relayed from the Town Hall, where the Auckland Municipal Band, under the conductorship of Mr. Christopher Smith, will present a popular and classical programme of band selections.

ON Monday evening a concert will be relayed from Morrinsville.

TWO talks will be given on Tuesday. At 7.15 p.m. Mr. George Campbell will continue his interesting talks on "Motoring," and at 7.40 p.m. Mr. John Barr, city librarian, will speak on the "Art Gallery." This latter talk is one of the preliminary series on "Art."

The studio programme will be devoted to Christmas music. The 1YA Broadcasting Choir, under the conductorship of Mr. Len Barnes, will sing four well-known carols: "The First Nowell," "Sleep, Holy Babe," "Hymn for Christmas Day," and "A Cradle Song of the Blessed Virgin." The second half of the programme will be devoted to the Christmas music from Handel's "Messiah." In this the choir will be accompanied by the 1YA Instrumental Octet, with Mr. Cyril Towsey as pianist, and Mr. Eric Waters organist. The soloists are members of the choir. Miss Millicent O'Grady, who is quickly coming to the front rank of Auckland vocalists, will sing the soprano solos. Following on her great success as soloist for the last concert of the Bohemian Orchestra and the Municipal Band, Miss O'Grady should give a fine interpretation of her numbers. The contralto solos will be sung by another promising younger singer, Miss Hine-moa Rosieur, and Mr. Tom Moffitt is singing the tenor role. Mr. Len Barnes has sung the baritone solos for many

societies in the Dominion, and will again be heard on this occasion.

LISTENERS generally will be glad to hear Mr. Norman Kerr on Wednesday, December 18, at 7.40 p.m., when he will continue his talks on "Physical Culture." On the studio programme, Madame Cora Melvin (soprano) and

Miss Alma McGruer, has chosen the composer Anton Dvorak. Mr. Roger Errington, tenor, will sing some popular ballads, and Mr. A. B. Chappell, M.A., is giving another of his interesting "Topical Talks." A very interesting novelty will be two dulcitone solos to be played by Mr. Eric Waters, who, with Mr. R. A. Jury, xylophonist, will

interesting talk to gardeners, and this will be followed by a relay from the Town Hall of the concert of the Auckland Municipal Band, under the conductorship of Mr. Christopher Smith.

2YA Features

ON Sunday evening a relay of the evening service of The Terrace Congregational Church will be carried out. The Rev. C. W. Wickham will be the preacher on this occasion, the organist and choirmaster being Mr. H. Brusey. At the conclusion of the service there will be a broadcast of "Messiah." This masterpiece of Handel is being given by the Lower Hutt Methodist Church Choir under the conductorship of Mr. Ernest Dawson, who will have associated with him the following artists:—Mrs. Schmidt (soprano), Miss Constance Flamank (contralto), Mr. Charles Williams (tenor), and Mr. John Prouse (bass). The organist will be Mr. Horman, and the church orchestra will be specially augmented for the occasion.

ON Monday afternoon descriptive summaries of the third day's play in the Wellington v. England cricket match at the Basin Reserve will be broadcast at stated intervals. The description will be in the capable hands of Mr. A. Varney, secretary of the Wellington Cricket Association.

At 7.40 Mr. H. C. South will give another of his interesting book reviews. The evening concert session will feature the popular Ariel Singers, who on this occasion will give a miscellaneous programme of solos, duets, and glees. Miss Hazel Rowe, the pianiste to the Wellington Orpheus Society, will be the piano soloist on this programme. Miss Rowe's items will be Brahms' "Rhapsody in B Minor" and Debussy's "Arabesque No. 2."

A feature of Monday evening programme will be a one-act play by St. John Irvine, the well-known English playwright. The play, which is entitled "She was no Lady," will be presented by Mr. Victor S. Lloyd and Company.

Two outstanding features of the items to be played by the 2YA Orchestra, under Signor Truda, will be "Tingal's Cave" Overture and the Second Movement of Schubert's "Unfinished Symphony." Other items to be played include Brahms' "Lyric Suite," Liszt's "Liebestraum," and Saint-Saens' "Dance Macabre." Mr. H. Temple White will give a brief organ recital at approximately 9.5 p.m., his items being "Reve d'Amour" (by Corbett), "At Evening" (by Kinder), and "The Minster March" (from "Lohengrin").

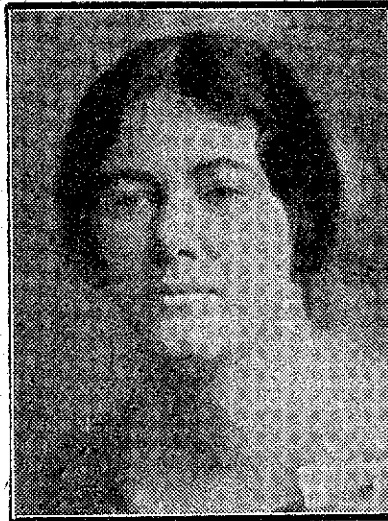
THE fourth day's play of the Wellington v. England cricket match on Tuesday afternoon will be described by Mr. A. Varney, the intervals between relays being filled in with items from the studio.

ON Saturday evening at 7.40 p.m. Mr. G. D. Rutter will give a further



MISS MAVIS RITCHIE,

A clever young elocutionist, and one of the Revellers' Concert Party at 3YA. —Steffano Webb, photo.



MISS EDNA PEACE,

Contralto, and a member of Madame Towsey's Quartet. —S. P. Andrew, photo.

Mr. Norman Day (baritone) will make a very welcome reappearance. These two fine artists are now residing in Auckland, and it is to be hoped will be heard more frequently at 1YA than in the past.

One of the finest means of bringing to listeners' appreciation of the work of great composers is by medium of the lecture recital, and on this occasion Mrs. Daisy Basham, assisted by

also present "Nola" and "Rainbow Ripples."

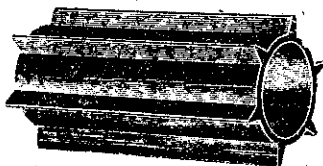
ONCE again the popular "Minus Fives" will appear before the microphone on Thursday evening in a novelty programme entitled "Don't Worry—We Won't." Plenty of humour and music will make up this programme, which will be followed by a gramophone dance session until 11 p.m.

A FURTHER instructive talk on "Esperanto" will be given by Mr. W. G. E. Wheeler and his associates on Friday at 7.40 p.m., and this will be followed by a relay until 8.30 p.m., of the weekly concert from the Lewis Eady Hall. The Studio Trio, during the studio programme, will play the suite "Chelsea China" (by Besley), and also "Rondon Alla Russe" (by Hummel), and Miss Ina Bosworth will contribute a violin solo, "La Gitana" (by Kreisler). Two artists new to 1YA will make their appearance on this programme, Misses Edna and Phyllis Tye, pianist and mezzo-soprano respectively. These two young ladies give promise of fine performances together. Mrs. L. Parry (soprano) and Mr. Reg. Richards (baritone) will be heard in vocal solos. The latter scored a distinct success with his singing at the recent Bohemian Orchestra concert. Elocutionary items will be given by Mr. A. McSkimming.

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THE concert session on Tuesday evening will be contributed to by Mr. Stewart Nelson (tenor), Mrs. Winifred Birch-Johnson (comedienne) and Mr. Spencer Farrell (popular songs). Humorous elocutionary items will be given by Mr. Will Yates. The instrumental portion of the programme will be given by the Salon Orchestra, under Mr. M. T. Dixon. The items will include the "Stradella" Overture, "The Cossack's Wedding Fete," the "Hyde Park Suite," Haydn Wood's "Virginia" and a trio number, Godard's "Second Valse in B Flat."

A STUDIO programme, interspersed by Hutt election results, on Wednesday evening.

THE Wellington Artillery Band (under the conductorship of Captain T. Herd) and assisted by the Melodie Four Male Voice Quartet, Miss Gladys Hibberd (contralto) and Mrs. M. Thomas (elocutionary numbers) will present an interesting and varied programme on Thursday evening. The band items will include the fantasias, "The Dawn of Spring" and "Robin Adair," a medley entitled "A Melodious Revue," a cornet duet, "Heart's Desire," and a gavotte entitled "Somewhere in France."

ON Friday evening the Etude Quartet will provide a programme of vocal gems from light opera and musical comedy, the Orchestra, under Signor A. P. Truda, playing items in keeping with the vocal numbers. The Orchestra's items include the overture to "Lucia di Lammermoor," Ansell's arrangement of selections from Offenbach's operas, a selection from the musical comedy, "The Pink Lady," the opera, "The Girl of the Golden West," and the march from "Tannhauser." Mr. and Mrs. Albert Russell, two of Wellington's most popular entertainers, will provide the humorous portion of the programme.

SATURDAY evening's programme will be of a bright, entertaining nature, those contributing being the Salon Orchestra, the Lyric Quartet, Miss Violet Roberts (contralto), Mrs. Mildred Kenny's Guitar Orchestra and Mr. Jack Wilkinson (comic songs).

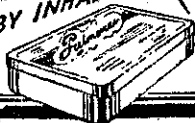
3YA Features

"BOY SCOUTS" will be the text for the sermon at St. Mary's Church, Merivale, on Sunday evening. The preacher will be the Rev. J. Rich. A relay from Dunedin will follow, the concert to be given by the St. Kilda Band, under Mr. James Dixon.

Cough? no!

Pulmonas

RELIEF BY INHALATION



FOR band night on Monday the instrumentalists will be the Christchurch Municipal Band and the 3YA Broadcasting Trio. The assisting vocalists will be Mrs. Lucy O'Brien (soprano), Miss Mary Taylor (contralto), Mr. T. G. Rogers (tenor) and Mr. E. J. Johnson (baritone), while elocutionary items will be given by Miss Winnie Andrew.

ON Wednesday evening the presentation of "Messiah" by the Royal Christchurch Musical Society will be relayed from the Civic Theatre. The soloists will be: Miss Gladys Brookes (soprano), Miss Freeman Brown (contralto), Mr. A. Perry (tenor), and Mr. E. J. Woodward (bass). The conductor will be Mr. W. H. Dixon, L.R.A.M., A.R.C.M.

AT 7.30 on Thursday evening there will be a talk to farmers in the form of a review of the latest issue of the "Journal of Agriculture."

ON Thursday evening there will be a broadcast performance by the Christchurch Orchestral Society, assisted by the Avonside Church choir. The popular 3YA Instrumental Quartet (Miss Gladys Vincent, Mr. Francis Bate, Mr. A. Gordon and Professor Savini) will also be contributing. Professor Savini is the conductor of the orchestra.

A PROGRAMME comprising mainly excerpts from light musical comedies will be supplemented by dance music provided by the Bailey Marston Dance Orchestra on Friday evening. The vocalists will be the Melodious Four.

ON Saturday evening the programme will consist of a relayed description from the ringside at Wirth's circus.

4YA Features

SUNDAY evening's broadcasts will comprise a relay from the Congregational Church (Rev. Alfred Mead, preacher), and a relay of the concert to be given at the St. Kilda Band rounda by the St. Kilda Band.

EXCERPTS from Friml's opera, "The Vagabond King," will be sung by Madam Carlson and Miss de Reya on Monday. The opera is very popular at the present time, due to the fact that the motif of Friml's themes is very much like that of Puccini, the composer of "Madame Butterfly," "La Tosca," etc. The duets and solos chosen for this occasion contain the popular Hoggette Waltz. A small orchestra has been specially engaged for the evening's programme. This combination consists of piano, violin, 'cello, bass, clarinet and cornet. It will be under the direction of Mr. Pettit, the well-known Dunedin musical director. Included on the orchestral items are Mendelssohn's "Fingal's Cave" and Max Bruch's "Kol Nidrei." Mr. Angus Gorrie will continue his Series of the Poets, taking for this occasion Robert Browning. Mr. L. E. Dalley, one of Dunedin's leading tenors, has chosen selections from Puccini's "La Boheme," Mascagni's "Iris," and Goring Thomas's "Esmeralda."

THE Kaikorai Band, under Mr. T. J. Kirk-Burnand, will be providing the programme on Tuesday evening.

Two interesting items to be played will be "Two New Hungarian Dances," especially written for brass bands by Frank Mullen. These dances are of a barbaric nature, but unlike Brahms, are not based upon Hungarian folk songs and dances. At the same time these dances are descriptive, and present ample scope for band playing. A new arrangement of Richard Wagner's "Meistersingers von Nurnberg" is also being presented by the band. The assisting artists for the evening will be Miss Sligo (soprano), Miss Gwenda Burt (contralto), Miss Ngata Buswell (elocutioniste), and Mr. Les. Stubbs (baritone).

ON Wednesday evening a well diversified programme will be presented. Solos and duets will be sung by Miss Rita Holmes and Miss Irene Hornblow, the duets being "Awake" and "The End of a Perfect Day." Baritone songs will be sung by Mr. W. Ruffell. A novelty trio will play a number of popular airs.

WHAT will be very interesting items will be provided by Miss Ida Lungley on Friday, when she will sing several negro spirituals, which have become so popular of late. Miss Lungley, who is the Dunedin Operatic Society's pianiste, is the possessor of a beautiful contralto voice. Last summer she toured Central Otago and delighted many large audiences with her interpretation of Negro Spirituals and Maori folk songs. Listeners in Otago Central will look forward to hearing her on the air.

Also singing on Friday evening will be Mr. A. Lungley, a fine baritone, who will be heard in "Onaway, Awake Beloved," "The Devout Lover" and "The Volga Boatmen." Soprano solos will be sung by Miss Lettie de Clifford, and there will be tenor songs by Mr. D. Crew. Instrumental music will be supplied by the Celeste Quintet. Elocutionary items will be given by Miss Tui Northey.

ON Saturday evening there will be the "Night With the Pioneers."

World Radio

THE Byrd Antarctic Expedition is certainly proving to be its own publicity agent. The latest performance is reported to be the blowing of a motor-car horn in Los Angeles by means of a radio impulse sent from Byrd's camp. The same impulse drew curtains from an enlarged picture of Byrd at the National Radio Exposition at Los Angeles. These feats are certainly records in distance control!

TO overcome the difficulty experienced by navigators in judging the distance of a fog syren, an interesting experiment in wireless telephony is to be made in the near future at the Cumbrae lighthouse, in Scotland. After the sounding of each blast from the syren the words "one," "two," "three" will be transmitted at intervals corresponding to the time the sound waves would take to cover one mile. By noting the time lag between the reception of the wireless signal and the sound of the syren, mariners will be able to determine with fair accuracy how far their ship is from the source of sound. At the moment when the syren sounds the name of the station or lighthouse will be given.

The Telephone Jubilee

A Famous Pioneer

JUST fifty years ago the first telephone exchange was opened in London. It was not a very extensive affair, as it had only nine subscribers, but it worked, and worked successfully. It was the result of many long and strenuous years of research on the part of Alexander Graham Bell, the pioneer of the telephone.

Some twenty years after his birth in Edinburgh in 1847 Bell emigrated to Canada, and it was in this country that he developed the ideas that had been forming in his mind for some time. His inspiration was directly due to his experience as a teacher of the deaf and dumb. To teach the deaf to hear by means other than the spoken word was the task to which Bell devoted himself, and he spent much time in studying the mechanism of the human voice.

Tuning forks were employed in the initial experiments, and Bell succeeded in producing vowel sounds by means of them. Then his mind turned to the use of an electric current, and after many experiments, not all of which were successful, Bell produced a telephone receiver which may be called the prototype of the one in universal use to-day. In its essentials, at least, it was very similar. An interesting point at this stage of the development of the telephone is the fact that Bell's receiver and transmitter were identical in design.

It is well known that it is possible to speak over a short distance using only two receivers joined by a pair of wires, and it was by this method that Bell first succeeded in transmitting messages by wire. His interest in telephony did not finish after his initial success, for he invented what he called the "photophone," an apparatus for transmitting sound by means of light. In connection with this, it is interesting to discover that an apparatus designed for "hearing light and seeing sound" has recently been demonstrated in America.

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Sunday, December 15

1YA, AUCKLAND (900 KILOCYCLES)—SUNDAY, DECEMBER 15.

- 3.0 : Afternoon session—selected studio items.
 4.0 : Literary selection by the Announcer.
 4.8 : Studio items.
 5.0 : Children's session, conducted by Uncle Leo.
 6.55 : Relay of service from Strand Methodist Mission: Preacher: Rev. Scrimgeour, Song Leader: Rev. T. T. Garland.
 8.30: (approx.) Relay from Town Hall of concert by the Auckland Municipal Band, under the conductorship of Mr. Christopher Smith.
 9.45: Close down.

2YA, WELLINGTON (720 KILOCYCLES)—SUNDAY, DECEMBER 15.

- 3.0 : Afternoon session—selected studio items.
 6.0 : Children's song service, conducted by Uncle George.
 7.0 : Relay of service from The Terrace Congregational Church—Preacher: Rev. C. W. Wickham. Organist and Choirmaster: Mr. H. E. Brusey.
 8.15 (approx.): Relay from the Methodist Church, Lower Hutt, of the Cantata "The Messiah" (Handel), rendered by the Church Choir (augmented) and orchestra:
 Soloists:
 Soprano: Mrs. W. G. Schmidt.
 Contralto: Miss Constance Flamank.
 Tenor: Mr. C. A. Williams.
 Bass: Mr. John Prouse.
 Conductor: Mr. Ernest Dawson.
 Organist: Mr. C. R. Horman.
 Close down.

3YA, CHRISTCHURCH (980 KILOCYCLES)—SUNDAY, DECEMBER 15.

- 3.0 : Afternoon session—Selected gramophone items.
 5.30: Children's song service (children of the Anglican Sunday Schools).
 6.15: Chimes from studio.
 6.30: Studio concert.
 Choir and orchestra—Grand Irmier Choir, "Netherland Hymn" (Kremsner) (Parlophone A5001).
 Christchurch Broadcasting Trio, "Trio" (Bremner).
 Male choirs—Don Cossacks Choir, "How Greatly Our Lord is Magnified" (Bortnjarsky) (Columbia 02712).
 7.0 : Relay of service from St. Mary's Anglican Church, Merivale. Preacher, Rev. J. Rich (Subject—"Boy Scouts"). Organist and Musical Director, Mr. Alfred Worsley.
 8.15: (approx.) Relay from Dunedin of concert by the St. Kilda Band, under the conductorship of Mr. James Dixon.
 Close down.

4YA, DUNEDIN (650 KILOCYCLES)—SUNDAY, DECEMBER 15.

- 3.0 : Town Hall chimes.
 3.1 : Selected gramophone items.
 5.30: Children's song service, conducted by Big Brother Bill.
 6.30: Relay of service from Congregational Church, Moray Place: Preacher: Rev. Albert Mead. Choirmaster: Mr. Towns. Organist: Mr. McMillan.
 7.55: Weather report.
 8.5 : Relay from St. Kilda Band Rotunda of concert by the St. Kilda Band, under the conductorship of Mr. James Dixon.
 9.15: Close down.

Monday, December 16

1YA, AUCKLAND (900 KILOCYCLES)—MONDAY, DECEMBER 16.

- 8.0 : Relay from the New Regent Theatre, Morrinsville, of concert arranged by Mr. E. McGregor in aid of School Prize Fund. (Accompanist: Mrs. F. N. Stringfield).
 Instrumental trio—"Liebsgarten" (Schumann).
 Baritone solo—Mr. L. Echlin, "Blow, Blow, Thou Winter Wind" (Sargeant).
 Contralto solo—Mrs. J. J. Seales, "O For a Burst of Song" (Allitsen).
 Humorous song—Rev. C. W. Turner, "Burlesque Oratorio" (Carr-Jones).
 Tenor solo—Mr. E. Fielder, "Sometimes I Seem to Hear You" (L. Phillips).

- Pianoforte solo—Mrs. J. R. Wilson, "Rondo—Sonata in E Op. 14, No. 1" (Beethoven).
 Recital—Mr. J. F. Wells, "The Tin Tack."
 Baritone solo—Mr. F. N. Stringfield, "When the Sergeant Major's on Parade" (Longstaffe).
 Chorus—School Choir, "Forty Years On" (Farmer).
 INTERVAL.
 Instrumental trio—"Spanish Dance" (Moszkowski).
 Baritone solo—Mr. L. Echlin, "There's a Land" (Allitsen).
 Mezzo-soprano solo—Miss M. M. Strevens, "My Prayer" (Squire).
 Violin solo—Mr. T. Janeway, selected.
 Contralto solo—Mrs. J. J. Seales, "Soul of Mine" (Barnes).
 Recital—Mr. J. F. Wells, "The Silly Ass."
 Tenor solo—Mr. E. Fielder, "Requiem."
 Humorous song—Mr. W. Bolton, selected.
 Chorus—School Choir, "The Huntsmen's Chorus."
 Close down.

2YA, WELLINGTON (720 KILOCYCLES)—MONDAY, DECEMBER 16.

- 12 Noon: Relay description of third day of Wellington versus England cricket match at Basin Reserve.
 12.15: Studio items.
 1.0 : Relay description of Wellington versus England cricket match.
 1.15: Studio items.
 3.0 : Relay description of Wellington versus England cricket match.
 3.15: Studio items.
 4.0 : Relay description of Wellington versus England cricket match.
 4.15: Studio items.
 4.45: Final relay description of Wellington versus England cricket match.
 5.0 : Children's session, conducted by Uncle Jeff.
 6.0 : Dinner Session—"Columbia Hour":
 Intermezzo—Milan Symphony Orchestra, "Cavalleria Rusticana" (Mascagni) (02841).
 Selection—Herman Finck's Orchestra, "Schubertiana" (arrgd. Finck).
 Marimba Orchestra—"Three O'Clock in the Morning" (Robledo).
 6.27: Tacet.
 6.30: Bayreuth Festival Orchestra, "Siegfried—Prelude Act 3" (Wagner).
 Waltz—Eddie Thomas' Collegians, "Moments With You" (Shilkret).
 Waltz—Eddie Thomas' Collegians, "Moonlight on the Danube" (Gay).
 Wurlitzer organ—Stanley MacDonald, "La Rosita" (Dupont).
 6.43: Tacet.
 6.45: Selection—Regal Orchestra, "Pagliacci" (Leoncavallo) (Regal G30007).
 Marimba orchestra—"My Isle of Golden Dreams" (Blaufuss) (02635).
 6.57: Tacet.
 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—2YA Orchestra under the conductorship of Signor A. P. Truda, "Coriolanus" (Beethoven).
 8.9 : Tenor—Mr. W. Roy Hill, (a) "Farewell, But Whenever You Welcome the Hour" (trdtl. Irish); (b) "Dashing Away with the Smoothing Iron" (English folk song).
 8.16: Pianoforte—Miss Hazel Rowe, (a) "Rhapsody in B Minor" (Brahms), (b) "Arabesque No. 2" (Debussy).
 8.23: Glee—Ariel Singers, "Glorious Apollo" (Webbe).
 8.27: Symphony—2YA Orchestra, "Symphony No. 4 in B Minor—2nd Movement" (unfinished Symphony) (Schubert).
 8.35: Special studio presentation of the play "She Was No Lady" (St. John G. Irvine), under the direction of Mr. Victor S. Lloyd.

CAST.

Sir Alfred Pickles, K.B.E.: Victor S. Lloyd.
 Lady Pickles: Elsie Lloyd.
 Henry Learmouth (a private detective): H. A. Painter.
 Mrs. Graveney (a charlady): Susie Painter.

- 8.55: Suite—2YA Orchestra, "Lyric Suite" (Brahms-Beece).
 9.3 : Weather report.
 9.5 : Relay of organ recital by Mr. H. Temple White—(a) "Reve D'Amour" (Corbett), (b) "At Evening" (Kinder), (c) "Minster March" ("Lohengrin") (Wagner).
 9.20: Mezzo-contralto—Miss Ngairi Coster, (a) "Dawn, Gentle Flower" (Sterndale Bennett), (b) "Love's Whisper" (Willeby).
 9.27: Violin—Master Yehudi Menuhin, "La Capricciosa" (Ries).
 9.30: Bass with male voices—Mr. J. M. Caldwell, Sea Shanties—(a) "A-Roving" (b) "Blow the Man Down" (arrgd. Terry).
 9.35: Vocal duet—Miss Ngairi Coster and Mr. W. Roy Hill, "Nocturne" (Debza).
 9.39: Selection—2YA Orchestra, "Liebestraum" (Liszt).

Week-all Stations-to Dec. 22

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- 9.46: Bass—Mr. J. M. Caldwell, (a) "Joanny Cope" (Scottish trdtl.); (b) "Aye Fond Kiss" (Scottish trdtl.).
 9.53: Glee—Ariel Singers, "Fair Flora Decks the Flow'ry Ground" (Danby).
 9.57: Instrumental—2YA Orchestrina, "Dance Macabre" (Saint-Saens).
 10.3: Close down.

3YA, CHRISTCHURCH (980 KILOCYCLES)—MONDAY, DECEMBER 16.

- 3.0: Afternoon session—selected studio items.
 4.25: Sports results to hand.
 5.0: Children's session, conducted by "Scatterjoy."
 6.0: Dinner Session—"His Master's Voice" Hour:
 Overture—H.M. Coldstream Guards Band, "Poet and Peasant" (Suppe)
 Symphony Orchestra, "Love the Magician" (De Falla) (D1453).
 6.12: Tacet.
 6.15: March—United States Army Band, "Army and Marine" (Starke).
 Waltz—International Novelty Quartet, "Cuckoo" (Jonasson).
 Waltz—Jack Hylton's Orchestra, "Spanish Rose" (Pearson) (B5481).
 Xylophone—Sam Herman, "Al Fresco" (Zonophone BB53).
 6.27: Tacet.
 6.30: New Light Symphony Orchestra, "In a Clock Store" (Orth) (C1308).
 March—Royal Opera Orchestra, "Marche Hongroise" (Berlioz).
 Symphony Orchestra, "Spanish Dance" (De Falla) (D1453).
 6.42: Tacet.
 6.45: Schottische—International Novelty Quartet, "Lena" (Mewes).
 Pipe, organ, piano, trombone and harp—Shilkret's Rhythm Melodists,
 "When You're With Somebody Else" (Gilbert) (EA336).
 Waltz—Jack Hylton's Orchestra, "The Angelus was Ringing" (Damarrell) (B5481).
 March—United States Army Band, "American Spirit" (Buglione).
 6.57: Tacet.
 7.0: News session.
 8.0: Chimes.
 Studio concert by the Christchurch Municipal Band, under the conductorship of Mr. J. Noble, and assisting artists:
 8.1: March—Band, "Twentieth Century" (arrgd. Hume).
 8.14: Soprano—Mrs. Lucy O'Brien, "I Don't Suppose" (Trotiere).
 8.1: Violin and organ—De Groot and Terence Casey, "Parted" (Tosti).
 8.21: Contralto—Miss Mary Taylor, "Morning" (Speaks).
 8.25: Recital—Miss Winnie Andrew, "A Brilliant Speech" (Steer).
 8.33: Instrumental—Christchurch Broadcasting Trio, (a) "Once Upon a Time" (Lind); (b) "Andante Melodique" (Darcla); (c) "Serenade" (Herbert).
 8.43: Tenor and baritone duet—Mr. E. J. Johnson and Mr. T. G. Rogers, "Army and Navy" (Yates).
 8.50: Waltz—Band, "Birds of Paradise" (Rimmer).
 8.57: Vocal quartet—Valencia Quartet, "The Village Blacksmith" (Weiss).
 9.0: Weather report.
 9.2: Selection—Band, "Hiawatha" (Laurant).
 9.12: Contralto—Miss Mary Taylor, "Friend of Mine" (Sanderson).
 9.16: Accordion, banjo and string bass—Victoria Trio, "La Sorella Polka" (Gallini) (Zonophone A343).
 9.20: Recitals—Miss Winnie Andrew, (a) "A Wander Thirst" (Goult); (b) "Laugh and be Merry" (Masefield).
 9.24: Meditation—Band, "Sanctuary of the Heart" (Ketelbey).
 9.30: Baritone solo and vocal quartet—Mr. E. J. Johnston and Valencia Quartet, (a) "The Yeoman's Wedding Song" (Poniatowski); (b) "The Widow Malone" (Lever).
 9.34: Hymn—Band, "Now Thank We all our God" (Ord Hume).
 9.39: Tenor—Mr. T. G. Rogers, "Nirvana" (Adams).
 9.43: Instrumental—Christchurch Broadcasting Trio, "Rondo" (Reiseger).
 9.53: Vocal quartet—Valencia Quartet, "Drink to Me Only" (trdtl.).
 9.58: March—Band, "The Gipsy Caravan" (Oschielt).
 10.2: Close down.

4YA, DUNEDIN (650 KILOCYCLES)—MONDAY, DECEMBER 16.

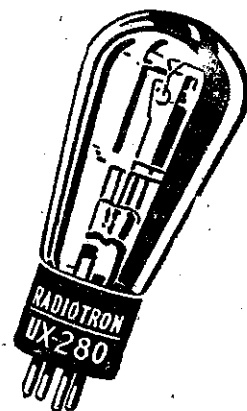
- 3.0: Town Hall chimes.
 3.1: Selected gramophone items.
 4.25: Sports results to hand.
 5.0: Children's session, conducted by Uncle Allan.
 6.0: Dinner Session—"Parlophone" Hour:
 Overture—Grand Symphony Orchestra, "Zampa" (Herold) (A4020).
 Waltz—Dajos Bela Orchestra, "Morgenblätter" (Strauss).
 6.12: Tacet.
 6.15: Orchestra of the Opéra Comique, Paris, "Scenes Pittoresques" (Masset) (A4057).
 Waltz—Edith Lorand Orchestra, "Vienna Waltz" (Drdla) (E10531).
 6.27: Tacet.
 6.30: Waltz—Dajos Bela Orchestra, "Marien Klänge" (Strauss) (A4038).
 Dajos Bela Orchestra, "Ideale" (Tosti) (A4015).
 Waltz—Edith Lorand Orchestra, "Merry Vienna" (Zishrer) (E10531).

- 6.42: Tacet.
 6.45: Waltz—Edith Lorand Orchestra, "Song of Autumn" (Waldteufel).
 March—Queenie and David Kaili, "Hawaiian March" (Ellis) (A2372).
 Valse intermezzo—Edith Lorand Orchestra, "The Flower's Dream" (Translateur) (E10570).
 Selection—H.M. Irish Guards, "The Desert Song" (Romberg) (A2433).
 6.57: Tacet.
 7.0: News session.
 8.0: Town Hall chimes.
 8.1: Selection—Orchestra, "Madame Pompadour" (Fall).
 March—Orchestra, "March Pontificale" (Gounod).
 8.15: Soprano solo and duet—Miss de Reya and Madame Carlson in excerpts from "The Vagabond King" (Friml): (a) "Some Day" (Friml); (b) "Only a Rose" (Friml).
 8.23: Recital—Mr. Angus Corrie—"Series with the Poets—Robert Browning" (Part 1).
 8.31: Overture—Orchestra, "Fingal's Cave" (Mendelssohn).
 8.39: Tenor—Mr. L. E. Dalley, "O Vision Entrancing" ("Esmeralda") (Goring Thomas).
 8.43: Cornet—Mr. J. Parker, "Forever With the Lord" (Gounod).
 8.47: Mezzo-soprano—Madame Carlson, excerpts from "The Vagabond King" (Friml): (a) "Love for Sale" (Friml); (b) "Huguette Waltz" (Friml).
 8.52: Mandolin—Maris de Pietro, "Concert Mazurka" (Calace).
 8.55: Chorus—Phil Ohman and chorus, selections from "Funny Face" (Arden) (H.M.V. BB28).
 9.0: Weather report.
 9.2: Instrumental—Orchestra, (a) "Gloria—Mass in G" (Mozart); (b) "Danny Boy" (arrgd. Baynes).
 9.11: Recital—Mr. Angus Corrie—"Robert Browning" (Part 2).
 9.21: Tenor—Mr. L. E. Dalley, (a) "Your Tiny Hand is Frozen" ("La Boheme") (Puccini); (b) "Open Thy Window" ("Iris") (Mascagni).
 9.28: Instrumental—Orchestra, (a) "Quoniam" (Mozart); (b) "Kol Nidrei" (Bruck).
 9.37: Vocal duets from "The Vagabond King" (Friml)—Madame Carlson and Miss de Reya, (a) "Love Me To-night" (Friml); (b) "When You Say" (Friml).
 9.45: Chorus—Phil Ohman and chorus—Selections from "Good News" (de Sylva) (H.M.V. BB28).
 9.47: Instrumental—Orchestra, (a) "Largo" (Handel); (b) "Les Platineurs" (Waldteufel).
 10.0: Close down.

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Tuesday, December 17

1YA, AUCKLAND (900 KILOCYCLES)—TUESDAY, DECEMBER 17.

- 3.0 : Afternoon session—selected studio items.
 4.0 : Literary selection by the Announcer.
 4.8 : Studio items.
 4.25 : Sports results to hand.
 5.0 : Children's session, conducted by Uncle George.
 6.0 : Dinner Session—"Columbia" Hour:
 Court Symphony Orchestra, "Princess Ida" selection (Sullivan) (987).
 Royal Guards Band, "The Merry Widow" waltz (Lehar) (117).
 6.12 : Tacet.
 6.15 : New Queen's Hall Orchestra, "Faust" Ballet Music (Gounod).
 6.27 : Tacet.
 6.30 : New Queen's Hall Orchestra, "Faust" Ballet Music (Gounod) (L1795).
 Halle Orchestra, "Rosamunde Overture" (Schubert) (04056).
 6.42 : Tacet.
 6.45 : Violin—Joseph Szigeti, "Minuet" (Debussy-Dushkin) (04076).
 London Symphony Orchestra, "Der Rosenkavalier" waltz (Strauss).
 6.57 : Tacet.
 7.0 : News and market reports.
 7.15 : Talk—Mr. George Campbell, "Motoring."
 7.40 : Talk—Mr. J. Barr, "The Art Gallery."
 8.0 : Chimes.
 8.1 : Special programme by the 1YA Broadcasting Choir under the conductorship of Mr. Len Barnes, assisted by the 1YA Orchestral Octet.
 8.1 : Band of H.M. Grenadier Guards, "Christmas Time in Merrie England" (Bennett) (Columbia 3184).
 8.9 : Choral—1YA Broadcasting Choir (a) "The First Nowell" (tradl.); (b) "Sleep, Holy Babe" (Dykes).
 8.17 : Tenor—Enrico Caruso, "Noel" (Adam) (H.M.V. DB139).
 8.21 : Cello—W. H. Squire, "Ave Maria" (Gounod) (D349).
 8.25 : Choral—1YA Broadcasting Choir, (a) "Hymn for Christmas Day" (Goss); (b) "Cradle Song of the Blessed Virgin" (Barnby).
 8.32 : Organ—Dr. A. W. Wilson, "Offertory on Two Carols" (Guilmant).
 8.40 : Weather report.
 8.43 : Presentation of the Christmas music from "The Messiah" (Handel) by the 1YA Broadcasting Choir, assisted by 1YA Orchestral Octet, Mr. Cyril Towsey (pianist) and Mr. Eric Waters (organist):
 Soloists: Soprano: Miss Millicent O'Grady.
 Contralto: Miss Hinemoa Rosieun.
 Tenor: Mr. Tom Moffitt.
 Baritone: Mr. Len Barnes.
 Conductor: Mr. Len Barnes.
 Overture—1YA Orchestral Octet.
 Tenor—Recitative and Aria, "Comfort Ye" and "Ev'ry Valley."
 1YA Broadcasting Choir, "And the Glory of the Lord."
 Baritone—Recitative and Aria, "Thus Saith the Lord," and "But Who May Abide?"
 Contralto—Recitative and Aria, "Behold! a Virgin Shall Conceive," and "O Thou That Tellest Good Tidings."
 Baritone—Recitative and Aria, "For Behold! Darkness Shall Cover the Earth," and "The People That Walked in Darkness."
 1YA Broadcasting Choir, "For Unto Us a Child is Born."
 1YA Orchestral Octet, "Pastoral Symphony."
 Soprano—Recitative, (a) "There Were Shepherds," (b) "And Lo! the Angel of the Lord."
 Soprano—Recitative (a) "And the Angel Said Unto Them," (b) "And Suddenly."
 1YA Broadcasting Choir, "Glory to God."
 Soprano—Aria, "Rejoice Greatly."
 Contralto—Recitative and Aria, "Then Shall the Eyes of the Blind" and "He Shall Feed His Flock."
 Soprano—Aria, "Come Unto Him."
 1YA Broadcasting Choir, "His Yoke is Easy."
 Soprano—Aria—"How Beautiful Are The Feet,"
 Baritone—Aria, "Why Do the Nations?"
 1YA Broadcasting Choir, "Hallelujah!"
 10.15 (approx.): Close down.

2YA, WELLINGTON (720 KILOCYCLES)—TUESDAY, DECEMBER 17.

- 12 Noon: Relay description of Fourth Day of Wellington versus England cricket match at Basin Reserve.
 12.5 : Studio items.
 1.0 : Relay description of cricket match.
 1.15 : Studio items.
 3.0 : Relay description of cricket match.
 3.15 : Studio items.
 4.0 : Relay description of cricket match.
 4.15 : Studio items.
 4.45 : Final relay description of cricket match.
 5.0 : Children's session, conducted by Uncle Jim.
 6.0 : Dinner Session—"His Master's Voice" Hour:
 Piccadilly Orchestra, (a) "My Beloved Gondolier" (Tobor), (b) "Souvenir De Capri" (Becca) (B2575).
 New Light Symphony Orchestra, "Just a Memory" (De Sylva) (EB18).
 Violin and kinema organ—Elsie Southgate, "I Hear You Calling Me" (Marshall) (Zonophone 5109).
 6.12 : Tacet.

- 6.15 : Waltzes—Marek Weber's Orchestra, "Potpourri of Waltzes" (Robert) (C1544).
 Waltz—Hilo Hawaiian Orchestra, "Sweet Hawaiian Dream Girl" (Williams) (Zonophone EE156).
 6.26 : Tacet.
 6.30 : New Light Symphony Orchestra, "Scene De Ballet Marionettes" (Glazounov) (B2754).
 Violin and kinema organ—Elsie Southgate, "Rose in the Bud" (Tate).
 New Light Symphony Orchestra, "Persiflage" (Francis) (B2754).
 Jack Hylton's Orchestra, "When the White Elder Tree Blooms Again" (Doelle) (C1616).
 6.44 : Tacet.
 6.45 : Salon Orchestra, "My Blue Heaven" (Whiting) (EB18).
 Waltz—Hilo Hawaiian Orchestra, "Sleepy Honolulu Town" (Earl).
 Jack Hylton's Orchestra, "I Kiss Your Hand, Madame" (Erwin).
 6.56 : Tacet.
 7.0 : News session, market reports and sports results.
 7.25 : Lecturette—Mr. W. J. Fergie, Publicity Branch, N.Z. Railways, "Excursions by Rail."
 7.40 : Lecturette—Representative, Agricultural Department, "For the Man on the Land."
 8.0 : Chimes of the G.P.O. clock.
 8.1 : Overture—2YA Salon Orchestra, under the conductorship of Mr. M. T. Dixon, "Stradella" (Flotow).
 8.9 : Tenor—Mr. Stewart Nelson, (a) "Now Sleeps the Crimson Petal" (Quilter), (b) "The Poplars of Flanders" (Le Clerq).
 8.16 : Comedienne—Mr. Winifred Birch-Johnston, "Rhoda Ran a Pagoda" ("San Toy") (Jones).
 8.20 : Instrumental trio—Messrs. W. Haydeck, S. Chapman and M. Dixon, "Second Valse in B Flat" (Bodard).
 Selection—2YA Salon Orchestra, "Cossack's Wedding Fete" (Krein).
 8.30 : Popular songs—Mr. Spencer Furrell, (a) "Sleepy Valley" (Hanley), (b) "When You Said Goodnight" (Donaldson).
 8.37 : Humour—Mr. Will Yates, "Buying a Bit of Fish" (Middlemiss).
 8.44 : Tenor—Mr. Stewart Nelson, "Jhelum Boat Song" (Woodforde-Finden).
 8.48 : Suite—2YA Salon Orchestra, "Hyde Park" Suite (Jalowiez).
 8.58 : Weather report.
 9.0 : Whistling solo—Mrs. Winifred Birch-Johnston, "Wonderful Land of Love" (Osborne).
 9.4 : Instrumental—2YA Salon Orchestra, Request Number.
 9.12 : Humour—Mr. Will Yates, "A Tram Car Romance" (Gilby).
 9.19 : Popular song—Mr. Spencer Furrell, "Avalon Town" (Brown).
 9.23 : Selection—2YA Salon Orchestra, "Virginia" (Haydn Wood).
 9.30 : "Columbia" Dance Programme:
 Foxtrot—Ben Selvin's Orchestra, "Broadway Melody" (Brown).
 Foxtrot—Leo Reisman's Orchestra, "My Castle in Spain is a Shack in the Lane" (Friend) (01544).
 Foxtrot—Broadway Nitelites, "You Were Meant for Me" (Brown).
 Foxtrot—The Knickerbockers, "That's the Good Old Sunny South" (Ager) (01544).
 9.42 : Entertainer—Norman Long, "What Did the Village Blacksmith Say?" (Squires) (01533).
 Foxtrot—Ben Selvin's Orchestra, "He, She and Me" (Lombardo).
 Foxtrot—Paul Whiteman's Orchestra, "Louise" (Whiting) (07022).
 Foxtrot—Ipana Troubadours, "Deep Night" (Henderson) (01530).
 —Paul Whiteman's Orchestra, "Blue Hawaii" (Baer) (07021).
 Waltz—Paul Whiteman's Orchestra, "My Angeline" (Wayne).
 10.0 : Vocal duet—Flotsam and Jetsam, "We Never Know What to Expect."
 Foxtrot—Piccadilly Players, "Make Believe" (Kern) (01408).
 Foxtrot—Jan Garber's Orchestra, "Guess Who?" (Davison) (01489).
 Foxtrot—Piccadilly Players, "Why Do I Love You?" (Kern) (01408).
 Foxtrot—Paul Specht's Orchestra, "My Annapolis and You" (Weinberg) (01539).
 10.15 : Organ—Frederic Curzon, "For Old Times Sake" (de Sylva).
 Foxtrot—Gil Dech's Syncopators, "My Mammy" (Lewis) (01520).
 Foxtrot—Stellar Dance Band, "If I Had You" (Shapiro).
 Foxtrot—Harry Reser's Syncopators, "Here Comes the Show Boat" (Rose) (01583).
 Foxtrot—Harry Reser's Syncopators, "Where Did You Get That Name?" (Klien) (01583).
 10.30 : Entertainer—Norman Long, "Overture 1929" (Carlton) (01533).
 Foxtrot—Gelder's Kettner Five, "Shout Hallelujah, 'Cause I'm Home" (Dixon) (G20476).
 Foxtrot—Paul Whiteman's Orchestra, "Nola" (Arndt) (07022).
 Foxtrot—Stellar Dance Band, "How About Me?" (Berlin).
 Foxtrot—Gelder's Kettner Five, "Happy Days and Lonely Nights" (Rose) (Regal G20476).
 Waltz—Paul Whiteman's Orchestra, "Coquette" (Berlin) (07021).
 10.48 : Vocal duet—Flotsam and Jetsam, "When I Grow Old, Dad" (01530).
 Foxtrot—Stellar Dance Band, "Flower of Love" (Dreyer).
 Foxtrot—Paul Whiteman's Orchestra, "Chinese Lullaby" (Bowers).
 Waltz—Gil Dech's Syncopators, "I'll Always Be in Love With You" (Ruby) (01520).
 Waltz—Stellar Dance Band, "Marie" (Berlin) (Regal G20486).
 11.0 : Close down.

3YA, CHRISTCHURCH (980 KILOCYCLES)—TUESDAY, DECEMBER 17.

SILENT DAY.

4YA, DUNEDIN (650 KILOCYCLES)—TUESDAY, DECEMBER 17.

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

- 4.25: Sports results to hand.
 5.0 : Children's session.
 6.0 : Dinner Session—"His Master's Voice" Hour:
 Selection—New Mayfair Orchestra, "Lilac Time" (Schubert-Clutsum).
 Royal Opera Orchestra, "Carmen Ballet No. 1" (Bizet) (C1424).
 6.12: Tacet.
 6.15: National Symphony Orchestra, "William Tell" overture (Rossini).
 6.27: Tacet.
 6.30: Royal Opera Orchestra, "Sylvia Ballet—Pizzicato and Procession of
 Bacchus" (C1418).
 Royal Opera Orchestra, "Carmen Ballet No. 2" (Bizet) (C1424).
 6.42: Tacet.
 6.45: Detroit Symphony Orchestra, "Spanish Rhapsody" (Chabrier).
 Philadelphia Symphony Orchestra, "Nocturne No. 2—Fetes" (Debussy) (E507).
 6.57: Tacet.
 7.0 : News session.
 8.0 : Town Hall chimes.
 Studio concert by the Kaikorai Band, under the conductorship of Mr.
 J. T. Kirk-Burnnand, and assisting artists:
 8.1 : Concert March—Band, "Half and Half" (Morris).
 Waltz—Band, "Valse on Melodies from 'Il Trovatore'" (arrgd. Sutton).
 8.11: Baritone—Mr. L. Stubbs, (a) "Muleteer of Malaga" (Trotiere); (b)
 "The Little Irish Girl" (Lohr).
 8.17: Recital—Miss Ngata Buswell, "Young Follow Me Lad" (Service).
 8.22: Instrumental—Band, "Two New Hungarian Dances" (Mullen).
 8.31: Soprano—Miss D. Sligo, "Il Bacio" (Arditi).
 8.35: Dialogue—Clapham and Dwyer, "Golf" (Clapham and Dwyer).
 8.41: Grand selection—Band, "The Mastersingers" (Wagner).
 8.53: Contralto—Miss Gwenda Burt, (a) "Until" (Sanderson), (b) "We'd
 Better Bide a Wee" (Claribel).
 9.3 : Weather report.
 9.5 : Piano and Orchestra, Raie da Costa, "When Day is Done" (de Sylva).
 9.13: Baritone—Mr. Les Stubbs, "Song of the Rover" (Georges).
 9.17: Humoresque—Band, "Musical Switch" (Alford).
 9.27: Recital—Miss Ngata Buswell, "Song of the Market Place" (Buckham).
 9.33: Saxophone—Arnold Brilhart, "Fascination" (Bernie).
 9.36: Soprano—Miss D. Sligo, (a) "Sing, Sing, Blackbird" (Phillips), (b)
 "Charming Chloe" (German).
 9.43: Valse de Concert—Band, "Golden Grain" (Trussell).
 9.49: Male quartet—Kentucky Jubilee Singers, "My Old Kentucky Home"
 (Foster) (Brunswick 4285).
 9.52: Contralto—Miss Gwenda Burt, (a) "Soul of Mine" (Barnes), (b) "A
 Little Coon's Prayer" (Hope).
 9.56: Fantasia—Band, "A Venetian Carnival" (Walton).
 10.2 : Close down.

Wednesday, December 18

1YA, AUCKLAND (900 KILOCYCLES)—WEDNESDAY, DECEMBER 18.

- 3.0 : Afternoon session—selected studio items.
 4.0 : Literary selection by the Announcer.
 4.8 : Studio items.
 4.25: Sports results to hand.
 5.0 : Children's session, conducted by Uncle Tom.
 6.0 : Dinner Session—"His Master's Voice" Hour:
 March—Sousa's Band, "The Gridiron Club" (Sousa) (EA591).
 Organ—Jesse Crawford, "I Love to Hear You Singing" (Wood).
 Cornet with band—H. Godard and Black Diamonds Band, "Absent"
 (Metcalfe) (Zonophone 1872).
 Aaronson's Commanders Orchestra, "Outside" (Flynn) (EA596).
 6.13: Tacet.
 6.15: Cello—Beatrice Harrison, "The Broken Melody" (Van Biene).
 Philharmonic Symphony Orchestra, (a) "Soldiers Changing the Guard"
 ("Carmen") (Bizet), (b) "March of the Smugglers" ("Carmen")
 (Bizet) (D1618).
 6.27: Tacet.
 6.30: Organ—Jesse Crawford, "Hawaiian Sandman" (Flynn) (EA585).
 Cornet with Band—H. Godard and Black Diamonds Band, "The Eng-
 lish Rose" (German, arrgd. Godfrey) (Zonophone 1372).
 Waring's Pennsylvanians, "Won't You Tell Me Why?" (Lewis).
 Violin and guitar—Gielletta Morini, "Could I" (Poggis) (EE134).
 6.42: Tacet.
 6.45: Philharmonic Symphony Orchestra, "Toccata and Fugue" (Bach).
 Sousa's Band, "The National Game" (Sousa) (EA591).
 6.57: Tacet.
 7.0 : News and market reports.
 7.40: Talk—Mr. Norman Kerr, "Physical Culture."
 8.0 : Chimes.
 8.1 : Overture—H.M. Grenadier Guards Band, "Ruy Blas" (Mendelssohn).
 8.5 : Lecture-Recital—Mrs. D. Basham, assisted by Miss A. McGruer,
 "Great Composers—Dvorak" (Part 1).
 8.20: Vocal duet—Madame Cora Melvin and Mr. Norman Day, "For You
 Alone" (Geehl).
 8.23: Violin—Yelly D'Aranyi, "Souvenir" (Drdla) (Columbia 03644).

- 8.27: Tenor—Mr. R. Errington, (a) "The Bloom is on the Rye" (Bishop),
 (b) "I Hear a Thrush at Eve" (Cadman).
 8.34: Dulcitone solos—Mr. Eric Waters, (a) "Minuet" (Boccherini), (b)
 "Spring Song" (Mendelssohn).
 8.43: Soprano—Madame Cora Melvin, "The Fairy Flute" (Oliver).
 8.47: String Octet—J. H. Squire Octet, "Evening Lullaby" (Squire).
 8.52: Talk—Mr. A. B. Campbell, M.A., Topical Talk.
 9.7 : Weather report.
 9.9 : Herman Finck's Orchestra, "Bacchanalia" (arrgd. Finck).
 9.17: Baritone—Mr. Norman Day, (a) "Sweet Sweet Lady" (Spruss); (b)
 "Our Little Home" (Conates).
 9.24: Lecture-Recital—Mrs. D. Basham, assisted by Miss A. McGruer, "Great
 Composers—Dvorak" (Part 2).
 9.39: Tenor—Mr. R. Errington, "Love's Garden of Roses" (Haydn Wood).
 9.43: Piccolo and Band—C. E. Bowen and Band of H.M. Grenadier Guards,
 "The Lark's Festival" (Brewen) (Columbia 02539).
 9.47: Soprano—Madame Cora Melvin, "June Music" (Trent).
 9.51: Xylophone and piano—Messrs. Eric Waters and R. A. Jury, (a) "Nola"
 (Arndt), (b) "Rainbow Ripples" (Green).
 9.59: Vocal duet—Madame Cora Melvin and Mr. Norman Day, "The Garden
 of Your Heart" (Dorel).
 10.2 : Close down.

2YA, WELLINGTON (720 KILOCYCLES)—WEDNESDAY, DECEMBER 18.

- 8.0 : Chimes of the G.P.O. clock.
 8.1 : Progress reports of Lower Hutt By-Election, interspersed with selected
 gramophone numbers.
 Close down.

3YA, CHRISTCHURCH (980 KILOCYCLES)—WEDNESDAY, DEC. 18.

- 3.0 : Afternoon session—Selected studio items.
 4.25: Sports results to hand.
 5.0 : Children's session conducted by "Mother Hubbard" and Uncle Frank.
 6.0 : Dinner session—"Columbia" Hour:
 March—National Military Band, "National Emblem" (Bagley) (01153).
 Cello—W. H. Squire, "The Broken Melody" (Van Biene) (04180).
 Albert Sandlers' Orchestra, "I Kiss Your Hand, Madame" (Erwin).
 Cinema organ—G. T. Pattman, "Cherie" Waltz (Valentine) (01344).
 6.12: Tacet.
 6.15: Selection—Court Symphony Orchestra, "The Gondoliers" (Sullivan).
 Paul Whiteman's Orchestra, "Gipsy" (Gilbert) (07505).
 6.27: Tacet.
 6.30: Albert Sandlers' Orchestra, "Chalita" (Schertzing) (01467).
 Marimbas—Padilla's Marimba Serenaders, "Paree" (Padilla) (Regal).
 Pianoforte—Gil Dech, "Sometolmes I'm Happy" (Youmans) (01205).
 Royal Serbian Tambouritzza Orchestra, "Serbian Melody" (01490).
 6.42: Tacet.
 6.45: Intermezzo—Ketelbey's Orchestra, "Bells Across the Meadows" (Ketel-
 bey) (02695).
 Marimbas—Rio Marimba Serenaders, "Dolores" Waltz (Waldteufel)
 (Regal G20344).
 Cinema organ—G. T. Pattman, "Worryin'" Waltz (Fairman) (01344).
 March—National Military Band, "Stars and Stripes" (Sauso) (01153).
 6.57: Tacet.
 7.0 : News session.
 7.30: Addington Stock Market reports.
 8.0 : Relay from the Civic Theatre of "The Messiah" (Handel), presented
 by the Royal Christchurch Musical Society under the conductorship
 of Mr. W. H. Dixon, L.R.A.M., A.R.C.M.

Soloists:

- Soprano Miss Gladys Brookes
 Contralto Miss Freeman Brown
 Tenor Mr. A. Perry
 Bass Mr. E. J. Woodward
 10.0 (approx.) Close down.

4YA, DUNEDIN (650 KILOCYCLES)—WEDNESDAY, DECEMBER 18.

- 3.0 : Town Hall chimes.
 3.1 : Selected gramophone items.
 3.45: Home Science Talk (arranged by 4YA Primary Productions Commit-
 tee), "Christmas Menus."
 4.25: Sports results to hand.
 5.0 : Children's session conducted by Big Brother Bill.
 6.0 : Dinner session—"Columbia" Hour:
 March—H.M. Grenadier Guards Band, "Martial Moments" (arrgd.
 Winter) (9065).
 Waltz—Eddie Thomas's Collegians, "Missouri Waltz" (Logan) (02553)
 6.12: Tacet.
 6.15: Violin and Wurlitzer organ—Marrnello, "Evening in the Desert" (Her-
 mite) (Regal G20420).
 Hawaiian—South Sea Islanders, "Dreamy Hilo Bay" (Heagney).
 March—Columbia Symphony Orchestra, "March of the Toys" (Herbert).
 Pianoforte solo—Percy Grainger, "Molly on the Shore" (Grainger).
 6.26: Tacet.
 6.30: Waltz—Eddie Thomas's Collegians, "Till We Meet Again" (Whiting).
 Waltz—Eddie Thomas's Collegians, "Beautiful Ohio" (Earl) (02651).
 Piccolo duet—Jean and Pierre Gennin, "Rippling Streams" (Gennin).
 6.41: Tacet.

- 6.45: Violin and organ—Marrnello, "Once" (Saunders) (Regal G20420).
 Xylophone—W. W. Bennett, "Gee Whiz" (Byron) (02575).
 Hawaiian—South Sea Islanders, "Lei Lani" (Heagney) (01162).
 Denza Dance Band, "In the Shadows" (Finck) (Regal G20451).
- 6.58: Tacet.
- 7.0: News session.
- 7.15: Lecturette, "The Farm Garden," Mr. F. Hollingsworth (arranged by 4YA Primary Productions Committee).
- 8.0: Town Hall chimes.
- 8.1: Overture—Symphony Orchestra, "Oberon" (Weber) (H.M.V. D1311).
- 8.9: Vocal duet—Miss Irene Horniblow and Miss Rita Holmes, "Awake" (Pelissier).
- 8.13: Recitals—Mr. Carl Moller, (a) "Christmas at Sea" (R. L. Stevenson), (b) "The Chairman's Remarks" (Anon).
- 8.21: Organ—Rowland Timms, F.R.C.O., "At Dawning" (Cadman) (H.M.V.).
- 8.24: Baritone—Mr. W. Ruffell, "Fishermid" (McDay).
- 8.27: Instrumental—Novelty Trio, (a) "On Top of the World Alone" (Whiting), (b) "By-and-By, Sweetheart" (Yellen), (c) "Louise" (Whiting).
- 8.37: Contralto—Miss Irene Horniblow, "Mignon" (Thomas).
- 8.41: Vocal chorus—Stuart Robison and chorus, (a) "Clementine," (b) "Solomon Levi," (c) "There is a Tavern in the Town," (d) "John Peel" (traditional) (H.M.V. B2992).
- 8.47: Instrumental—Novelty Trio, (a) "Breakaway" (Gottler), (b) "She's a New Kind of Old-Fashioned Girl" (Rose), (c) "I Lift Up My Finger and say 'Tweet, Tweet'" (Sarony).
- 8.57: Soprano—Miss Rita Holmes, "Flower of Love" (Mendoza).
- 9.1: Weather report.
- 9.3: Instrumental—Novelty Trio, (a) "Walking with Susie" (Gottler), (b) "That's Her Now."
- 9.10: Recital—Mr. Carl Moller, "Why Every Man Should Have a Wife" (Hayes).
- 9.14: Baritone—Mr. W. Ruffell, (a) "When My Ships Come Sailing Home" (Doree), (b) "Can't Remember" (Goatley).
- 9.21: Instrumental—Novelty Trio, (a) "Josephita" (Greer), (b) "The Twelve o'Clock Waltz" (Rose).
- 9.27: Vocal duet—Miss Irene Horniblow and Miss Rita Holmes, "The End of a Perfect Day" (Jacobs-Bond).
- 9.30: "Brunswick" Dance Programme:
 Foxtrot—Colonial Club Orchestra, "Florella" (Bryan) (4312).
 Foxtrot—Swanee Syncopators, "The One that I Love Loves Me" (Turk).
 Waltz—Eight Radio Stars, "Always in My Heart" (Drew) (4312).
 Vocal duet—Lester McFarland and Robert Gardner, "Birmingham Jail" (traditional) (293).
 Foxtrot tango—Colonial Club Orchestra, "Mi Amado" (Lewis) (4241).
 Foxtrot—Eight Radio Stars, "Under the Stars of Havanna" (Coleman).
 Foxtrot—Swanee Syncopators, "Honest" (Tucker) (4320).
 Foxtrot—Eight Radio Stars, "A Happy Ending" (Brown) (4311).
- 9.54: Vocal novelty—Al Bernard, "The Preacher and the Bear" (Arzonina).
 Foxtrot—The Captivators, "Building a Nest for Mary" (Rose) (4321).
 Foxtrot—Biltmore Hotel Orchestra, "I'm Walking Around in a Dream" (Lewis) (4337).
 Waltz—Copley Plaza Orchestra, "Pagan Love Song" (Freed) (4321).
- 10.6: Orchestra and chorus—Blue Ridge Ramblers, (a) "Who Broke the Lock on the Henhouse Door?" (Smith), (b) "She'll Be Coming 'Round the Mountain When She Comes" (traditional) (310).
 Foxtrot—Biltmore Hotel Orchestra, "Until You Get Somebody Else" (Kahn) (4337).
 Foxtrot—Arnold Johnson's Orchestra, "Breakaway" (Gottler) (4348).
- 10.18: Vocal duet—Lester McFarland and Robert Gardner, "Go and Leave Me If You Want To" (traditional) (293).
 Foxtrot—Arnold Johnson's Orchestra, "Big City Blues" (Gottler).
 Foxtrot—The Clevelanders, "What a Girl, What a Night" (Sanders).
 Waltz—Regent Club Orchestra, "Just an Old Love Affair" (Kahn).
- 10.33: Male quartet—Ritz Quartet, "Come West, Little Girl, Come West" (Kahn) (4328).
 Foxtrot—Belshaw's K.F.A.B. Orchestra, "Sweet Liza" (Hirsch) (4365).
- 10.39: Vocal duet—Frank Luther and Carson Robison, "My Tennessee Mountain Home" (Davis) (297).
 Foxtrot—Ray Miller's Orchestra, "That's a Plenty" (4224).
- 10.48: Male quartet—Ritz Quartet, "I'm Bringing a Red Red Rose" (Kahn).
 Foxtrot—Six Jumping Jacks, "Olaf" (Bibbs) (4219).
 Foxtrot—Ray Miller's Orchestra, "Angry" (Brunies) (4224).
 Foxtrot—Rhythm Aces, "Ace of Rhythms" (Smith) (7071).
- 11.0: Close down.

Thursday, December 19

1YA, AUCKLAND (900 KILOCYCLES)—THURSDAY, DECEMBER 19.

- 8.0: Afternoon session—programme presented by Messrs. Lewis Eady Ltd.
- 5.0: Children's session, conducted by Peter Pan.
- 6.0: Dinner Session—"His Master's Voice" Hour:
 New Mayfair Orchestra, "Love Lies" selection (de Sylva) (C1658).
 Salon Orchestra, (a) "Black Eyes," (b) "Two Guitars" (B2358).
 Violin and mustel organ—Elsie Southgate and her sister Dorothy, "When All Was Young" ("Faust") (Gounod) (Zonophone 1848).
- 6.13: Tacet.
- 6.15: Utica Jubilee Singers, "Angels Watching Over Me" (Negro Spiritual).

- Khriloff's Balalanka Orchestra, "Song of the Volga Boatmen" (Russian folk song) (EA48).
- Band of H.M. Coldstream Guards, "Teddy Bears Picnic" (Bratton).
- Hilo Hawaiian Orchestra, "Moana Chimes" (Mortzan).
- 6.27: Tacet.
- 6.30: Organ—Edward O'Henry, "Minuet in G" (Beethoven) (B2873).
 Orchestral and bird voices—Charles Kellog, with Victor Orchestra, (a) "Narcissus" (Nevin), (b) "Serenade" (Moszkowski) (EA107).
 New Mayfair Orchestra, "Waiata Maori" (Hill) (EA266).
- 6.42: Tacet.
- New Light Symphony Orchestra, "Spanish Dances Nos. 1, 2 and 3" (Granados) (C1574).
- 6.57: Tacet.
- 7.0: Book review.
- 7.15: News and market reports.
- 7.40: Talk—Mr. R. E. Champtaloup, "Road Conditions for Christmas Touring."
- 8.0: Chimes.
- 8.1: Presentation of the novelty programme "Don't Worry—We Won't!" by the "Minus Fives."
- 9.30: "Parlophone" Dance Programme:
 Foxtrot—Dorsey Brothers' Orchestra, "I'll Never Ask for More" (Turk) (A2827).
 Foxtrot—Sam Lanin's Players, "Susanna" (Williams) (A2790).
 Foxtrot—Carolina Club Orchestra, "Walking With Susie" (Gottler).
 Waltz—Oliver Naylor's Orchestra, "I'm Just a Vagabond Lover" (Valee) (A2827).
- 9.43: Hawaiian—Kalman's Quartet, "When Summer is Gone" (White).
 Foxtrot—Carolina Club Orchestra, "That's You Baby" (Gottler).
 Foxtrot—Southern Melody Artists, "When the World is at Rest" (Davis) (A2787).
 Waltz—Dajos Bela Orchestra, "Viennese Life" (Translatour).
 Waltz—Carolina Club Orchestra, "Underneath the Russian Moon" (Kendis) (A2787).
- 9.58: Novelty—Leslie Sarony, "I Lift Up My Finger and Say 'Tweet Tweet'" (Sarony) (A2766).
 Foxtrot—Sam Lanin's Players, "The Toymaker's Dream" (Golden).
 Foxtrot—Ambassador Hotel Coconut Grove Orchestra, "Glad Rag Doll" (Yellen) (A2772).
 Foxtrot—Sam Lanin's Famous Players, "Wedding of the Painted Doll" (Freed) (A2775).
 Round dance—Ball-room Dance Orchestra, "Paul Jones" (A2749).
- 10.16: Hawaiian—Kalama's Quarter, "Neapolitan Nights" (Kerr).
 Foxtrot—Ambassador Hotel Coconut Grove Orchestra, "A Love Tale of Alsace Lorraine" (Coots) (A2772).
 Foxtrot—Smith Bellw's Orchestra, "The Things That Were Made for Love" (Tobias) (A2831).
 Foxtrot—Sam Lanin's Players, "The One That I Love Loves Me" (Turk) (A2790).
 Foxtrot—Kit Kat Band, "Do Something" (Green) (A2831).
- 10.33: Novelty—Leslie Sarony, "Diddy-om-Bom-Bom" (Sarony) (A2766).
 Foxtrot—Smith Bellw's Orchestra, "I Kiss Your Hand, Madame" (Lewis) (A2765).
 Foxtrot—Sam Lanin's Famous Players, "Sweethearts on Parade" (Newman) (A2765).
 Foxtrot—Bob Stephen's Orchestra, "Thinking of You" (Kalmar).
 Waltz—Dajos Bela Orchestra, "Danube Waves" (Ivanovici) (A2829).
- 10.48: Vocal—Smith Bellw, "Honey" (Simons) (A2785).
 Foxtrot—Reser's Jazz Pilots, "Wedding Bells" (Kahal) (A2702).
 Foxtrot—Bob Stephen's Orchestra, "Up in the Clouds" (Kalmar).
 Foxtrot—Reser's Jazz Pilots, "Down Among the Sugar Cane" (Tobias).
 Foxtrot—Six Nihilites, "Avalon Town" (Grant) (A2782).
- 11.0: Close down.

2YA, WELLINGTON (720 KILOCYCLES)—THURSDAY, DECEMBER 19.

- 12 Noon: Chimes of the G.P.O. Clock.
- 12.1: Selected studio items.
- 3.30: Lecturette—Miss Flora Cormack, "Wedding Fashions 1929-1930."
- 4.30: Sports results to hand.
- 5.0: Children's session, conducted by Uncle George.
- 6.0: Dinner Session—"Columbia" Hour:
 Overture—Basil Symphony Orchestra, "Der Freischutz" (Weber).
- 6.12: Tacet.
- 6.15: J. H. Squire Celeste Octet, (a) "The Grasshoppers' Dance" (Bucalossi), (b) "The Butterfly" (Bendix) (3608).
 Musical Art Quartet—"To a Wild Rose" (McDowell) (01506).
 Violin—Yvonne Curti, "Madrigale" (Simonetti) (01529).
- 6.27: Tacet.
- 6.30: J. H. Squire Celeste Octet, (a) "I Love the Moon" (Rubens), (b) "Two Eyes of Grey" (McGeoch) (01213).
 J. H. Squire Celeste Octet, (a) "Amoureuse Valse" (Berger), (b) "Valse Bleue" (Margis) (3643).
- 6.42: Tacet.
- 6.45: J. H. Squire's Celeste Octet, "Valse Caprice" (Rubinstein) (02581).
 Cello—W. H. Squire, "Sarabande" (Seitzer) (04283).
 J. H. Squire Celeste Octet, "Perpetuum Mobile" (Weber, arrgd. Crooke).
- 6.57: Tacet.
- 7.0: News session, market reports and sports results.
- 7.30: Lecturette—"Road Conditions for Christmas Touring." (Lecture prepared by Mr. R. E. Champtaloup.)
- 7.45: Lecturette—Mr. A. E. Wilson, of the Government Tourist Department—"Tourist and Holiday Resorts."

- 8.0 : Chimes of the G.P.O. clock.
 Studio concert by the Wellington Artillery Band, under the conductorship of Captain T. Herd and assisting artists:
 8.1 : Fantasia—Band, "The Dawn of Spring" (le Duc).
 8.10 : Vocal quartet—Melodie Four, "Honey I Wants Yer Now" (Coe).
 8.14 : Tenor—Mr. Sam Duncan, "Silver Threads Among the Gold" (Wallace).
 8.18 : Cornet duet—Sergeant Bowman and Bandman Houchen, serenade—"Heart's Desire" (Schumman).
 8.23 : Recital—Mrs. M. Thomas, "Things That Matter" (Milne).
 8.29 : Baritone—Mr. R. S. Allwright, "Galway by the Sea" (Barclay).
 8.33 : Fantasia—Band, "Robin Adair" (Hartmann).
 8.43 : Contralto—Miss Gladys Hibberd, "Three Fishers Went Sailing" (Hullah).
 8.47 : Wurlitzer organ—Jesse Crawford, "My Sin" (de Sylva).
 8.50 : Vocal quartet—Melodie Four, Request Number.
 8.54 : Waltz—Band, "Toujours Tranquille" (Bordogni).
 9.0 : Weather report.
 9.2 : Tenor—Mr. Frank Bryant, "Roadways" (Lohr).
 9.6 : Humorous sketch—Clapham and Dwyer, "At the Races" (Clapham and Dwyer) (Columbia 01479).
 9.12 : Gavotte—Band, "Somewhere in France" (Homan).
 9.17 : Bass—Mr. W. W. Marshall, "The Carpet" (Sanderson).
 9.21 : Recitals—Mrs. M. Thomas, (a) "His First Long Trousers" (Guest); (b) "Tisn't Worth It" (Herbert).
 9.28 : Medley—Band, "A Melodious Revue" (arrgd. Rimmer).
 9.37 : Contralto—Miss Gladys Hibberd, (a) "I Am Not Fair" (Tosti). (b) "Requiem" (Homer).
 9.43 : Zonophone Salon Orchestra, (a) "Come, Sing to Me" (Thompson); (b) "For You Alone" (Geehl) (Zonophone 5337).
 9.49 : Vocal quartet—Melodie Four, "The Future Mrs. Hawkins" (Parks).
 9.53 : Intermezzo—Band, "Echoes from Yapville" (Beyer).
 March—Band, "Twentieth Century" (Hume).
 10.3 : Close down.

3YA, CHRISTCHURCH (980 KILOCYCLES)—THURSDAY, DEC. 19.

- 3.0 : Afternoon session—Selected studio items.
 4.25 : Sports results to hand.
 5.0 : Children's session conducted by Uncle John.
 6.0 : Dinner session—"Parlophone" Hour:
 Selection—Edith Lorand Orchestra, "La Boheme" (Puccini) (E10558).
 Waltz—Edith Lorand Orchestra, "La Serenade" (Metra) (E10522).
 Violin—Tossy Spiwakowsky, "Turkish March" (Beethoven) (A2561).
 6.12 : Tacet.
 6.15 : Waltz—Edith Lorand Orchestra, "Venetian Barcarolle" (Leoncavallo).
 Dajos Bela Instrumental Trio, (a) "Traumerel" (Schumann), (b) "Chant d'Automne" (Tchaikowsky) (E10573).
 Cello—Gregor Platigorsky, "The Swan" (Saint-Saens) (A2628).
 6.28 : Tacet.
 6.30 : Fantasia—Dajos Bela Orchestra, "La Traviata" (Verdi) (A4027).
 Waltzes—Royal Music-Makers, (a) "Kiss Me Again" (Herbert), (b) "Ah, Sweet Mystery of Life" (Herbert) (A2722).
 6.44 : Tacet.
 6.45 : Suite—Paris Opera Comique Orchestra, "Ballet Egyptien" (Luigini).
 6.57 : Tacet.
 7.0 : News session.
 7.30 : Farm chat, arranged by 3YA Primary Productions Committee, "Review of the Journal of Agriculture."
 8.0 : Chimes.
 Programme by the Christchurch Orchestral Society under the conductorship of Professor Savini, assisted by the Avonside Church Choir:
 Overture—"Hansel and Gretel" (Humperdinck).
 Suite—"Coppelia Ballet" (Delibes).
 Male choir—Don Cossacks, "Serenade" (Abt) (Columbia 02929).
 Orchestral—"Symphony in D" (Cesar Franck).
 Solo and female chorus—Gene Gerrard and chorus, "It" ("The Desert Song") (Romberg) (Columbia 01240).
 Weather report.
 Orchestral—"Hungarian Rhapsody No. 2" (Liszt).
 Male choir—Don Cossacks, "Evening Bells" (arrgd. Jaroff) (Columbia).
 Instrumental quartet—Miss Gladys Vincent, Mr. Francis Bate, Mr. Arthur Gordon, and Professor Savini, "Nocturne and Scherzo" ("Second Quartet") (Borodine).
 Orchestra assisted by Avonside Church Choir, "Parsifal—Act 1, Finale" (Wagner).
 10.0 : Close down.

4YA, DUNEDIN (650 KILOCYCLES)—THURSDAY, DECEMBER 19.

SILENT DAY.

Friday, December 20

1YA, AUCKLAND (900 KILOCYCLES)—FRIDAY, DECEMBER 20.

- 3.0 : Afternoon session—Selected studio items.
 4.0 : Literary selection by the Announcer.
 4.8 : Studio items.
 4.25 : Sports results to hand.
 5.0 : Children's session conducted by Nod and Aunt Jean.

- 6.0 : Dinner session—"Columbia" Hour:
 Orchestre Symphonique de Paris, "The Fire Bird" (Stravinsky): (1) The Enchanted Garden, (2) Entry and Dance of the Fire Bird, (3) The Fire Bird beseeches Prince Ivan to release her (04284-5).
 6.12 : Tacet.
 6.15 : Orchestre Symphonique de Paris, "The Fire Bird" (Stravinsky): (1) The Princesses Play with the Golden Apples, (2) Rondo of the Princesses, (3) Danse Infernale of King Kostchei and Demons.
 6.27 : Tacet.
 6.30 : Orchestre Symphonique de Paris, "The Fire Bird" (Stravinsky): (1) Interlude—Berceuse, (2) Finale—Marriage of the Fire Bird to Prince Ivan (04286).
 Pianoforte—Harriet Cohen, "Prelude and Fugue No. 1 in C Major" (Bach) (04273).
 6.42 : Tacet.
 6.45 : Violin—Toscha Seidel, "Chanson Arabe" (Rimsky-Korsakov) (09505).
 Basile Symphony Orchestra, "Invitation to the Waltz" (Weber) (02853).
 6.57 : Tacet.
 7.0 : News and information—Market reports.
 7.40 : Talk—Mr. W. G. E. Wheeler, "Esperanto."
 8.0 : Chimes.
 8.1 : Relay of concert from Lewis Eady Hall.
 8.30 : Royal Albert Hall Orchestra, "Chanson de Nuit" (Elgar) (H.M.V.).
 8.34 : Soprano—Mrs. L. Parry, "Open Thy Blue Eyes" (Massenet).
 8.38 : Instrumental—Studio Trio, "Chelsea China" Suite (Besly).
 8.47 : Tenor—John McCormack, "La Maison Grise" (Messager) (H.M.V.).
 8.51 : Pianoforte—Miss Edna Tye, "Polonaise" (MacDowell).
 8.55 : Recitals—Mr. A. McSkimming, (a) "Christmas at Sea" (Stevenson), (b) "The Lesson of the Watermill" (Dudley).
 9.2 : Weather report.
 9.4 : Royal Albert Hall Orchestra, "Fetes" (Debussy) (H.M.V. D1000).
 9.12 : Baritone—Mr. R. Richards, "Star of Bethlehem" (Adams).
 9.16 : Violin—Miss Ina Bosworth, "La Gitana" (Kreisler).
 9.20 : Mezzo-soprano—Miss Phyllis Tye, "To a Rose" (MacFadyen).
 9.24 : Recital—Mr. A. McSkimming, Shakespearean recital, "The Duke of Buckingham Before His Execution."
 9.30 : Royal Albert Hall Orchestra, "Pomp and Circumstance" (Elgar).
 9.34 : Soprano—Mrs. L. Parry, (a) "Angus Macdonald" (Roedel), (b) "Comin Thro' the Rye" (Old Scottish).
 9.41 : Instrumental—Studio Trio, "Rondo Alla Russe" (Trio Opus 96—Hummel).
 9.48 : Baritone—Mr. R. Richards, (a) "Country Folk" (Brahe), (b) "Only the River Running By" (Hopkins).
 9.54 : Piano and vocal—Misses Edna and Phyllis Tye, (a) "My Jewels" (mezzo-soprano solo) (Sanderson), (b) "Tarantelle" (pianoforte solo) (Nicode), (c) "Ringtime" (mezzo-soprano solo) (Brahe).
 10.4 : New Symphony Orchestra, "Nell Gwynn Dances" (German) (H.M.V.).
 10.10 : Close down.

2YA, WELLINGTON (720 KILOCYCLES)—FRIDAY, DECEMBER 20.

- 12 noon : Chimes of the G.P.O. clock.
 12.1 : Studio items.
 4.30 : Sports results to hand.
 5.0 : Children's session conducted by Big Brother Jack.
 6.0 : Dinner session—"His Master's Voice" Hour:
 Overture—National Symphony Orchestra, "Orpheus in Hades" (Offenbach) (Zonophone EF16).
 San Francisco Symphony Orchestra, "Caprice Viennois" (Kreisler).
 6.12 : Tacet.
 6.15 : New Light Symphony Orchestra, (a) "Spring Song" (Mendelssohn), (b) "Narcissus" (Nevin) (Zonophone EE111).
 San Francisco Symphony Orchestra, "Coppelia Ballet" (Delibes).
 Violin—Fritz Kreisler, "Tango Albeniz" (arrgd. Kreisler) (DA1009).
 6.28 : Tacet.
 6.30 : Philadelphia Symphony Orchestra, "Invitation to the Waltz" (Weber).
 San Francisco Symphony Orchestra, (a) "Serenade" (Moszkowski), (b) "Oriental" (Anber) (ED6).
 6.42 : Tacet.
 6.45 : San Francisco Symphony Orchestra, "Valse de Concert" (Glazounov).
 San Francisco Symphony Orchestra, "Liebeslied" (Kreisler) (ED6).
 6.57 : Tacet.
 7.0 : News session—Market reports and sports results.
 7.40 : Lecture—Mr. Walter F. Dudson, "Nervous Disorders."
 8.0 : Chimes of the G.P.O. clock.
 8.1 : Overture—2YA Orchestra under the conductorship of Signor A. P. Truda, "Lucia di Lammermoor" (Donizetti).
 8.10 : Vocal quartet—Etude Quartet, "Shepherdess and Beau Brocade" ("The Rebel Maid"—Montague Phillips).
 8.14 : Soprano—Miss Greta Stark, "The Pipes of Pan" ("The Arcadians"—Monckton).
 8.18 : Cello—W. H. Squire, "Prize Song" (Mastersingers of Nuremberg)—Wagner) (Columbia 04267).
 8.22 : Baritone and chorus—Mr. Ray Kemp and Etude Quartet, "West Country Lad" ("Tom Jones"—German).
 8.26 : Selection—2YA Orchestra, "Offenbach" (arrgd. Ansell).
 8.34 : Humour—Mr. and Mrs. Albert Russell, (a) "Ours is a Nice House" (Weston), (b) "Sweetest Little Feller" (St. John).
 8.44 : String quartet—Virtuoso Quartet, "Gavotte" ("Mignon"—Thomas) (H.M.V. B2784).
 8.47 : Tenor—Mr. Will Hancock, "Rose Marie" (Friml).

- 8.51: Vocal duet—Miss Gretta Stark and Mrs. Ray Kemp, "Night of Stars and Night of Love" (Tales of Hoffman)—Offenbach.
 9.55: Musical comedy selection—2YA Orchestrina, "The Pink Lady" (Caryl).
 9.3: Weather report.
 9.5: Soprano—Miss Gretta Stark, "Rackety Coo" ("Katinka"—Friml).
 9.9: Vocal duet—Mr. and Mrs. Ray Kemp, "Somebody" ("Florodora"—Stuart).
 9.13: Selection—2YA Orchestrina, "The Girl of the Golden West" (Puccini).
 9.23: Humour—Mr. and Mrs. Albert Russell, (a) "Suggestion" (Jackson). (b) "I Love You, Do You Love Me?" (Weston).
 9.30: Band of H.M. Grenadier Guards, "New Sullivan Selection" (arrgd. Godfrey) (Columbia 02731).
 9.38: Tenor—Mr. Will Hancock, "Afton Water" (Hume).
 9.42: Contralto—Mrs. Ray Kemp, "Alice Blue Gown" ("Irene"—Tierney).
 9.46: Violin—Jascha Jacobsen, "One Alone" ("The Desert Song"—Romberg) (Columbia 01123).
 9.49: Vocal duet—Mr. Will Hancock and Miss Gretta Stark, "Deep in My Heart, Dear" (Romberg).
 9.55: March—2YA Orchestrina, "March—Tannhauser" (Wagner).
 10.0: Close down.

3YA, CHRISTCHURCH (980 KILOCYCLES)—FRIDAY, DECEMBER 20.

- 3.0: Afternoon session—selected studio items.
 4.25: Sports results to hand.
 5.0: Children's session, conducted by "Storyman."
 6.0: Dinner Session—"Columbia" Hour:
 Medley—H.M. Grenadier Guards Band, "Sir Harry Lauder" medley (Lauder) (02750).
 Waltz—Symphony Orchestra, "Doctrinen" (Strauss) (02529).
 6.12: Tacet.
 6.15: Pianoforte solo—Gil Dech, "Wedding of the Painted Doll" (Freed).
 Pianoforte solo—Constance Mering, "So Dear" (Caesar) (01224).
 Waltz medley—Eddie Thomas' Collegians (02904).
 Saxophone—Rudy Wiedoeft, "Minuet" (Beethoven) (01176).
 6.28: Tacet.
 6.30: Mandolin Band—Circolo Mandolinistico, "La Traviata—Prelude Acts 1 and 4" (Verdi) (02568).
 Waltz—Symphony Orchestra, "When the Lemons Bloom" (Strauss).
 6.42: Tacet.
 6.45: Musical Art Quartet—"Mighty Lak a Rose" (Nevin) (01506).
 Saxophone—Rudy Wiedoeft, "Valse Mazanetta" (Wiedoeft) (01176).
 Pianoforte solo—Gil Dech, "I Kiss Your Hand, Madame" (Erwin).
 Instrumental—Eddie Thomas' Collegians, "Beautiful Ohio" (Earl).
 6.57: Tacet.
 7.0: News session.
 8.0: Chimes.
 8.1: Overture—National Symphony Orchestra, "Die Fledermaus" (Strauss).
 8.9: Vocal quartet—Melodious Four, "Rajah of Bhong" ("The Country Girl") (Monckton).
 Tenor solo and chorus—Mr. Russell Sumner and Melodious Four "Rose Marie" (Friml).
 8.16: Dance music—Bailey-Marston Dance Orchestra, (a) "Sunrise to Sunset" (Nichols), (b) "Breakaway" (Conrad), (c) "Louise" (Robin).
 8.26: Contralto and tenor duet—Miss B. Renaut and Mr. Russell Sumner, "Quarrelling" ("The Country Girl") (Monckton).
 Chorus—Melodious Four, "You Swear to be Good and True" ("Dorothy") (Cellier).
 8.33: Selection—H.M. Coldstream Guards Band, "H.M.S. Pinafore" (Sullivan) (H.M.V. C1283).
 8.41: Chorus—Melodious Four, "Geisha" (Jones).
 8.45: Dance music—Bailey Marston Dance Orchestra, (a) "That's You Baby" (Conrad), (b) "I'm Just a Vagabond Lover" (Vallee), (c) "The Toymaker's Dream" (Golden).
 8.55: Soprano and tenor duet—Miss Frances Hamerton and Mr. Russell Sumner, "Indian Love Call" ("Rose Marie") (German).
 Vocal quartet—Melodious Four, "Madrigal" ("Tom Jones") (German).
 9.1: Weather report.
 9.4: Xylophone—Sam Herman, "Al Fresco" (Herbert) (Zonophone EE53).
 9.7: Contralto—Miss Belle Renaut, "As All the Maids" ("Tom Jones" (German).
 9.10: Duologue—John Henry and Blossom, "Joe Murgatroyd's Letter" (Henry) (H.M.V. B2930).
 9.16: Soprano—Miss Frances Hamerton, "Pipes of Pan" (Monckton).
 9.20: Dance music—Bailey Marston Dance Orchestra, (a) "I've Never Seen a Smile Like Yours" (Frazier), (b) "Blossoms" (Dietrich), (c) "The One That I Love Loves Me" (Turk).
 9.31: Bass—Mr. T. D. Williams, "A Chip of the Old Block" (Squire).
 Contralto and bass duet—Miss Belle Renaut and Mr. T. D. Williams "No More" ("Monsieur Beaucaire") (Messenger).
 9.37: Organ—Reginald Foort, "In the Heart of the Sunset" (Nicholls).
 9.41: Chorus—Melodious Four, "Barley Mow" ("Tom Jones" (German).
 9.45: Dance music—Bailey Marston Dance Orchestra, (a) "Old Man Sunshine" (Warren), (b) "Querida" (Simon).
 Dance Music—Bailey Marston Dance Orchestra:
 "Ten Little Miles from Town" (Kahn).
 "Sweethearts on Parade" (Lombardo).
 "Wedding of the Painted Doll" (Turk).
 "Jericho" (Myers).
 "I Wanna Go Places and do Things" (Henderson).
 Dance music by the Bailey-Marston Dance Orchestra until 11 p.m.
 11.0: Close down.

4YA, DUNEDIN (650 KILOCYCLES)—FRIDAY, DECEMBER 20.

- 3.0: Town Hall chimes.
 3.1: Selected gramophone items.
 4.25: Sports results to hand.
 5.0: Children's session, conducted by Aunt Sheila.
 6.0: Dinner session—"His Master's Voice" Hour:
 March—American Legion Band, "The Conqueror" (Teike).
 Selection—Savoy Orpheans, "Lido Lady" (Rogers) (C1310).
 6.12: Tacet.
 6.15: New Light Symphony Orchestra, "Rustic Wedding Symphony" (Goldmark) (C1210).
 Victor Olof Instrumental Sextet, "To a Water Lily" (Macdowell).
 Wurlitzer organ—Reginald Foort, "Just Like a Darby and Joan" (Gilbert) (B2775).
 6.28: Tacet.
 6.30: Jack Hylton's Orchestra, "The Selfish Giant" (Coates) (C1253).
 Victor Olof Instrumental Sextet, (a) "To a Wild Rose" (Macdowell), (b) "In Autumn" (Macdowell) (B2690).
 Violin and Wurlitzer organ—De Groot and Terence Casey, "Parted" (Tosti) (B2920).
 6.44: Tacet.
 6.45: Victor Symphony Orchestra, "Dance of the Hours" (Ponchielli).
 Wurlitzer organ—Reginald Foort, "Love Lies" (Kellard) (B2775).
 March—American Legion Band, "Iowa Corn Song" (arrgd. Beetson).
 6.58: Tacet.
 7.0: News session.
 8.0: Town Hall chimes.
 8.1: Instrumental—Celeste Quintette, "Praeludium" (Jarnefelt).
 8.11: Contralto—Miss Ida Lungley, "Swing Low, Sweet Chariot" (Negro Spiritual, arrgd. Burleigh).
 8.15: Pianoforte—Mrs. Rou Spackman, (a) "Serenade" (Spackman), (b) "Callirhoe" (Chaminade).
 8.20: Tenor—Mr. H. Drew, (a) "Silent Noon" (Vaughan Williams), (b) "Far Across the Desert Sands" (Woodforde-Finden).
 8.27: Recital—Miss Tui Northey, "The Woman who Understands" (Appleton).
 8.31: Instrumental—Celeste Quintette, violin and pianoforte duets, (a) "Passee," (b) "Romance," (c) "Agitato" ("Pensees Fugitives") (Heiler and Ernest).
 8.41: Soprano—Miss Lettie de Clifford, (a) "A Birthday" (Cowan), (b) "Sing, Joyous Bird" (Phillips).
 8.48: Cello—Felix Salmon, "Kol Nidrei" (Bruch) (Columbia 04190).
 8.56: Baritone—Mr. Arthur Lungley, "Onaway, Awake, Beloved" (Cowan).
 9.0: Weather report.
 9.2: Instrumental—Celeste Quintette, "Andante Cantabile" (Opus 11) (Tchaikowsky).
 9.14: Contralto—Miss Ida Lungley, (a) "I Got a Robe"; (b) "O Peter Go Ring a Dem Bells" (Negro Spirituals—arrgd. Burleigh).
 9.21: Recitals—Miss Tui Northey, (a) "Spanish Waters" (Masfield), (b) "An Incident" (Anon).
 9.27: Tenor—Mr. H. Drew, "Che Gelida Manina" (Puccini).
 9.31: Instrumental—Celeste Trio, "Opus 63, No. 1, Trio in G Major" (Sitt).
 9.37: Soprano—Miss Lettie de Clifford, "Hark to the Pipes of Pan" (Monckton).
 9.43: Instrumental—Celeste Quintette, "Gopak" (Moussorgsky).
 9.53: Bass—Mr. A. Lungley, (a) "The Devout Lover" (White), (b) "The Volga Boatmen" (trdtl.).
 9.57: Selection—Columbia Symphony Orchestra, "Idilio" (Lack).
 10.1: Close down.

Saturday, December 21

1YA, AUCKLAND (900 KILOCYCLES)—SATURDAY, DECEMBER 21.

- 3.0: Afternoon session—Selected studio items.
 4.0: Literary selection by the Announcer.
 4.8: Studio items.
 4.25: Sports results to hand.
 5.0: Children's session conducted by Cinderella.
 6.0: Dinner session—"Brunswick" Hour:
 Oshanetsky's Orchestra, (a) "Nu-Ma-Calca-Pe Picior" (Hora Batutu), (b) "Prince Carol" (Sirba) (67104).
 International Concert Orchestra, "Aisha" (Lindsay) (77009).
 6.12: Tacet.
 6.15: International Concert Orchestra, "Gipsy Love" Waltz (Lehar) (77009).
 Organ—Eddie Dunstedter, "Carolina Moon" (Davis) (4292).
 Violin—Godfrey Ludlow, "Andantino" (Lemare) (4165).
 Orchestral—The A. and P. Gipsies, "Rosette" Waltz (Newman) (3982).
 6.28: Tacet.
 6.30: Balalaika Orchestra, (a) "Fantasy on 'Song of India,'" (b) "Dance Oriental" (77006).
 Ritz Quartet, (a) "Come West, Little Girl, Come West" (Kahn) (4328).
 6.42: Tacet.
 6.45: Pianoforte—Ignace Hillsberg, "Rush Hour in Hong-Kong" (Chasins).
 Anglo-Persians Orchestra, "Dance of the Paper Dolls" (Tucker) (4299).
 Violin—Frederic Fradkin, "A Kiss in the Dark" (De Siba) (4318).
 United States Military Band, "Official West Point March" (Agner).
 6.57: Tacet.
 7.0: News and information—Market reports.

- 7.10 : Talk—Mr. G. D. Rutter, "The Flower Garden."
 8.0 : Chimes.
 8.1 : Relay from the Town Hall of concert by the Auckland Municipal Band under the conductorship of Mr. Christopher Smith.
 10.0 : "Columbia" Dance Programme:
 Foxtrot—Ketner Five Orchestra, "I Can't Give You Anything But Love" (Fields) (Regal G20423).
 Foxtrot—Ipana Troubadours, "S Wonderful" (Gershwin) (01316).
 Foxtrot—Ambassador's Band, "I Just Roll Along" (Trent) (01338).
 Waltz—Paul Whiteman's Orchestra, "Blue Hawaii" (Baer) (07021).
 10.16 : Organ—Milton Charles, "Love's Old Sweet Song" (Molloy) (01161).
 Foxtrot—Don Voorhee's Orchestra, "Ol' Man River" (Kern) (01406).
 Foxtrot—Campus Boys, "I've Got a Feeling I'm Falling" (Link).
 Waltz—The Cavaliers, "Lady Divine" (Shilkret) (01543).
 Waltz—Piccadilly Band, "A Room with a View" (Coward) (01420).
 10.32 : Vocal duet—Layton and Johnstone, "Carolina Moon" (Davis) (01550).
 Foxtrot—Golden's Orchestra, "She's Got Great Ideas" (Tobias) (01159).
 Foxtrot—Don Voorhee's Orchestra, "Can't Help Lovin' Dat Man" (Kern) (01406).
 Waltz—Paul Whiteman's Orchestra, "My Angeline" (Wayne) (07020).
 Waltz—The Cavaliers, "Underneath the Russian Moon" (Gusman).
 10.45 : Vocal duet—Layton and Johnstone, "I Kiss Your Hand, Madame" (Erwin) (01550).
 Foxtrot—All-Star Trio, "Perfume of Roses" (Donovan) (Regal).
 Foxtrot—Ambassadors' Band, "Wake Up, Chill'un, Wake Up" (Trent).
 Foxtrot—Cafe Royal Band, "Me and the Man in the Moon" (Leslie) (Regal G20492).
 Waltz—Eddie Thomas's Collegians, "Billie" (Henderson) (01584).
 11.0 : Close down.

2YA, WELLINGTON (720 KILOCYCLES)—SATURDAY, DECEMBER 21.

- 12 noon : Chimes of the G.P.O. clock.
 12.1 : Selected studio items.
 3.30 : Sports results to hand.
 5.0 : Children's session conducted by Uncle Toby and Aunt Gwen.
 6.0 : Dinner session—"Parlophone" Hour:
 Waltzes—Dajos Bela Orchestra, (a) "Sulamith" (Hansen-Milde), (b) "Minuet" (Nicholls) (E10571).
 Dajos Bela Orchestra, "Eldgaffeln" (Landen) (A4009).
 6.12 : Tacet.
 6.15 : Frank Westfield's Orchestra, "Classica" (arrgd. Tilsley) (A2195).
 Organ—Sigmund Krumgold, "Indian Love Call" (Primi) (A2339).
 Waltz—Dajos Bela Orchestra, "You, Only You" (Arnold) (E10592).
 6.27 : Tacet.
 6.30 : Selection—Raie da Costa Ensemble, "Tunny Face" (Gershwin) (A4074).
 Waltz—Dajos Bela Orchestra, "The Sphinx" (Poppy) (E10592).
 6.42 : Tacet.
 6.45 : Orchestra Mascotte, (a) "The Flower's Dream" (Translateur), (b) "Whispering of the Flowers" (Von Blon) (A2559).
 Organ—Sigmund Krumgold, "Gipsy Love Song" (Herbert) (A2339).
 Dajos Bela Orchestra, "Electric Girl" (Helmburgh-Holmes) (E10571).
 6.58 : Tacet.
 7.0 : News session—Market Reports and sports results.
 7.40 : Lecturette—Mr. F. M. Ryan, "Fire Protection."
 8.0 : Chimes of the G.P.O. clock.
 8.1 : Overture—2YA Salon Orchestra under the conductorship of Mr. M. T. Dixon, "Musical Jig-Saw" (Aston).
 8.9 : Tenor—Mr. Chas. Williams, "The One of All the World" (Lohr).
 8.13 : Instrumental novelty—Mrs. Milfred Kenny's Guitar Orchestra, (a) "My Hula Queen" (Clark), (b) "Love Dreams" (Mendoza).
 8.20 : Vocal quartet—Lyric Quartet, "In Absence" (Buck).
 8.24 : Wurlitzer organ—Jesse Crawford, "You're the Cream in My Coffee" (de Sylva) (H.M.V. EA601).
 8.27 : Baritone—Mr. Will Goudie, (a) "Easter Lilies" (Maxwell), (b) "Cloze Props" (Charles).
 8.34 : Musical comedy selection—2YA Salon Orchestra, "Lady Be Good" (Gershwin).
 8.42 : Comic song—Mr. Jack Wilkinson, "Watching the Train Come In" (Pleasants).
 8.48 : Contralto—Miss Violet Roberts, "Joy Bird" (Barnes).
 8.52 : Instrumental—2YA Salon Orchestra, request number.
 9.0 : Weather report.
 9.2 : Vocal quartet—Lyric Quartet, (a) "I Don't" (Parks), (b) "Go Ask Papa" (Parks).
 9.6 : Instrumental novelty—Mrs. Mildred Kenny's Guitar Band, (a) "Blue Hawaii" (Baer), (b) "Off to Hawaii" (Smith).
 9.13 : Bass—Mr. W. Binet Brown, "Roll On, Deep Blue Ocean" (Petrie).
 9.17 : Song at piano—Mr. W. A. Gatheridge, "I Need Love" (Bennett).
 9.21 : Instrumental—2YA Salon Orchestra, (a) "I Love You Truly" (Jacobs-Bond), (b) "Just a Wearyin' for You" (Jacobs-Bond).
 9.29 : Contralto—Miss Violet Roberts, "I Heard a Bluebird Singing" (Major).
 9.33 : Accordeon—Johnnie Sylvester, (a) "Ciribiribin" (Pestalozza), (b) "O Sole Mio" (di Capua) (Regal G20351).
 9.39 : Humour—Mr. Jack Wilkinson, Burlesque Monologue, "The Wreck of the Nancy Gluepot" (Conner).
 9.46 : Vocal quartet—Lyric Quartet, "Sally in Our Alley" (Parks).
 9.50 : Dance novelties—2YA Salon Orchestra, Latest Foxtrot and Waltz Numbers.
 10.0 : "Brunswick" Dance Programme:
 Foxtrot—Six Jumping Jacks, "The Whoopee Hat Brigade" (Siegel).

- Foxtrot—Cotton-Pickers, "No Parking" (Chase) (4440).
 Foxtrot—Six Jumping Jacks, "Piccolo Pete" (Baxter) (4457).
 Bob Haring's Orchestra, "I Love You" (Fisher) (4458).
 10.12 : Vocal—Al Jolson, "Liza" (Kahn) (4402).
 Foxtrot—Cotton-Pickers, "St. Louis Gal" (Robinson) (4440).
 Foxtrot—Cotton-Pickers, "Moanin' Low" (Dietz) (4446).
 Foxtrot—Lyman's Californian Orchestra, "Suzanna" (Ward) (4423).
 Foxtrot—Al Goodman's Orchestra, "After Thinking It Over" (Davis).
 Foxtrot—Bob Haring's Orchestra, "Song of Siberia" (Lewis) (4493).
 10.30 : Organ and vibraphone—Lew White, "Honey" (Simons) (4386).
 Foxtrot—Lyman's California Orchestra, "Junior" (Donaldson) (4423).
 Foxtrot—Bob Haring's Orchestra, "At Close of Day" (Klages) (4458).
 Waltz—Colonial Club Orchestra, "My Song of the Nile" (Bryan) (4486).
 10.45 : Vocal duet—Dixie Stars, "Sweet Mandy" (4459).
 Foxtrot—Carl Fenton's Orchestra, "The World's Greatest Sweetheart" (Razaf) (4467).
 Foxtrot—Colonial Club Orchestra, "If You Believed in Me" (Gilbert).
 Foxtrot—Carl Fenton's Orchestra, "Smiling Irish Eyes" (Ruby) (4467).
 Foxtrot—Carl Fenton's Orchestra, "Love is a Dreamer" (Green) (4466).
 11.0 : Close down.

3YA, CHRISTCHURCH (980 KILOCYCLES)—SATURDAY, DEC. 21.

- 3.0 : Afternoon session—Selected studio items.
 4.25 : Sports results to hand.
 5.0 : Children's session conducted by Aunt Pat (Relay from Wirth's Circus).
 6.0 : Dinner session—"His Master's Voice" Hour:
 Overture—National Symphony Orchestra, "Light Cavalry" (Suppe) (Zonophone EE102).
 Waltz—Chicago Symphony Orchestra, "Roses of the South" (Strauss).
 "Cello—Pablo Casals, "Moment Musicale" (Schubert) (DA776).
 6.13 : Tacet.
 6.15 : Hawaiian—Hilo Hawaiian Orchestra, (a) "Kawaihan Waltz" (Kela-kai), (b) "My Yula Love" (B2799).
 Medley waltz—The Troubadours, "Popular Songs of Yesterday" (EB33).
 "Cello—Pablo Casals, "Le Cygne" (Saint-Saens) (DA776).
 6.27 : Tacet.
 6.30 : Waltzes—International Concert Orchestra, (a) "The Merry Widow" (Lehar), (b) "Luxembourg Waltz" (Lehar) (Zonophone BF9).
 Violin and guitar—Guilietta Morini, (a) "Harlequin's Serenade" (Drigo), (b) "Could I?" (Poggis) (Zonophone EE134).
 6.44 : Tacet.
 6.45 : New Light Symphony Orchestra, (a) "The Dancing Doll" (Poldini), (b) "At Dawning" (Cadman) (B2629).
 Wurlitzer organ—Jesse Crawford, "Carolina Moon" (Davis) (EA536).
 Royal Opera Orchestra, "The Sleeping Beauty" (Tschalkowsky).
 6.58 : Tacet.
 7.0 : News session.
 7.30 : Sports results to hand.
 8.0 : Chimes.
 Special relay from Wirth Brothers' Circus, after the conclusion of which a dance programme will be presented till 11 p.m.
 "His Master's Voice" Dance Programme:
 Foxtrot—Rhythmic Eight, "Don't Be Like That" (Gottler) (Zono.).
 Foxtrot—Jack Hyllton's Orchestra, "Sweetheart of All My Dreams" (Fitch) (EA540).
 Foxtrot—Arcadians Dance Orchestra, "Pokee-Okee-Oh" (Butler) (Zonophone EE155).
 Foxtrot—Jack Hyllton's Orchestra, "I Lift Up My Finger and Say 'Tweet, Tweet'" (Sarony) (EA540).
 Wurlitzer organ—Jesse Crawford, "A Precious Little Thing Called Love" (Davis) (EA536).
 Foxtrot—Geo. Olsen's Music, "I'm Bringing a Red, Red Rose" (Kahn).
 Foxtrot—Nat Shilkret's Orchestra, "One for All, All for One" (Trent).
 Foxtrot—Heidi's Orchestra, "I'm Ka-ra-zy for You" (Jolson) (EA539).
 Waltz—Arcadians Dance Orchestra, "Anita" (Pollack) (Zono. EE154).
 Waltz—Arcadians Dance Orchestra, "That Old-time Organ Melody" (Carlton) (Zonophone EE155).
 Contralto—Lupe Velez, "Mi Amado" (My Beloved) (Lewis) (EA535).
 Foxtrot—Geo. Olsen's Music, "Come West, Little Girl, Come West" (Kahn) (EA537).
 Foxtrot—Nat Shilkret's Orchestra, "I'm Thirsty for Kisses, Hungry for Love" (Davis) (EA528).
 Foxtrot—Nat Shilkret's Orchestra, "Some Sweet Day" (Shilkret).
 Foxtrot—Waring's Pennsylvanians, "My Mother's Eyes" (Gilbert).
 Wurlitzer organ—Jesse Crawford, "Carolina Moon" (Davis) (EA536).
 Foxtrot—"Kassels in the Air," "He, She, and Me" (Newman) (EA532).
 Foxtrot—Park Central Orchestra, "Sally of My Dreams" (Kernell).
 Waltz—Connecticut Yankees, "Coquette" (Berlin) (EA532).
 Waltz—Nat Shilkret's Orchestra, "Lady Divine" (Shilkret) (EA531).
 11.0 : Close down.

4YA, DUNEDIN (650 KILOCYCLES)—SATURDAY, DECEMBER 21.

- 3.0 : Town Hall chimes.
 3.1 : Selected gramophone items.
 4.25 : Sports results to hand.
 5.0 : Children's session, conducted by Uncle Bill.
 6.0 : Dinner session—"Columbia" Hour:
 Selection—H.M. Grenadier Guards Band, "Merrie England" (German).
 Bournemouth Municipal Orchestra, "Idylle Bretonne" (Gennin).

- 6.12: Tacet.
 6.15: Waltz—Jacque Jacobs Ensemble, "L'Estudiantina" (Waldteufel).
 Plaza Theatre Orchestra, (a) "A La Gavotte" (Finck), (b) "Minuet" (Finck) (01439).
 March—H.M. Grenadier Guards Band, "Old Panama" (Alford).
 6.27: Tacet.
 6.30: Ketelbey's Concert Orchestra, "The Sacred Hour" (Ketelbey) (01528).
 Sandler's Orchestra, "Someday, Somewhere" (Rapee) (01521).
 Bournemouth Municipal Orchestra, "Fluttering Birds" (Gennin).
 6.43: Tacet.
 6.45: Musical Art Instrumental Quartet, (a) "Mighty Lak' a Rose" (Nevin);
 (b) "To a Wild Rose" (McDowell) (01506).
 Sandler's Orchestra, "Sonny Boy" (de Sylva) (01506).
 March—H.M. Grenadier Guards, "Dunedin" (Alford) (01535).
 6.57: Tacet.
 7.0: News session.
 8.0: Special "Pioneers' Night" programme:
 Chimes given by ship's bell "S.S. Magnet" (1840).
 8.1: The voyage out to Otago in 1848—traditional sea chanties and various incidents relating to transport in the early days—Early Sea Captains.
 8.31: The arrival of the first immigrant ship in Otago (1848). Maori hakas and Maori songs of welcome, presented by the Otakou (Otago) Maoris, under the direction of Mr. Leslie Brown.
 Maori Legend—Mr. Steele.
 9.0: Weather report.
 9.2: The settlement of Otago (1848): Traditional Scottish songs of 1848.
 A "Round the Microphone" chat on early days by early identities and Big Brother Bill; Traditional Scottish songs by early settlers (instruments to be used in this section—(1) The first organ in Otago (1851); (2) Oboe actually played in the presence of Robert Burns; (3) First piano made in New Zealand (1861); (4) First pipe organ made in Otago (1885); (5) Calling apparatus employed for first telephone between Invercargill and Bluff; (6) Historic bagpipes actually played at the Relief of Lucknow—Piper McDonald, (a) "The Campbell's Are Coming" (trdtl.); (b) Auld Lang Syne" (trdtl.).
 10.0: "Columbia" Dance Programme:
 Foxtrot—Ipana Troubadours, "Building a Nest for Mary" (Greer).
 Slow foxtrot—Piccadilly Players, "Bogey Wall" (Wallace) (01567).
 Foxtrot—Ipana Troubadours, "I Used to Love Her in the Moonlight" (Fiorito) (01617).
 Waltz—Rhythmic Troubadours, "My Irish Paradise" (Tilsley).
 10.12: Vocal duet—Layton and Johnstone, "Lady Divine" (Shilkret) (01658).
 Foxtrot—Piccadilly Players, "I'll Always be Mother's Boy" (Green).
 Foxtrot—Paul Whiteman's Orchestra, "When My Dreams Come True" (Berlin) (07024).
 Foxtrot—Piccadilly Players, "There'll Be You and I" (Green) (01639).
 Foxtrot—Piccadilly Players, "I'm Tickled to Death I'm Me" (Butler).
 10.27: Kinema organ—Regal Kinema Organ, "Long Ago" (Elliott).
 Foxtrot—Lou Gold's Orchestra, "Walking With Susie" (Gottler).
 Foxtrot—Paul Whiteman's Orchestra, "Reaching for Someone" (Leslie) (07024).
 Foxtrot—Bert Lown's Loungers, "Big City Blues" (Gottler).
 Waltz—Cafe Royal Band, "Forever" (Yellen) (Regal G20551).
 Waltz—The Cavaliers, "My Dear" (Kahn) (01646).
 10.45: Vocal solo—Ruth Eitting, "You're the Cream in My Coffee" (de Sylva).
 Foxtrot—Paul Whiteman's Orchestra, "S'posin'" (Ruzaf) (07027).
 Foxtrot—Piccadilly Players, "My Mother's Eyes" (Baer) (01646).
 Foxtrot—Paul Whiteman's Orchestra, "Laughing Marionette" (Collins).
 Foxtrot—Lou Gold's Orchestra, "Breakaway" (Gottler).
 11.0: Close down.

Sunday, December 22

1YA, AUCKLAND (900 KILOCYCLES)—SUNDAY, DECEMBER 22.

- 3.0: 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.
 6.55: Relay of special Christmas service from the Baptist Tabernacle—
 Preacher: Rev. Joseph Kemp. Organist: Mr. Arthur E. Wilson.
 (To be followed by short musical programme until 8.45 approx.)
 Studio concert:
 8.45: Vocal quartet—Dora Labbette, Harold Williams, Hubert Eisdell, Dennis Noble, Robt. Easton and Halle Chorus and Orchestra—"The Apostles—By the Wayside" (Elgar) (Columbia 02593).
 Instrumental—Studio Trio, "Three Cuban Dances" (Cervantes).
 Tenor—Arthur Jordan, "Flower Song" ("Carmen") (Bizet).
 Pianoforte—Mr. Eric Waters, "Butterfly" (Coleridge-Taylor).
 Vocal duet—Dora Labbette and Norman Allin, "In Springtime" (Newton) (Columbia 01101).
 Choral—St. George's Chapel Choir, "Magnificat in D Minor" (Walmisley) (Columbia 9174).
 Instrumental—Studio Trio, "Rondo—Trio Op. 35" (Hummel).
 Contralto—Eileen Boyd, "Husheen" (Needham) (Columbia 0773).
 London Symphony Orchestra, "Homage March" ("Sigurd Jorsalfar") (Grieg) (Columbia L1749).
 Close down.

2YA, WELLINGTON (720 KILOCYCLES)—SUNDAY, DECEMBER 22.

- 3.0: Chimes of the G.P.O. clock.
 3.1: Relay from De Luxe Theatre of a lecture entitled "Christian Science—The Science of Spiritual Cansation," by Hon. William E. Brown, C.S.B., Member of the Board of Lectureship of The Mother Church, The First Church of Christ, Scientist, in Boston, Massachusetts.
 6.0: Children's song service, conducted by Uncle George.
 7.0: Relay of service from Taranaki Street Methodist Church—Preacher: Rev. T. R. Richards. Organist and Choirmaster: Mr. H. Temple White.
 8.15 (approx.): Studio concert by the Wellington City Silver Band, under the conductorship of Mr. C. A. Forrest, and assisting artists:
 Hymn—Band, "Abide With Me" (Monk).
 Selection—Band, "Echoes of Mendelssohn" (Greenwood).
 Soprano—Miss Jeanette Briggs, L.A.B., "Rejoice Greatly" ("Messiah") (Handel).
 Bass—Mr. J. M. Caldwell, "Hear Me Ye Winds and Waves" (Handel).
 Carols—Band, (a) "Christians Awake"; (b) "Hark the Herald Angels Sing"; (c) "Come All Ye Faithful" (trdtl.).
 Tenor—Mr. Chas. Edwards, "The Lord is my Light" (Allitsen).
 Cello with organ—W. H. Squire, (a) "Sarabande" (Sulzer); (b) "Ave Verum" (Mozart, arrgd. Squire) (Columbia 04283).
 Vocal duet—Miss Jeanette Briggs and Mr. J. M. Caldwell, "Grateful Consort" ("The Creation") (Haydn).
 Euphonium solo with band accompaniment—Bandsman W. A. Baker, "The Village Blacksmith" (Round).
 Weather report.
 Overture—Vienna Philharmonic Orchestra, "Morning, Noon and Night" (Suppe) (H.M.V. C1667).
 Soprano—Miss Jeanette Briggs, L.A.B., "The Midshipman" (del Riego).
 Selection—Band, "Favourite Melodies" (Raymond).
 Bass—Mr. J. M. Caldwell, "To-morrow" (Keel).
 Vocal duet—Walter Glynn and Stuart Robertson, "The Moon Hath Raised Her Lamp Above" (Benedict) (H.M.V. B2979).
 Waltz—Band, "Druid's Prayer" (Davson).
 Tenor—Mr. Chas. Edwards, "Inter Nos" (McFadyen).
 March—Band, "Preciosa" (Devere).
 Close down.

3YA, CHRISTCHURCH (980 KILOCYCLES)—SUNDAY, DECEMBER 22.

- 2.45: Relay from grounds of Christchurch Hospital of programme by the massed bands of Christchurch and the Royal Christchurch Musical Society.
 5.30: Children's song service (children of the Presbyterian Sunday Schools).
 6.15: Chimes from the Studio.
 6.30: Studio concert:
 Instrumental—Paul Whiteman's Orchestra, "Silent Night, Holy Night."
 Instrumental—Paul Whiteman's Orchestra, "Christmas Melodies."
 Choral—Manchester Cathedral Choir, "The Crimson Sun Had Set" (Grantham, arrgd. Greatheed) (Columbia 02741).
 Organ solo—Dr. A. W. Wilson, "Chorale Prelude on the Old 104th Psalm" (Parry) (Columbia 02741).
 Choral—Choir of St. George's Chapel, Windsor, "Thanksgiving Service" (on the occasion of the King's recovery): 1. National Anthem; 2. Psalm of Thanksgiving (Columbia 02936).
 Orchestral—Zurich Tonhalle Orchestra, "Concerto Grosso in D Minor" (Vivaldi) (Columbia 02932).
 7.0: Relay of service from St. Andrew's Presbyterian Church—Preacher: Rev. James Gibb, M.A., D.A. Musical Director: Mr. J. Maclean. Organist: Mr. Robert Lake.
 8.15: Relay from Dunedin of concert by the St. Kilda Band, under the conductorship of Mr. James Dixon.
 Close down.

4YA, DUNEDIN (650 KILOCYCLES)—SUNDAY, DECEMBER 22.

- 3.0: Town Hall chimes.
 3.1: Selected gramophone items.
 5.30: Children's song service, conducted by Big Brother Bill.
 6.30: Relay of service from Central Methodist Mission, the Octagon:
 Preacher: Rev. G. B. Hinton. Choirmaster: Mr. Mortley Peake. Organist: Mr. Chas. A. Martin.
 7.55: Weather report.
 8.5: Relay from Band Rotunda, St. Kilda, of concert by the St. Kilda Band, under the conductorship of Mr. James Dixon.
 9.15: Close down.

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Theory and Construction of Frame Antennae

Concluded from Last Week

By "CATHODE"

LAST week's instalment was concluded with a description of the method of using an aerial and a ground with a loop antenna to increase the signal strength. This is one of the easiest and most commonly used methods, but probably the best method of increasing the volume of sound produced from this arrangement is, as with ordinary receivers, the use of regeneration, or the feeding back of signals into the grid circuit of the detector valve. In an ordinary receiver this is brought about by very many methods. The usual is a swinging coil, a continuation of the grid coil, controlled by either a series or a parallel variable condenser, or a fixed condenser and a means of varying the voltage on the plate of the detector. These methods can in general be applied to a receiver using a loop.

Tabulating the methods we get:—

1. Loop antenna applied in parallel to the grid coil of a normal receiver and regeneration applied by the usual method.
2. A series coil as in diagram 1.
3. Reinartz method of a tapped inductance and a series condenser. (Diagram 2.)

In view of the wide application of reaction to loop antenna these methods must be elaborated a little.

1. Parallel coil. Where it is desired to use a frame antenna with an existing receiver without in any way altering the wiring, probably the most convenient arrangement is that of employing the loop in parallel to the grid coil of the detector or radio frequency valve. This method merely consists of attaching one end of the loop to the aerial terminal and one to the earth. Reaction is applied in the usual method.

This system enables the experimenter to make a simple preliminary test to determine what measure of efficiency the loop antenna will possess. There is no necessity to disturb the wiring of the receiver. It should be noted in this case, however, that since the coil and the frame are in parallel the effective inductance of the two will be less than either singly, so that the total inductance

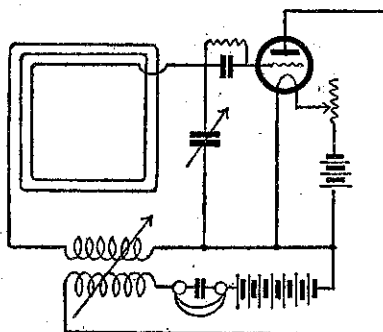
$$L \text{ equals } \frac{L_1 \times L_2}{L_1 + L_2}$$

where L_1 and L_2 are the inductances of the grid coil and the frame antenna respectively. It is apparent then to obtain maximum efficiency that both the grid coil and the loop must have a greater inductance than usual, in other words, both coils must be enlarged.

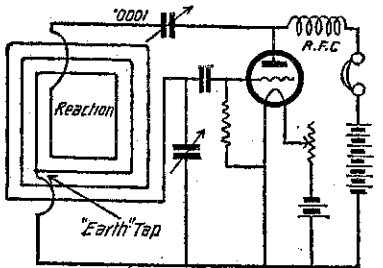
2. The method of obtaining the reaction by placing the coil in series with the frame is shown in the diagram. The size of the coil between the loop and the filament return need only be 20 or 25 turns, while the reaction coil should be as small as possible consistent with getting oscillation control over the whole tuning

band of the receiver. It should be noticed, however, that if this coil is too large it will not be possible to tune up to the higher frequencies, unless also the size of the loop is reduced.

Since, however, the application of the above method will require a certain alteration of the receiver it will be worth making further alterations in order to further increase the efficiency. Where there is so little damping the control of reaction becomes a matter requiring a little added skill and the use of the swinging coil becomes rather clumsy and in some ways difficult to control. The method known as throttle control gives wonderful ease of adjustment though it means the introduction of two extra components. A high frequency choke must be introduced between the swinging coil and the phones. From the side of this nearest the coil a connection must be taken to the fixed vanes of the .00025



A Method of obtaining Reaction on Loop



Reinartz type Circuit for Loop

Diagram I, upper; II, lower.

moving condenser. The moving vanes are connected with A +. In practice it is found that smooth and progressive control of reaction is given by this method, for it has less effect on the tuning than has the method employed with swinging coil. It is free from any possibility of any mechanical backlash such as may exist in a moving coil holder.

3. The most widely used method is that known as the Reinartz system. Assuming that the frame consists of twelve to fourteen turns on a 2ft. side, a further three to five turns should be wound on for reaction. The direction of winding must be the same as for the frame. The actual number of

turns depends upon the method of winding employed, and the valves and "B" battery used. The extra turns are employed on the "A" battery side. A series condenser characteristic of the Reinartz circuit is employed between the plate and the extra turns. The value of this condenser need not even have a greater value than .0001 in view of the low damping of the frame.

Construction of a Loop.

FROM the foregoing remarks it will be seen that the amount of energy dealt with by the frame is very small and it is clear that the greater distance between the two upright portions of the winding, the greater will be the difference in voltage reduced. It is, therefore, an advantage to keep the size of the frame large than small. In building a loop for a receiver the safest method is to use an excess of wire to begin with. After a loop is wound a low frequency broadcasting station should be tuned in. If the dial setting of the loop tuning condenser is much too low, wire should be removed from the loop. Take off half a turn at a time.

The inductance of the loop and the maximum capacity of a tuning condenser used with it determine the lowest frequency to which the combination will be resonant. Ideal conditions cannot exist and it is necessary to make certain compromises. The smaller the condenser the better the results, but a very small condenser cannot adequately cover the broadcast band. Furthermore the distributed

capacity of the loop forms a much larger proportion of the whole capacity of the circuit when the variable condenser is a small one, and this distributed capacity does not enter to the variable portion which alters the resonance to different frequencies. It will be found that a tuning condenser of .00025 mfd. capacity is slightly too small for loop work in many cases. With a carefully constructed loop, having the wires well spaced, a .00035 condenser will generally cover the entire range. A .0005 condenser will be still easier to tune and the signal power will be reduced only slightly.

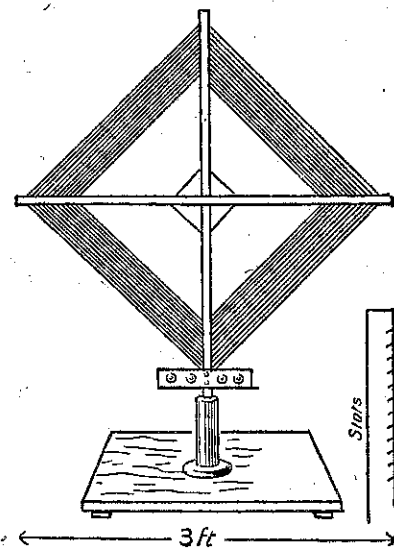


Diagram III.

Loops with a few turns have a greater range of tuning than those with many turns. The problem is to cover the whole band of frequencies with a condenser small enough to en-

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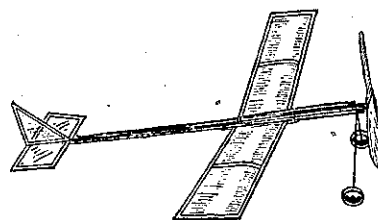
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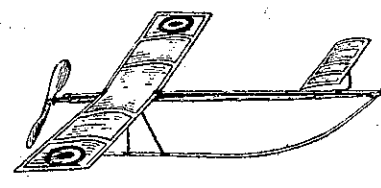
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sure good results. With such a combination not only must the tuning condenser be of small value but the distributed capacity of the loop must likewise be kept at a minimum. By using a large condenser and a small loop the change of capacity in the condenser between minimum and maximum settings is great enough to avoid trouble in tuning, but the signal will not be as strong.

The length of wire in a loop has no direct bearing on the wavelength to be tuned. The frequency depends entirely upon the inductance of the loop and its distributed capacity.

A loop, like any other coil, has an inductance which is desirable, and a distributed capacity which is undesirable. Inductance is increased by using more turns, greater length in each turn and greater spacing between each turn. Distributed capacity is reduced by using fewer turns and more spacing between the turns. It will be seen that these requirements oppose one another, and it is necessary to design a loop which will satisfy both. There is more, or less, a critical spacing beyond which additional spacing does not greatly reduce the distributed capacity. For a loop only 2ft. square the gain with spacing greater than 1-8in. becomes less noticeable. For a loop 4ft. square this critical spacing is somewhat less than 3in. and so the spacing increases with the increase

in size of the loop. The following table shows the number of turns required on box loops of various dimensions, when used with tuning condensers from .00025 to .0005 mfd. The loops are considered as being square. Rectangular loops having the same area as a given square will be identical. In the case of a spiral loop the dimensions apply to the average turn.

ON a frame 2ft. square 500 metres would tune in on 12 turns, which would require about 98 feet of wire; 300 metres on 9 turns, or about 74 feet; 180 metres on 6 turns or 50 feet. Lower wavelengths would require fewer turns. Many taps are not actually required, because the parallel tuning condenser in the aerial circuit of the receiver gives a wide range. Twelve turns will be ample for any broadcast reception, and it is a good idea to take a tap at the centre or sixth turn, and one at the ninth. One system of tapping is to merely scrape away the insulation at desired points, and make connection by means of a clip attached to the lead. Dead ends are not desirable in frame aerials, so if short-wave is to be worked it would be a good plan to bring out the ends of both halves separately at the sixth turn and connect together to put the whole in series, or use only one winding of six turns, further reducing it by clip connections as mentioned. Two laths one

inch by half an inch will be required, 3 feet and 3 feet 6 inches in length respectively. The shorter one is fixed by its centre at right angles to the longer at a distance of 18 inches from one end of the latter by "halving." Further security is obtained by fastening on a 4-inch square of 3-ply or 3-8in.

thoroughly dry, and after cutting the slots, should be well shellaced, getting the shellac well into the cuts.

To obtain stability of the cross-piece, two short pieces of wood may be screwed to the upright as shown in diagram. Ends of wires may be secured by passing through a hole drilled in the strips, or may be connected to

Turns Required for Rectangular Loops.

Length of side in Inches—Square Loop.
or
Area of Rectangular Loop.

Condenser Capacity in Mfds.	10x10	12x12	14x14	16x16	18x18	20x20	25x25	30x30	35x35
.00025	100	144	196	256	324	400	625	900	1225
.00035	—	—	22	20	18	17	14	12	11
.0005	—	21	18	16	15	13	11	10	9
.001	16	13	11	10	9	9	7	6	6

Spacing 1-inch Between Turns.

	10x10	12x12	14x14	16x16	18x18	20x20	25x25	30x30	35x35
.00025	100	144	196	256	324	400	625	900	1225
.00035	—	—	—	—	23	20	16	14	12
.0005	—	—	24	20	18	16	13	11	10
.001	22	17	14	12	11	10	8	7	6

wood, as shown in the diagram. 20, terminals on a small square of ebonite or 22 s.w.g. enamelled copper wire is the best to use.

Before putting the cross pieces together they must be slotted to take the wire. The slots are made with a saw, the slots, sloping diagonally, can be sawn in two strips at one operation, and if held in a vice with a waste strip outside each side, there will be no fear of breaking out the small pieces of wood between the slots, which are 3in. apart. Just the same effect will be obtained by drilling holes 1-8in. apart and threading the wire through which is rather a tedious operation. Brass (not iron) tacks should be used on one edge of the strips as a makeshift idea. It is important that the wood used be of a good solid kind and

as shown.

The lower extremity of the upright is rounded to fit the centre of an old wire spool, from which one flange may be removed. This is screwed to a baseboard and allows of the frame being rotated with ease. If a calibration scale is required for direction-finding, the top flange of the spool should be left intact, and upon it a cardboard scale marked in degrees can be fixed. A pointer of wire or a large needle is then attached to the upright.

No useful work can be done with loop aerials in connection with crystal sets, and an outside aerial will give better volume than a loop, but loses the advantages of the frame aerial's selectivity.

Tips and Jottings

Cutting Threaded Rod.

WHENEVER a length of threaded rod is to be cut, much trouble in trimming up the cut end will be saved if a die is first run on the rod. After the cut has been made, either with a hack-saw or a pair of wire-cutting pliers, the die is run off again over the cut end, leaving a clean thread for nuts to be put on. This eliminates the necessity of filing the end after cutting.

Topping-up Accumulators.

WHEN it becomes necessary to compensate for the evaporation of the electrolyte in an accumulator, care should be taken to add distilled water only. If ordinary tap-water is used, injury to the plates may be caused by the presence of metallic impurities introduced through this medium. Also, if the experimenter makes his own electrolyte from strong sulphuric acid and distilled water, the acid should always be added to the water and never vice versa. This will prevent the acid from "spitting" and perhaps causing injury by splashing on the

hands or clothes. Should acid from an accumulator be spilt, however, it should be neutralised immediately by liberal applications of ammonia or of a strong soda solution.

Overhauling the Aerial System.

THE approach of the finer days inevitably heralds that much belated operation—spring cleaning. This, however, should serve to jog the memory of the keen wireless enthusiast that attention must be turned to the aerial system. During the winter months the insulators will have collected a considerable amount of dirt and grime, and it will well repay any expenditure of time if the whole aerial is lowered, the insulators thoroughly washed and the aerial wire itself examined for any signs of defects. If the wire is beginning to corrode it is better to replace it, while the lead-in wire should also be overhauled. The earth lead must not be forgotten, together with the actual connections between this wire, or wires and the particular type of earth in use. Due attention to these details will produce a sense of satisfaction that as far as this part of the receiving station is concerned doubts as to unreliability need not exist.

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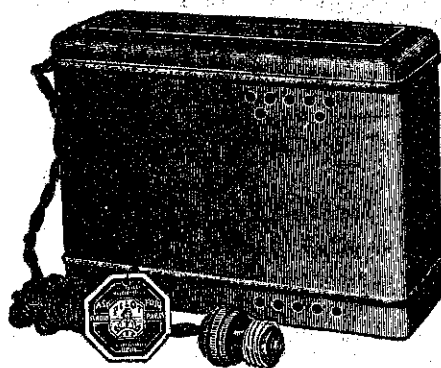
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Stations Heard in New Zealand

The following list is a continuation of the stations reported to be heard in New Zealand:—

Argentinian Stations.

	Metres	Kilocycles
LOL—Buenos Aires—2000 watts	236	1270
LON—Buenos Aires—5000 watts	210	1430
LOQ—Buenos Aires—3000 watts	261.8	1145
LOS—Buenos Aires—5000 watts	291.2	1030

Ceylon Station.

	Metres	Kilocycles
Colombo—1500 watts	800	375

Chinese Stations.

	Metres	Kilocycles
COMK—Mukden—2000 watts	425	705
GOW—Victorio—1500 watts	300	1000

American Stations.

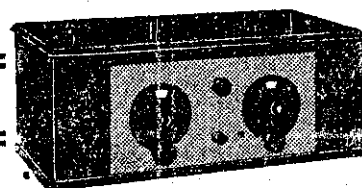
*These stations have not yet been reported as heard in New Zealand.

	Metres	Kilocycles
WLAC—Nashville, Tennessee—5 kw.	201.1	1490
WBAW—Nashville, Tennessee—5kw.	201	1490
*KPWF—Westminster California—5 kw.	201	1490
*WSOA—Forest Park, Illinois—5 kw.	202	1480
WCKY—Covington, Kentucky—5 kw.	202	1480
WJAZ—Chicago, Illinois—5 kw.	203	1480
WORD—Chicago, Illinois—5 kw.	203	1480
KGA—Spokane, Washington—5 kw.	204	1470
*WRUF—Gainesville, Florida—5 kw.	204	1470
*WKBW—Buffalo, New York—5 kw.	204	1470
KFJF—Oklahoma City, Oklahoma—5kw.	204	1470
*WJSV—Mount Vernon Hills, Virginia—10 kw.	205	1460
KSTP—St. Paul, Minneapolis—10 kw.	205	1460
WFJC—Akron, Ohio—500 watts	207	1450
KGCX—Vida, Montana—10 watts	211	1420
KGFJ—Los Angeles, California—100 watts	211	1420
KGRS—Amarillo, Texas—1 kw.	212	1410
WBBC—Brooklyn, New York—500 watts	214	1400
KUOA—Fayetteville, Arkansas—1 kw.	215	1390
KFPY—Spokane, Washington—5 kw.	215	1390
KOY—Phoenix, Arizona—	216	1390
*KLRA—Little Rock, Arkansas—1 kw.	216	1390
*WHK—Cleveland, Ohio—1 kw.	216	1390
*WKBH—La Crosse, Wisconsin—1 kw.	217	1380
KFBL—Everett, Washington—50 watts	219	1370
KRE—Beverly Hills, California—100 watts	219	1370
*GAR—Tucson, Arizona—100 watts	219	1370
KGER—Long Beach, California—100 watts	219	1370
KZM—Oakland, California—100 watts	219	1370
KGB—San Diego, California—250 watts	220	1360
WJKS—Gary, Indiana—500 watts	220	1360
WGES—Chicago, Illinois—500 watts	220	1360
*KWK—St. Louis, Missouri—1 kw.	222	1350
KMO—Tacoma, Washington—500 watts	224	1340
KSCJ—Sioux City, Iowa—1 kw.	225	1330
WDRC—Newhaven, Connecticut—500 watts	225	1330
*WTAQ—Eau Claire, Wisconsin—1 kw.	225	1330
KGIQ—Twin Falls, Idaho—250 watts	227	1320
*WADC—Akron, Ohio—1 kw.	227	1320
WMBL—Lakeland, Florida—100 watts	229	1310
KGEF—Los Angeles, California—1 kw.	230	1300
WIBW—Topeka, Kansas—1 kw.	231	1300
*WBBR—Rossville, New York—1 kw.	231	1300
KTBI—Los Angeles—750 watts	231	1300
KTBR—Portland, Oregon—500 watts	231	1300
*WHAP—New York City, New York—1 kw.	231	1300
KTSA—San Antonio, Texas—2 kw.	232	1290
KDYI—Salt Lake City, Utah—1 kw.	232	1290
KFUL—Galveston, Texas—1 kw.	232	1290
*WJAS—Spitzburg, Pennsylvania—1 kw.	233	1290
WEBC—Duluth, Minneapolis—1kw.	234	1280
*WDAY—Fargo, North Dakota—1 kw.	235	1280
*KTW—Seattle, Washington—1 kw.	236	1270

KFUM—Colorado Springs, Colorado—1 kw.	236	1270
KOL—Portland, Oregon—1 kw.	236	1270
KOIL—Council Bluffs, Iowa—1 kw.	238	1260
*WJAX—Jacksonville, Florida—1 kw.	238	1260
KWWG—Brownsville, Texas—500 watts	238	1260
*WAAM—Newmark, New Jersey—1 kw.	240	1250
*KFMX—North Field, Minneapolis—1 kw.	240	1250
WLB—Minneapolis, Minneapolis—500 watts	240	1250
KFOX—Long Beach, California—1 kw.	240 (4ZL)	1250
*KIDO—Boise, Idaho—1 kw.	240	1250
*WQAL—Northfield, Minneapolis—1 kw.	240	1250
*WODA—Paterson, New Jersey—1 kw.	240	1250
*WRHM—Minneapolis, Minneapolis—1 kw.	240	1250
*KTAT—Fort Worth, Texas—1 kw.	242	1240
*WJAD—Waco, Texas—1 kw.	242	1240
*WNAC—Boston, Massachusetts—1 kw.	244	1230
KYA—San Francisco, California—1 kw.	244	1230
WFBN—Indianapolis, Indiana—1 kw.	244	1230
WREN—Lawrence, Kansas—1 kw.	246	1220
KPQ—Seattle, Washington—100 watts	248 (3ZC)	1210
WEDC—Chicago, Illinois—100 watts	248	1210
KFOR—Lincoln, Nebraska—100 watts	248	1210
KMJ—Fresno, California—100 watts	250	1200
KGEK—Guma, Colorado—50 watts	250	1200
WIL—St. Louis, Missouri—100 watts	250	1200
KXO—El Centro, California—100 watts	250	1200
WLO—Kenosha, Wisconsin—100 watts	250	1200
WABI—Bangore, Maine—100 watts	250	1200
KFWF—St. Louis, Montana—500 watts	250	120
WWAE—Hammond, Indiana—100 watts	250	1200
KWG—Stockton, California—100 watts	250	1200
KGEW—Fort Morgan, Colorado—100 watts	250	1200
WOAI—San Antonio, Texas—5 kw.	252	1190
KEX—Portland, Oregon—5 kw.	254 (1ZQ)	1180
WGDY—Minneapolis, Minneapolis—1 kw.	254	1180

(To be continued in our next issue.)

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Design of High-Frequency Chokes

An Article to Fill a Definite Need

By "CATHODE"



THE H.F. choke is a device which offers a high impedance to radio frequency currents without introducing appreciable D.C. resistance. The explanation generally given is that the H.F. choke is essentially an inductance, and that its impedance is therefore proportional to the frequency or inversely proportional to the wave-length applied. This explanation, however, only approaches the truth in the case of a parallel feed circuit, where the self-capacity of the choke is absorbed into the tuning capacity, and the impedance or reactance presented by the choke is that of its inductance alone. The impedance presented by a typical commercial choke under these circumstances and at different frequencies is shown diagrammatically in the upper curve of Fig. 1 (reproduced from "The Efficiency of Parallel Feed," "Radio Record," October 4, 1929, to which the reader is referred for a fuller explanation on this point).

At radio frequencies the association of capacity with inductance results in resonance. When it is realised that the capacity across a choke is raised by 10 or 20 micro-microfarads immediately it is inserted in a receiver circuit there can be no longer any doubt that every H.F. choke resonates at some well-defined wave-length.

The lower curve of Fig. 1 is typical of the majority of H.F. chokes on the market to-day, and clearly proves that the H.F. choke must be treated as a tuned circuit. The resonant frequency of this choke is about 2500 metres, and it will be seen that although the impedance to H.F. is very high at long wave-lengths, it falls off to 25,000 ohms at 500 metres. This falling off is serious if the choke is to be used for coupling the H.F. valves in a portable set, as in Fig. 2, but in capacity-controlled reaction circuits is fortunately

not so important since the impedance of the reaction condenser also falls as the wave-length is reduced, and is able to compensate for the falling-off in H.F. current available at the plate.

From Fig. 3 it is obvious that a choke is a parallel resonant circuit. In other words any H.F. current which flows is divided between the capacity branch and the inductive branch with its resistance, and the currents in the two branches may be widely different. The current is greatest in the capacity branch at wave-lengths below resonance, but above it the greater current transfers to the inductive branch. Most chokes are worked at wave-lengths below resonance, so that the self-capacity does the choking and not the high inductance marked on the carton!

In Fig. 3 the anode-flament capacity C_{af} is in parallel with the choke and merely tends to raise its natural resonance, but the anode-grid capacity C_{ag} serves to transfer H.F. energy back to the grid. The phase of the H.F. voltage returned to the grid in this way will depend on whether the choke is being worked on the capacitive side of the inductance side of resonance. If the choke is worked below the resonant wave-length the reaction effect is negative and the valve cannot oscillate; above the resonant wave-length the reaction effect is positive, and the valve will oscillate without any coupling between the anode and grid circuits other than the valve capacity C_{ag} .

Thus the choke used in drawing the lower curve of Fig. 1 would cause oscillation above a wave-length of 2500 metres, but would be satisfactory at

any less wave-length. A point which is immediately apparent is that the reactance is highest at wave-lengths approaching resonance; consequently it naturally occurs to one to try the effect of reducing the inductance of the choke

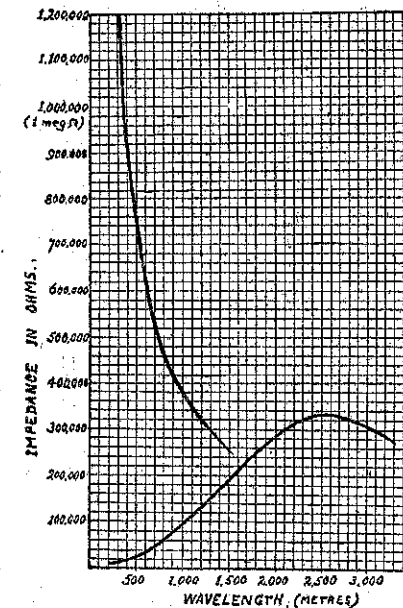


FIG. 1.

so as to work it nearer to its resonant point.

In practice there proves to be a definite advantage in so reducing the inductance, although it is always necessary to be careful not to reduce the inductance so far that resonance occurs within the broadcast band. When the choke is wired into circuit, its self-capacity is augmented by the valve capacities, and any other stray capacities, so that even though the choke itself were resonant at some point within the broadcast band, in any practical receiver the resonant point would be

Note that curve 1, relating to a choke of 10 millihenries, resonates, without any shunt capacity, between 300 and 350 metres; this choke would at first sight appear likely to prove unsatisfactory, but, when an added shunt capacity of 15 mmfd. is introduced (Fig. 5), as would almost inevitably be the case in practice, the resonant point is moved to a higher wavelength which, as it happens, is outside the broadcast band.

Thus this choke of 10 millihenries would almost certainly be perfectly satisfactory in practice; in fact, it is the most satisfactory of the several chokes whose curves are given in Figs. 4 and 5. At the same time, an inductance of 10 millihenries does not offer much margin of safety (as regards avoiding resonance within the broadcast band) and the writer prefers to adopt an inductance of about 15 or 20 millihenries, just in case the incidental capacities should be lower than anticipated in any particular instance.

It seems appropriate, now that the theory of high-frequency choke design has been dealt with more or less completely, to summarise the principles involved and the requirements entailed thereby, subsequently giving practical designs to meet these requirements.

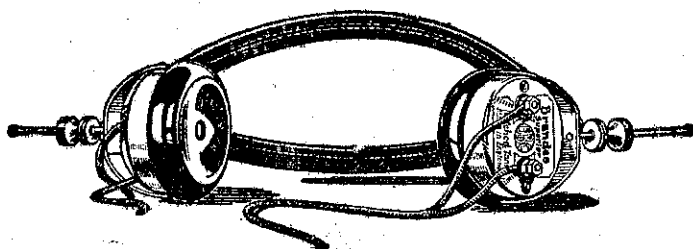
(1) Firstly, then, for a parallel feed choke, we require a choke having a very high inductance indeed, but fortunately self-capacity is of only minor importance, as it is absorbed into the tuning capacity.

(2) Secondly, for an untuned high-frequency coupling (Fig. 2) we require a choke having maximum reactance over the broadcast band—that is to say, we require a choke whose resonant point, when in circuit, is round about 600 to 700 metres. A choke of about 15 or 20 millihenries will best fit this requirement, especially since the less amount of wire entailed by a fairly low inductance enables us to keep the self-capacity down without taking any particular precautions.

(3) Thirdly, for use in the plate circuit of a detector valve to give reaction effects. Such a choke as is outlined in paragraph (2) above would be suitable, but the fact that inefficiency

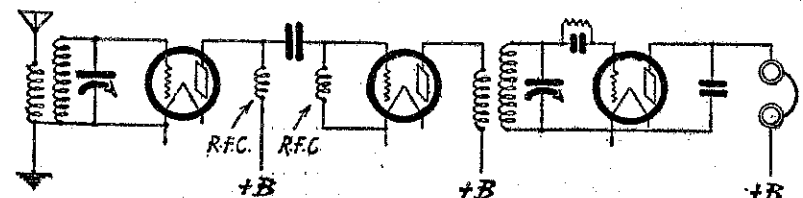
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Impedance Coupling Between Two R.F. Stages.

moved to a longer wave-length which might be outside the band, thus permitting satisfactory operation.

This point is well illustrated in Figs. 4 and 5, in which are given the resonance curves of a number of representative chokes of various inductances, firstly without any added capacity (in Fig. 4), and secondly with an added shunt capacity of 15 micro-microfarads such as would be introduced by incorporating any of the chokes in a practical receiver (Fig. 5).

is of small moment in a reaction choke dispenses with the need for careful construction; the most compact design will be most satisfactory, for little room is usually available for a reaction choke.

(4) Fourthly, the experimenter who insists on using one choke for all purposes confronts us with the difficult problem of providing a choke of high inductance (to cater for parallel-feed circuits) whose reactance over the broadcast band shall yet be high

enough to permit of amplification with an untuned coupling. The design of this can at best be but a compromise, as in the case of the chokes commercially available.

Dealing with the construction of these four types of chokes in turn:—

(1) Firstly, in regard to the choke for parallel feed, we are not faced with

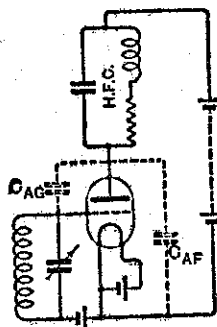


FIG. 3.

Circuit showing valve capacities which influence the performance of an H.F. choke.

the necessity of reducing self-capacity to the lowest possible figure. Therefore it is suggested that the constructor should adopt a simple slot winding with its attendant ease of construction. For making the winding former, three discs of hard rubber will be required, two of two-inch diameter and one-eighth inch thickness, the other of half-inch diameter and three-sixteenths-inch thickness; one of the larger discs may well have three "wings" left on it when cutting it out with the fretsaw or cop-

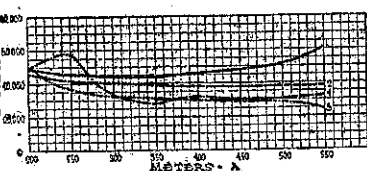
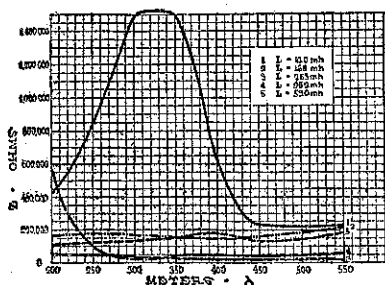


FIG. 4 (upper).

Impedance of Chokes without Shunt Capacity.

FIG. 5 (lower).

Impedance of Chokes with 15 mmfd. Shunt.

ing saw, two of the "wings" being fitted with terminals or soldering lugs to which the ends of the winding are connected, the remaining wing being utilised for mounting by means of an angle bracket. The three discs are then bolted together by means of a small brass bolt through their centres; the small disc is of course placed in the middle, and the slot thus formed accommodates the winding; the illustration of such a former in Fig. 6 will make matters clear. In this instance a winding of about 200 millihenries should be quite large enough, and this will require some 2500 turns of either 40 S.W.G. double silk covered or 38 S.W.G. enamelled wire (the enamelled wire is the cheaper). If

the dimensions given are adhered to, and one of the recommended wires used, it will be unnecessary to count the turns; just wind the slot full. About one ounce of wire will be sufficient. If the constructor so desires, he may adopt a subdivided type of winding as described in paragraph (4) below, but there is no particular advantage in so doing if the choke is to be used in a parallel feed circuit.

(2) Secondly, for a coupling choke for a portable receiver or other receiver with a stage of untuned high-frequency amplification the same type of construction is entirely suitable. The diameter of the large discs, however, is reduced to one and one-half inches—while the thickness of the smaller is reduced to one-eighth of an inch. On this smaller former, then, 900 turns of either 38 S.W.G. double silk covered or 36 S.W.G. enamelled wire should be wound. Here again, if the dimensions given are followed, winding the slot full of one of the recommended wires will dispense with the necessity of counting the turns. One ounce of wire will be sufficient to wind two of these chokes.

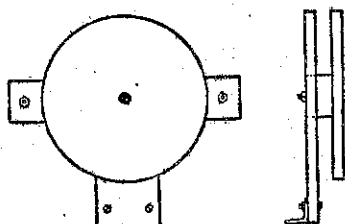


Fig. 6. Former for choke for parallel-feed, reaction and R.F. coupling. The size will alter with the type.

(3) Thirdly, for a reaction choke in the plate circuit of a detector valve, such a choke as is described in paragraph (2) above will be very suitable and efficient. Where compactness is a consideration, however, the diameter of the larger discs may be reduced to one inch, the winding then being made with finer wire, says, No. 40 S.W.G. enamelled, of which the required number of turns will just fill the slot.

(4) Fourthly, for a general-purpose choke, some subdivision of windings is necessary, in order to gain the necessary high inductance for a parallel feed circuit, without having so high a self capacity to render the choke useless for coupling an untuned high-frequency stage. Such a choke may well be wound on a piece of half-inch ebonite tubing, such as is commonly used for leads-in, this having a number of one and one half-inch discs of one-eighth inch thickness (drilled with a half-inch hole in the centre) forced over it in the manner illustrated in Fig. 7, and well secured with shellac

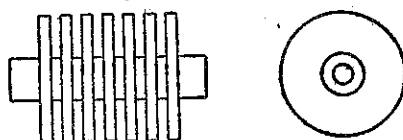


Fig. 7. Former for general purpose choke in which self-capacity is at a minimum.

vainish. Each slot is then filled with 38 S.W.G. double silk or 36 S.W.G. enamelled wire, all the slots being, of course, wound in the same direction. Some slight advantage may be gained by placing two discs between each wound slot and leaving an air space

between them, but this will make the choke rather long unless the discs are made of one-sixteenth inch formica, which by the way can be obtained from Johns, Ltd., Auckland. For that matter, there would be no particular objection to reducing the number of wound slots to four instead of the six shown in the diagram, as the induct-

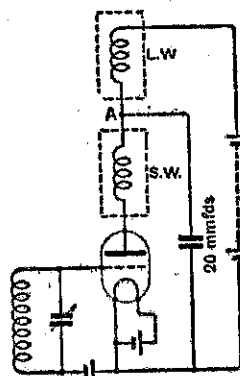


FIG. 8.

Long-wave and short-wave chokes connected in series to improve chocking effect on short waves.

ance would still be sufficiently high for all practical purposes. Where compactness is a consideration, the diameter of the discs may be reduced to one inch, and the slots wound full with 40 S.W.G. enamelled wire. As an alternative method of construction of a former for this type of choke, a number of discs of one-eighth inch hard rubber, alternatively half-inch and one or one and one-half inches in diameter, may be bolted together by means of a length of thin threaded brass rod through their centres. The wire is then wound in the resulting slots in the same manner as has just been described.

For short-wave work any of the foregoing chokes will be found reasonably efficient. Where a receiver is to be used exclusively for short-wave work, however, better results will be obtained by the use of a straightforward single layer winding of 200 or 300 turns of

fine enamelled wire (38 or 40 S.W.G.) on a length of half-inch or three-quarter-inch ebonite tubing.

The effect of using a short-wave choke in series with an ordinary choke has been tried for use in an all-wave receiver, but not with very promising results. In order to make the short-wave choke operate separately on short waves it was found necessary to connect a tiny condenser from the junction of the two chokes to earth in the manner illustrated in Fig. 8, and this condenser, being in parallel with the long-wave choke, naturally changed the resonant frequency of the latter component and impaired its performance to some extent. However, some experimenters may think the idea worth playing with, notwithstanding the complication introduced by its use.

Gang Condenser Tuning

WHEN a number of circuits are being simultaneously tuned by means of ganged condensers, a difficulty sometimes arises owing to the natural capacity in the aerial circuit due to the aerial and earth. In these circumstances the transformer in the radio frequency stages or the aerial tuning coil is apt to become tuned to a lower frequency than the other circuits, and it is necessary to find some method for overcoming this effect. There are various ways in which this can be achieved, and perhaps the simplest of all is to leave the aerial circuit untuned and to introduce instead a choke coil (or resistance), connecting this between the grid and filament of the first valve. The radio frequency inter-valve coils are tuned by the condenser, and consequently it is a very much simpler matter to arrange the settings. This scheme will not be applicable in all cases, but in a large number of cases it provides a very easy way out of the difficulty and gives perfectly good reception.

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Stains and Finishes for Radio Cabinets

Practical Notes from a Practical Writer

Contributed by G.H. (Otahuhu).

IN building radio cabinets suitable for a fine finish, the grain should be well laid. This is done before the work is put together, by rapidly wetting the surface of the dressed timber. On drying, it will be observed that the surface has roughened, due to the raising of the grain. It is then smoothed down again by means of the scraper and No. 00 sandpaper. No. 1 sandpaper, finishing with No. 00, will do if the amateur cannot use the scraper properly. This operation may be repeated with advantage.

Stains.

(a) Raw linseed oil, together with a little drying oil, such as Japan oil or Terebine.

(b) Bichromate of Potash (not permanganate), about 1 to 2oz, dissolved in a pint of boiling water. This stain burns the surface, and produces a darker and more "mellow" effect than "oiled" Rimu.

(c) Browns: Vandyke Crystals. About 2oz. to 1 pint of water. This is brought to the boil and allowed to simmer for 15 to 30 minutes. Stir well or will rise in a similar manner as milk. This stain produces a beautiful rich brown.

(d) Japan black, diluted with genuine turpentine. This is a colder shade than "C."

(e) Black: Nigrosine dissolved in methylated spirits. One ounce may be purchased, and is sufficient for most needs.

(f) Rosewood: Naylor's Rosewood Crystals, dissolved in methylated spirits. One ounce may be purchased, and will probably be sufficient. This is a beautiful rich rosewood, and unless the colour clashes with its environments, the writer considers this the best for wireless cabinets.

All these stains may be obtained from any oil and colourman, with the exception of F. This may be obtained from Messrs. Guthrie Bowron, Auckland and Wellington.

The quantities in the above directions are only approximate; the desired intensity is obtained by testing on the back of the woodwork.

THE stains should be applied with a brush and lightly wiped over with a rag. This removes superfluous pigment and brush marks, and exposes the grain of the timber. The colour of the wet stain (with the exception of B) will give a good indication of the finished colour. If too light at this stage, apply another coat; if too deep, wipe with a rag moistened with the solvent (water or spirits, as the case might be). When quite dry, apply two coats of knotting (3 or 4oz. shellac dissolved in methylated spirits). These two coats must be very thin, in order to "flow" evenly. Lightly sandpaper

between and after them, and the work is then ready for the "finish."

FRENCH polish is undoubtedly the king of "finishes," but as this is only successful in the hands of an expert, I omit it in favour of methods applicable to the ordinary handy-man.

The secret of good varnishing is absolute cleanliness in the matter of pot, brush and varnish, keeping the work dustproof until dry, and the use of plenty of No. 00 sandpaper between the coats (always rubbing with the grain of each piece of timber).

For a rich high gloss, which will be better than French polish poorly done, apply three coats of the best "pale carriage varnish" at intervals of not less than four days, rubbing down between each coat until every trace of gloss disappears. For a dull finish, use eggshell varnish, as above, sandpapering lightly between coats.

Should this finish be too dull for the worker's taste, any degree of brilliancy may be imparted by adding carriage varnish to the eggshell varnish, and some beautiful soft polish effects may be obtained by this method.

In New Zealand, our cabinets are usually made of rimu, kauri, or oak, and their most suitable stains are: Rimu—Any of the above. Kauri—For C, D, E and F, and is the best timber for B and F. Oak—A, C, D and E. Generally speaking, oak should be finished in eggshell varnish with very little carriage varnish.

MANY attempts have been made to obviate the sordidness usually associated with wireless panels. The metal panels in shielded sets demand some treatment, and here is an opportunity to tread new paths with profit. The following colours were used with delightful effects on the panel of a rosewood polished console with black dials. First of all, the panel was painted a very pale green and "granited" with green, brown and white. To do this, the colours are mixed up thinly with turps and a little terebine. A little of the green (a deeper shade than the panel) is poured on a board or palette, a small cheap sponge with a flattened surface is worked in the colour and then lightly but firmly daubed all over the panel, turning the sponge round a little each succeeding daub to avoid a marked "pattern." The sponge is cleaned out with turps or kerosene, and when the work is dry or nearly so, the process is repeated with the brown, and then with the white. None of the colours should be too prominent. If they should be so, "soften out" by lightly daubing over with the colour or colours necessary (the ground colour may help). The colours should be thin enough to be semi-transparent when daubed on the panel.

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- EMMCO RADIO PRODUCTS** Thos. Ballinger & Co., Ltd.,
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- EMMCO RADIO PRODUCTS** L. B. Scott, Ltd.,
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- KING RADIO RECEIVERS** ... F. J. W. Fear & Co.,
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- LISSEN RADIO PARTS AND KITS** All Radio Dealers.
- LOUDSPEAKER AND TRANSFORMER REPAIRS** A. E. Strange,
404 Worcester Street, Christchurch.
- MAJESTIC RADIO RECEIVERS** Kirkcaldie & Stains,
Chief Wellington Agents, Lambton Quay.
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- PILOT 1930 PARTS AND KITS, ETC.** Abel, Smeeton, Ltd.,
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- MAJESTIC ELECTRIC RADIO** Berryman's, The Home of Music,
Palmerston North.
- MAJESTIC, ATWATER-KENT AND RADIOLA ELECTRIC SETS** Radio House, Hamilton.
G. S. Anchor, Manager.
- PHILIPS VALVES AND APPARATUS** All Good Radio Dealers

A Portable Speaker**Use with "Tramper's Two"**

OWING to the smallness of the Tramper's Two and the desirability of having a light, efficient speaker which can be used with both portable and ordinary receivers, there is a demand for a portable cabinet speaker. No doubt there are a number of enthusiasts who would rather use the small cabinet speakers, e.g., the Am-

cone speaker construction, and his remarks need little adaptation in order that the builder may construct a portable speaker. A robust cabinet is of primary necessity and the accompanying diagram shows a suitable form this may take. Reference to the section of "Megohm's" article dealing with baffle board speakers discloses the fact that the cone should be about 8 inches in diameter and should be attached to the baffle by thin chamfers or other suitable material. These remarks can be applied to the construction of a suitable cabinet speaker.

To accommodate a suitable speaker the dimensions of the case should not be less than 14 x 14 x 10½. The first task is the construction of the cone, for which a circle of 9 inches diameter should be inscribed on a piece of suitable material. Cut out the circle and cut a wedge-shaped section of 50 degrees or one-seventh of the circumference. Join with seccotine. The size of the cone will be about 7½ inches diameter, so that the opening should be about 8 inches. The front piece will be 14 x 14. The cone should be attached as described by "Megohm" in last week's article. The sides, top and bottom should now be fitted. These are respectively 14 x 10½, and the sides are made to fit, their dimensions depending on the size of timber used. Dressed ½-inch is suitable, three-ply is a little too light for portable speakers.

Assemble the front with the cone, the top and the sides. Place the back in position and find where the adjusting screw is to be placed. Remove and drill and complete the assembly. Care must be exercised to see that the inner dimension for depth is not less than 10½, otherwise the cone will not fit. These dimensions have been given for the blue spot 66K units, though others are suitable. It may be necessary in cases such as these to alter the dimensions.

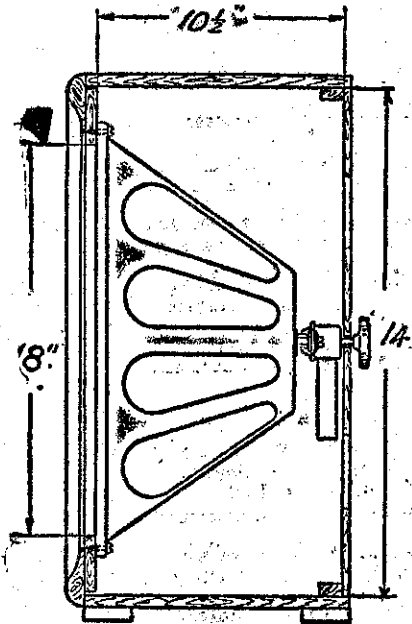


Diagram of the suggested cabinet. A chassis is depicted for it is advised that these will soon be available.

plion Cabinet, but those who wish to make only a small expenditure yet get quality will do well to construct a speaker like the one to be described.

A speaker that will accompany the tramper and the picnicker must be light but strong; it must, however, be able to take a fair amount of volume, especially if there are more than one to be amused. Dynamic cones are out of the question where there is not a car to supply the power for the field windings and as a means of transport. The speaker then must be a horn or a cone and between these the enthusiast must decide. A horn is very sensitive, but in very few cases robust, so that there is little else to choose from except the home-made and the purchased cabinet cone.

In an article in last week's issue "Megohm" outlines the essentials of

File Protection

IN the course of set construction it is often found necessary to file soft metal. It may be that aluminium vanes are being shaped for a home-made neutralising condenser, or one may be removing solder from tags or from the tips of terminals. Nothing is more damaging to a good file than to use it for this purpose, for the metal rapidly clogs it and spoils its keenness. This can be prevented if the file is first rubbed over with a piece of chalk, which partially fills the hollows and thus prevents clogging. The file may be quickly cleaned afterwards by means of a file card or a stiff wire brush.

Short-Wave

(Continued from page 32.)

week. Their carriers are nearly always to be heard at varying strength. A station on about 31.4 metres has been heard on Monday, Wednesday and Saturday mornings about 6 o'clock at good strength, but could not get a call. A correspondent says it is W2XAF.

On 34.6 metres (about) a weak foreign voice was heard on Friday morning. "Hullo, Berlin" was heard at intervals on about 21.2 metres on Thursday morning, this, with a few foreign words, was all that could be heard. At the same time (6 a.m. Thursday) an American voice was audible, about 25 per cent. readable, on about 20.3 metres.

International Broadcast**New European Relay System**

IN connection with the new Polish scheme for establishing a chain of high-powered stations throughout the country, it is interesting to learn that the contract obtained for this purpose by a well-known British radio manufacturing concern includes the provision not only of six new broadcasting installations, but also of very elaborate equipment of repeaters and correcting apparatus for landlines.

This apparatus will be installed to carry out important improvements in the scheme already in operation for the exchange of broadcast programmes between many European cities. This international exchange of programmes, which is now a regular feature of European broadcasts, has come into existence as the result of the activities of the newly-established International Commission for the Exchange of Broadcast Programmes.

Under the scheme a group of cities broadcasts simultaneously at intervals a high-class musical programme, such as a Viennese opera or philharmonic concert, provided by the members in rotation. Thus for each programme provided by one country it receives four programmes in return. By this means each country is able to spend more on its special programme than it would otherwise be able to do, and each country receives better broadcast entertainment as the result.

Record Short Wave Reception**Fifty-one Countries Received**

WITH reference to a paragraph headed "An Appeal from America" (in November 29 issue). I would like to state that I have succeeded in logging two U.S.A. amateurs on telephony on the 3500 k.c. band. The two heard were W6ABF, Pasadena, Calif., and W6BBJ, El Cerrito, Calif. The former was logged on 22:11:29, and the latter on 19:11:29. Both have been heard on several occasions since, and their call-signs heard distinctly. I have already written to both for confirmation.

I have also heard a 9th district amateur, but cannot get his call for certain. On this 3500 k.c. band I have heard 41 U.S.A. amateurs on morse. Each of the nine districts has been received. I have received ten acknowledgments so far, and they all seem very surprised that their signals are "reaching out" as far as New Zealand. My receiver is a home-built 4-valve, including 1 stage S.G. R.F. Below the 80 metre band the detector and audio stages only are used. To date I have logged 221 phone stations and 51 countries on morse. During the last fortnight I have heard two South African amateurs on morse—ZT6X, Johannesburg, and ZS4L, Bloemfontein.

At 12.20 a.m. on 18:11:29 a station was heard on telephony on 22 metres. Strength was R6, QSA4, modulation perfect. Musical numbers were heard, also a man counting 1-10 and reading from a newspaper. They were calling Marconi's yacht "Electra." At 12.30 a.m. they said they were closing down until 13.00 G.M.T., and gave the announcement, "Dorchester Radio, England." I wonder if any other listeners also heard this transmission.

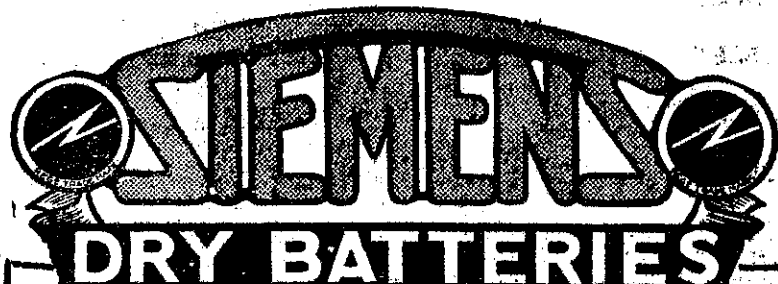
Another interesting station was heard here on 22:11:29 at 6 p.m.—3XAL, Bonndbrook, New Jersey. They are just a little above W9XF. They were broadcasting dance music for a short time, and after about ten minutes they gave the station call and asked for reports on their test transmission. Strength was R6 on speaker, and modulation excellent. They gave their frequency as 6100 k.c.—M. H. Churton (Auckland).

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U.S.A. and Germany to Exchange Programmes.

ACCORDING to an American report, confirmed in Germany, arrangements have been made for a regular exchange of radio programmes next winter between the United States and Germany.

Experiments will be carried out by the Riverhead (Long Island) transmitter in conjunction with the new Königswusterhausen short-wave station.

U.S.A. and Italy.

THE Marconi Co. has been entrusted with the construction at Rome of a short-wave station for the purpose of relaying the U.S.A. concerts to the Italian broadcasting system.

Short-wave Stations for Madagascar.

MADAGASCAR has in hand the construction of three new short-wave stations. One, which will be devoted wholly to Morse working, will have the call-sign FZT, and will work on 13.4, 24.4, 30.5, and 39.1 metres. The others will work on 16.7, 20.3, and 59.5 metres, with the call letters FZU and FZV. The two latter stations will broadcast telephony.

Another German Short-wave Station.

AN experimental short-wave station, working on 43.6 metres, with the call sign of D4AFF, is testing, and should be heard in New Zealand during the early mornings.

Russian Station RA97.

THIS well-known station has recently been reported on about 31 metres, when reception was better than on 70 metres. Both wave-lengths were being used.

More Siamese Short-wave Stations.

THE Post and Telegraph Department, Siam, state that there is a station at Bangkok, 20 k.w., 16.9 metres, call sign HSP, which normally works telegraph traffic with Europe, but is sometimes used for telephony. The same station is also used as an experimental broadcaster, call sign HSIPJ; hours of broadcasting, every Sunday, 12.30 to 14.30, GMT (Monday, 12.30 a.m. till 2.30 a.m., N.Z. summer time). Mostly Siamese music.

There is another small experimental station, HS4PJ, wave-length 37 metres, power 200 watts, transmitting on Wednesdays, 12.30 a.m. to 2.30 a.m. and 6



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

a.m. to 8 a.m., and on Saturdays 12.30 a.m. to 2.30 a.m.; all N.Z. summer time. Announcements are made in English, French, German, and Siamese. Reports are asked for. Address: Engineering Service, Royal Post and Telegraph Department, Bangkok, Siam.

Mr. Smythe (Greymouth) reports hearing Bangkok on about 16 metres (no doubt the 16.9 transmitter referred to above) on Wednesday, November 20, talking to Hamburg on about 15 metres, both at R7-R9, from 9.30 p.m. to 11.30 p.m. Radio equipment for a new station was being ordered.

Mr. Smyth feels certain that the stations often heard on 32.5 to 33 metres calling "Hullo London" and "Hullo New York," are connected with the Transatlantic Telephone Service. He has often clearly heard telephone conversations between the two countries.

American Amateurs on the 80-Metre Band.

MR. MORRISON (Brooklyn), reports having heard both 6th and 9th district American amateurs on telephony from about 7 p.m. on the 80-metre band (75 metres to 85.7 metres) several evenings recently.

W2XAF Testing from 11 p.m. to 12 p.m.

STATION W2XAF, Schenectady, on 31.4 metres, is transmitting experimental programmes daily—except Sunday, from 11 p.m. till 12 p.m. N.Z. summertime. These are for reception

in Australia, New Zealand, Tasmania and the Far East. Although timed to start at 11 p.m., 2XAF is often heard now by 10.30 p.m.

Reception During Week Ending December 7.

CONDITIONS are improving slightly in the morning, but American reception during the afternoon is still bad until late.

RA97, Siberia.

70 metres, continues to come in at good strength. One evening, during what appeared to be a children's session, pigs, cows, dogs, etc., were imitated, after which a girl sang, and an "Auntie" was heard.

W9XF, Chicago.

49.83 metres, has been heard each evening till 8 p.m. (except Monday). Volume is best about 7 p.m., when it is about R8 to R9.

W3XAL, Boundbrook, New Jersey.

49.7 metres, was quite good on Saturday from 5 p.m. Reports of reception were asked for.

W3XAF, Schenectady.

31.4 metres, has been heard every evening from about 10.30 p.m. Volume is quite good from the start, but improves by 11 p.m. This is a special transmission for the "Far East and South." On Sunday they were weak until late in the afternoon, reaching R7-S by 5 p.m.

PCJ, Eindhoven.

31.4 metres, Friday and Saturday, from 6 a.m. they started well at R8, but rapidly decreased in volume, and were very weak by 7.30 a.m. On Saturday afternoon a carrier was heard for awhile, but too weak to hear what was said.

Zeese, Germany.

31.38 metres. Volume is less on this station now. On Monday and Thursday they were heard till 6 a.m. at R7, static being bad each day.

7LO, Narrobi.

31 metres, was poor all the week, except Tuesday, when music was R8 at 5.50 a.m. Just after 6 a.m. a play was put on which was about 50 per cent. readable. Static and rapid fade was the cause of readability being so poor.

Bangkok, Siam.

29.5 metres, was only heard once. On Saturday at 11.45 p.m. they were R7, with a Morse station causing trouble.

VK2ME, Sydney.

28.5 metres, on duplex telephony, with GBX, England, 27.5 metres (about), were experimenting nearly every morning and evening.

KZRM, Radio Manila.

26 metres (about), have been well received each evening from 10 p.m. (except Monday, their silent day). On Tuesday, at 10 p.m., they relayed from the — Theatre, a talking picture "Pagan Love Song." Reception was excellent at R9. Radio Manila is about the most consistent short-wave station being heard just now.

G5SW, England.

25.53 metres. Reception has improved slightly from the "Empire Broadcaster" from 7 a.m. Strength has been about R4.

KDKA, Pittsburgh.

25.4 metres. On Sunday, at 4 p.m., they were R5, with a special programme for the Byrd Expedition. R3-4 was the best I could do with them on Saturday.

W6XN, Oakland, California.

23.35 metres, was fair on Sunday, reaching R7 by 6 p.m., but was gushy all through the programme. On Tuesday they were just audible at 7.45 p.m.

W2XAD, Schenectady.

19.5 metres. This station was heard for a short time on Sunday and Saturday. 2.15 p.m. till 2.30 appears to be the peak of volume when they were about R3-4.

PLA, Blandon, Java.

15.74 metres; PCK, Kootwigh, Holland, 16.3 metres, were heard on Wednesday, Thursday, Friday and Saturday evenings with records, and later duplex telephony, volume increasing as time goes on till R8-9 is reached about 10 p.m.

Unidentified Stations.

THE London and New York transatlantic telephony stations (?) were heard several times during the (Concluded on page 31.)

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The rate for small advertisements under this heading is 2/- cash for 20 words, and twopence for every other word thereafter.

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Printed and published for the New Zealand Radio Publishing Company at the registered office, Wakefield Street, Wellington, of the Wellington Publishing Company, Ltd., by George Thompson, of 7 Rimu Road, Kelburn Printer, and Roy Cecil Temple, of Te Kalaunga, Khandallah, Publisher, Wellington, FRIDAY, DECEMBER 13, 1929.

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