

THE RADIO RECORD

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WELLINGTON, FRIDAY, NOVEMBER 30, 1928.



Queen Alexandra's Own Band.

THE relaying of a concert over a long length of landline, as is being done in the case of Wanganui, discloses what a field of wide possibilities there is in connection with broadcasting. Short relays are, of course, of every-day occurrence, but considerable difficulties beset those of long distance. Even short lines are frequently subject to inductance and much more likely is a long line to pick up extraneous noises. Though the Wanganui line which will be used for this relay is of but recent erection, a test made a few months ago proved that it was unsuitable for broadcasting purposes owing to the noises picked up from outside sources during its long distance. Since then the Post and Telegraph officers have been at work on the line and its environs and the recent test transmission from Wanganui to 2YA was satisfactory.

EVERY effort will be made to ensure a successful transmission on the night of the concert. The Broadcasting Com-

pany's Chief Engineer, Mr. J. M. Bingham, will visit Wanganui and will conduct the broadcast from that end.

The realisation of the successful transmission of music over long distances by line requires a telephone circuit which has been specially fitted with amplifiers and frequency correctors, so that equal transmission of all frequencies between about 30 and at least 6000 cycles is ensured. The amplifiers must compensate for the loss incurred in the transmission over the line and in the frequency correctors so that the ratio of unwanted signal (line noise which is picked up en route) is never allowed to fall below a certain value.

Outstanding Performers.

MR. Hubert Carter, acknowledged as New Zealand's foremost tenor, with broadcasting experience in England and Australia, will head the list of vocal artists. He will be heard in operatic solos, a duet and a quartet.

MRS. Leo Campion, a very fine contralto, Miss Edna Greenwood, a young singer of great promise, and Mr. Keith Grant (baritone) have all sung for 2YA.

MRS. Wills, another excellent contralto, has gained championship honours at various musical competitions.

MISS Vivienne Ralph, contralto, has had experience at Home and abroad and is considered to be a very accomplished singer.

MR. J. G. Swan is the veteran elocutionist well known throughout New Zealand, and he is now, despite his age, one of the finest entertainers in the country.

MRS. T. L. Sperring, who will give a humorous monologue, is another fine artist.

MRS. G. E. Terrant is a soprano singer who has won many prizes at competitions. She will sing: "The Nightingale's Trill."

—(Continued on page 9).

*Fine
Concert
from
Wan-
ganui
on
Dec. 7*

Radio's Mission in the Antarctic



WHEN the small bark City of New York put out from New York City on August 26 bound for New Zealand, the first unit of the Byrd Antarctic Expedition set forth for an absence of certainly one and one-half, and possibly three years. The City of New York was christened Samson many years ago. She has been plying the sealing trade off the shores of Spitzbergen for over forty years. On her voyage south through the Canal to New Zealand thirty-seven of the seventy men who will take part in Commander Byrd's Antarctic adventure were present.

On September 15 the second unit of the expedition sailed from New York, when the trim ship Eleanor Bolling (nee Chelsea) set sail with additional men and additional equipment. Early in October the 10,000 giant C. A. Larsen, a veteran Ross Sea whaling steamer, left Hampton Roads, Virginia, with four aeroplanes and additional food and equipment and at about the same time the fourth and last ship, the Sir James Clark Ross, another Ross Sea whaling steamer of some 10,000 tons, left from the West Coast with the remainder of the supplies and men.

The four ships will meet at the Ross ice barrier near the Bay of Whales, where the City of New York and the Eleanor Bolling will tie up alongside the barrier to remain as the base camp. The supply ships C. A. Larsen and J. C. Ross, will unload and depart.

During the year following, there are some four million square miles of territory, upon which no person has yet set eye, to be explored by "land" parties and aeroplanes. This Antarctic expedition is probably the best-equipped expedition which ever set forth; certainly the best to go to the South Pole regions.

The Radio Equipment.

THE radio equipment includes some thirty-three transmitters and receivers, with reserve supplies to keep them in operation for four or five years, if necessary.

Call letters for the various major radio units of the expedition have been assigned by the Department of Commerce as follow:—

KFK—General call for any or all units of the expedition.

WFAT—The Eleanor Bolling.

WFBT—The City of New York.

WFA—The main base on the ice barrier (probably near Bay of Whales).

WFB—The Ford tri-motored Floyd Bennett aeroplane.

WFC—The Fairchild Stars and Stripes aeroplane.

WFE and WFE—Advance bases on land parties.

WFF—The Fokker Virginia aeroplane.

An additional plane will use either call letters WFD or WFE.

THE intermediate calling frequency for all units will be 500 k.c. and the high frequencies used for calling will be 5600, 11,200 and 16,800 k.c. The intermediate working frequencies will be 375 and 425.5 k.c. and the high-

frequency communication frequencies will be 3290 k.c., 4405 k.c., 5650 k.c., 6580 k.c., 8810 k.c., 11,300 k.c., 13,187 k.c., 16,717 k.c., and 21,805 k.c.

It is expected that all high-frequency communications will be confined to the following frequencies, after the ice barrier has been reached: 3290 k.c., 4405 k.c., 6580 k.c., and 8810 k.c.

Both expedition ships carry 375 k.c. radio compass equipment. The compass receiver of one of the ships will be set up on the ice ten or fifteen miles

verted to a 500-watt ICW set (type ET-3628). This transmitter will be used for short-range communication en route to the ice-pack and for radio compass work with advance base parties and aeroplanes.

The high-frequency transmitter on this ship (shown in the illustration) was designed under the supervision of Hanson and Mason and was built by the expedition's radio personnel. It employs two 750-watt oscillator tubes in a special series-feed circuit

and two stages of tuned audio-frequency amplification are provided for both ships and for the base camp. High-frequency reception on the ships and at the base camp will be provided by the G.E.-R.C.A. high-frequency receiver using tuned r.f. amplification with the UX-222 tubes.

Radio on the 'Planes.

EACH of the four planes is provided with 50-watt combined intermediate and high-frequency transmitters built by Heinz and Kaufman. Emergency battery-operated transmitters for 'planes and for advance parties were provided by the Burgess Battery Company. The main 'plane transmitters obtained plate and filament potentials from small generators driven by the 'plane's motor of the constant current type. The tri-motored Ford 'plane is equipped with a spare generator geared to a second engine. The receiving equipment for all 'planes uses the super-regenerative circuit. The receivers were constructed under the supervision of Hanson at the National Electric Supply Company.

A main base camp transmitter, similar to the installation on the Eleanor Bolling, and constructed by the ship's radio-men at the Staten Island shops of the Bureau of Lighthouses, will be set up near the Ross Sea.

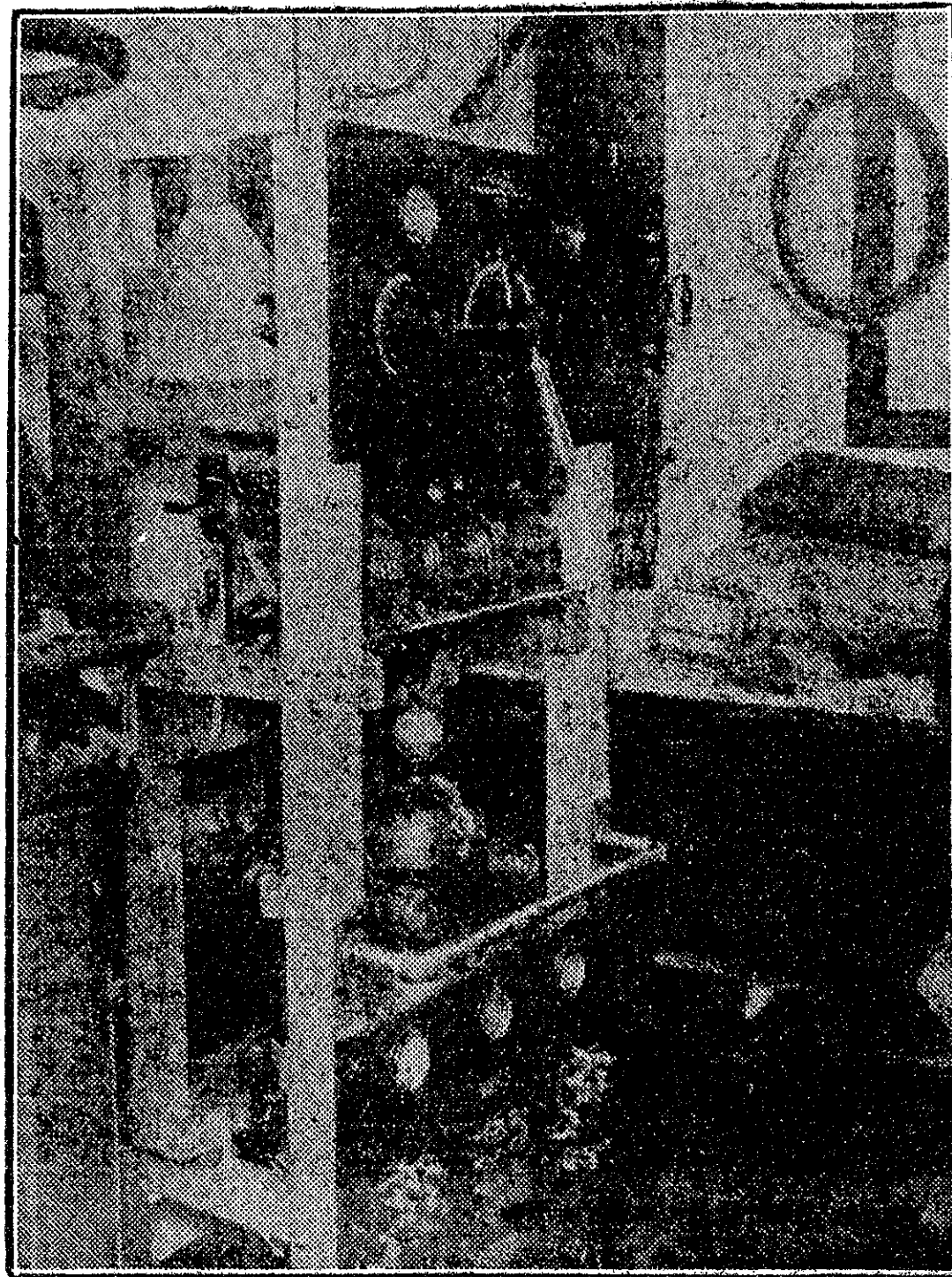
For reception on all 'planes a doublet from the tip of each wing extending to the tail, with feeder wires through the fuselage, will be used. For transmission in the 'planes a trailing wire will be dropped from the tip of each wing.

The expedition is carrying a great deal of laboratory equipment for making fading observations, oscillograms of echo signals, and much other scientific data. The fading recorder is a Westinghouse superheterodyne which was calibrated by the Bureau of Standards, and a Westinghouse oscillograph is to be used for recording echo signals.

While the main function of the radio equipment will be the provision of reliable contact with the world, it is expected that much scientific radio information will be collected and collated.

Weekly Broadcast from Home.

ON October 6, about two weeks after the City of New York left Panama Canal for Dunedin, the Westinghouse Electric Company's radio station KDKA, at Pittsburgh, started a regular Saturday night broadcast for the members of the expedition. According to the "New York Times," Captain Melville, master of the City of New York, reported to KDKA that the high-frequency broadcast transmission from that station was received satisfactorily by the ship, which was 2000 miles south-west of Balboa. In a special message to the "New York Times," Dr. Francis B. Coman reported by wireless from the City of New York:—"Probably very few ships have both morning and evening newspapers such as we have from the 'New York Times' and the 'San Francisco Examiner.' And without doubt no ship's crew ever found it so easy to keep in almost constant touch with friends at home. Several of the men have ar-



High Frequency 1500 -Watt Transmitter on the Eleanor Bolling.

from the main base camp and will be used in conjunction with the compass receiver of the other ship to fix the position of all advance parties and planes by taking simultaneous bearings from the movable transmitters.

The radio personnel includes Lieutenant M. P. Hanson, of the Naval Research Laboratory, who is chief radio engineer for the expedition; Ensign Lloyd Berkner, of the Bureau of Standards; Lloyd Grenlie, who accompanied the Byrd Arctic expedition; and Carl Petersen.

High-Class Transmitters.

BOTH expedition ships (WFAT and WFBT) carry two transmitters, one for intermediate and one for high-frequency work. The intermediate frequency set on the Eleanor Bolling is an R.C.A. P-8 spark transmitter con-

Plate supply of 500 cycles is obtained from a 5-kw. steam-driven generator. A 2-kw. auxiliary gasoline-driven unit is available for emergency work.

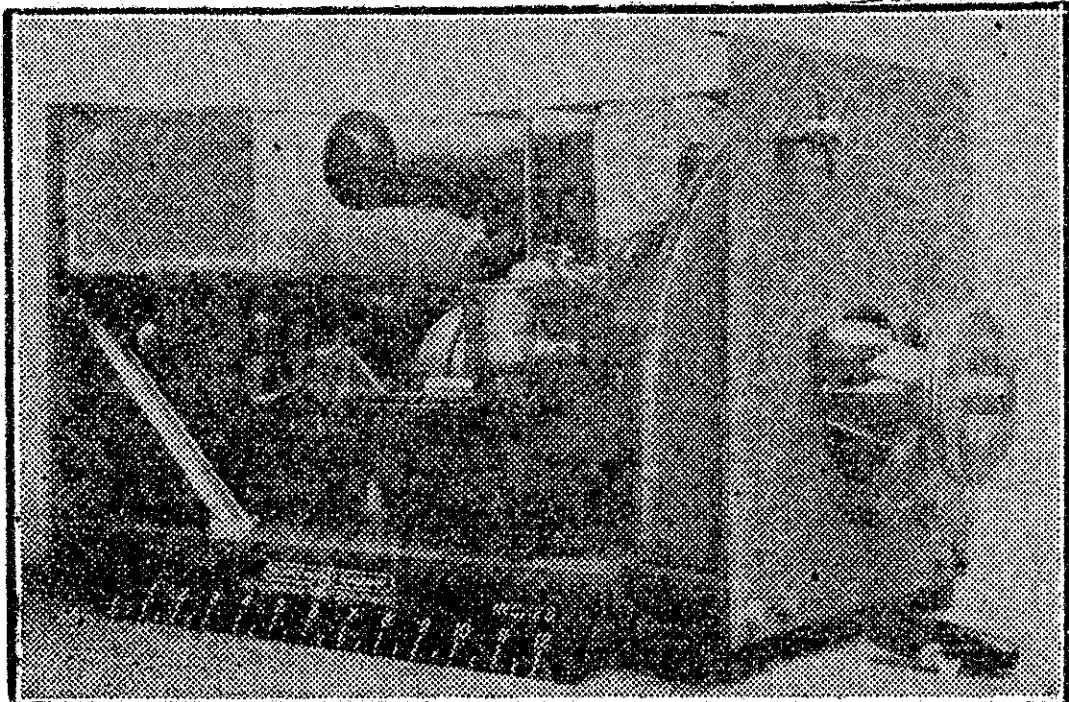
The intermediate-frequency transmitter on the City of New York is a fog signal type 500-watt ICW set, which was obtained from the Bureau of Lighthouses. It is a General Electric type RT-I-F transmitter with a tuning range of from 300 to 500 kc. The high-frequency transmitter employs the conventional tuned-grid tuned plate circuit, using two UX-204-A 250-watt tubes with 500-cycle plate supply. The latter set was constructed by the expedition personnel.

For intermediate-frequency reception (1000 to 300 kc.) standard navy type R.F. receivers using four stages of transformer-coupled radio-frequency amplification, an autodyne detector

ranged schedules with their wives and are able to have radio conversations with them in San Francisco, Chicago, Washington, and New York. Some of the unmarried among us view such facility of communication with mixed feeling."

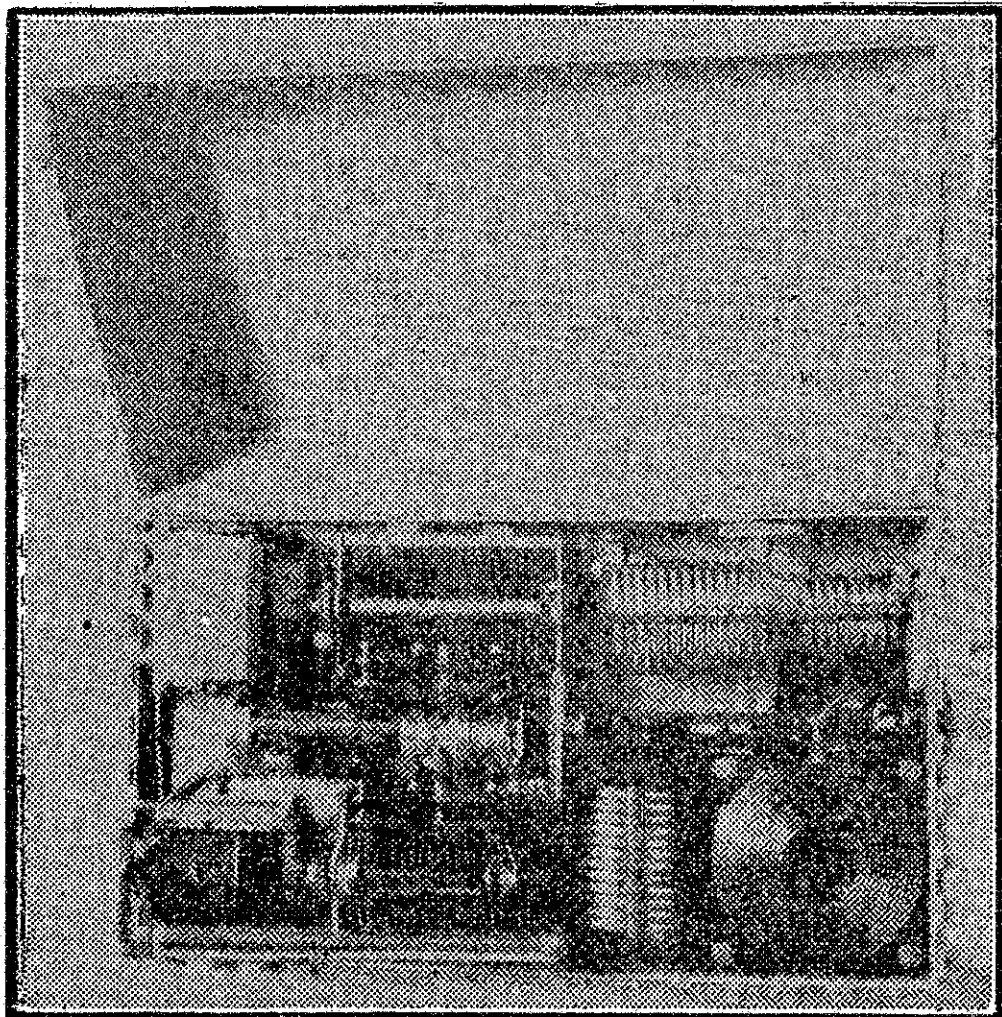
Expressing gratitude for the arrangements made for a weekly broad-

main I am sure that we have anticipated our almost every need, thanks to the loyal work of the entire personnel of the expedition. One of the principal reasons for the great care of preparation has been for the safety of my shipmates. That is the best way to show my deep appreciation of the sacrifices their families have made



Motor Generator Unit, driven by single cylinder two-cycle gasoline engine.

cast from KDKA, Commander Byrd in making it possible for them to join telegraphed to the Westinghouse Company before leaving San Pedro: "In initiating this weekly broadcast of messages from families and friends at home I am reminded of the unusual success that the Westinghouse Company has met with in getting through our expedition." Thus, although the shore party of the expedition on the Ice Barrier will spend more than a year 2300 miles south of New Zealand, their radio equipment will enable them not only to keep the world informed of their



Interior of Airplane Transmitter.

similar programmes to polar expeditions in the Arctic regions. This lends a feeling of confidence that we may look for results equally as good in the Antarctic. . . It is almost unreasonable to expect that we have not made a few mistakes, but in the adventures but also to keep in touch with their families and friends in their homes in America 10,000 miles away. That will do much to destroy the feeling of isolation and loneliness that has pervaded previous Antarctic ventures.

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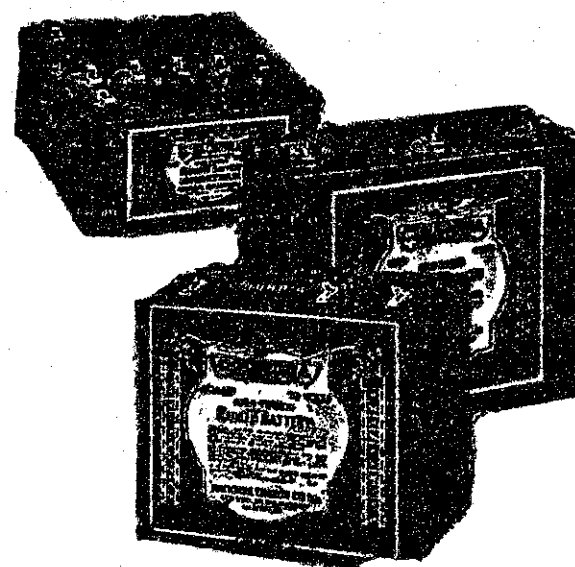
THE Marconi Company has just received the British Broadcasting Corporation's order for the supply of two high-power broadcasting transmitters having an unmodulated aerial energy of 50 k.w.

These stations will be erected at Potter's Bar, near London, in pursuance of the British Broadcasting Corporation's scheme for covering the whole of Great Britain with a smaller number of broadcasting stations of a higher power than those at present in use.

THE German Post Office (says the Berlin correspondent of the London "Times") is erecting a high-power, short-wave transmitter at Konigswusterhausen, from where it will commence

broadcasting a world programme in February, disseminating German culture and promoting international understanding.

THE Bell Telephone Laboratories demonstrated on July 12 a new photoelectric cell which is considerably more sensitive than any similar device so far shown publicly. The original television transmitter and receiver, demonstrated over a year ago, were used in the newer demonstration and by application of the more sensitive photoelectric cell, a full size figure in motion was successfully televised. The new cell greatly increases the range of vision of the eye of television and places, and places even greater emphasis on the still unsolved problem of conserving the frequency or channel space required to transmit a television image of sufficient detail to have real entertainment value.



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Radio Forges the Links of Empire

IT was once said that the colonies were drifting apart because of their increasing self-reliance and the distance which separated them. Each colony, it was claimed, was developing a nationality of its own. The war, in all its grimness and horror, served as a link in the chain of Empire, both in that the citizens of one colony mingled with those of another, and with those of the mother country, in the capacity of soldiers fighting side by side for the same cause, and in that it made clear the need of a system of communications and acted as an impetus to it. Since then developments have not moved slowly, as the accompanying article shows. Wireless is destined to do great things to accomplish world unity, more so than the casual wireless enthusiast, or indeed the man in the street, realises. Irrespective of all opposition, this relatively new development is steadily making its way to the fore and demanding the consideration of every nation that wishes to maintain its position in the van of national development.



THE idea of linking up the Empire by a network of radio stations first took shape in 1912, when the Government decided to proceed with a scheme for the erection of a chain of high-power spark stations in Europe, East Africa, South Africa, India, and Singapore.

In the following year a contract was made by the Post Office with the Marconi Company for the erection of these stations, but the work on the English and Egyptian ones had only just commenced when war broke out and changed the whole course of events. The contract was cancelled, and nothing further was done towards the erec-

tion of Imperial stations for intercommunication until after the war.

The Admiralty, indeed, did set up a number of telegraphy stations during the war at strategic points throughout the Empire, but these were designed primarily for communicating with ships. One of them was suitable for commercial intercommunication.

These strategic stations were for the most part erected by the Marconi Company as contractors.

It was, of course, due to the fact that our supremacy at sea ensured the safety of the vast cable network which connects all parts of the Empire that the policy of providing Imperial radio stations could be postponed, and it was

the possession of this cable network in peace time that had allowed us to dally so long before the outbreak of war with the idea of an Imperial wireless chain.

It was obvious that the Empire needed wireless communication from the commercial point of view, but there was a general feeling that radio technique was improving so rapidly that delay was justifiable.

The war, however, altered the whole outlook, and it is easy now to see that high-power stations throughout the Empire would have seriously hampered the naval activities of our enemies in the early stages of the war, and that in all probability millions of pounds would have been saved by the timely expenditure of thousands.

Germany, on the other hand, when war broke out, had made considerable progress with a colonial wireless network which proved of greatest value to her so long as she was able to hold it. The United States and France had also made a start with high-powered schemes which, as their needs were different to ours, they continued to develop throughout the war, and by 1919 they were both far ahead of us in this respect.

How the Beam Began.

IN 1919 the Government appointed a committee, under the chairmanship of Sir Henry Norman, to draw up a new scheme for Imperial wireless communication, and this committee recommended that stations should be erected in England, Egypt, Kenya, South Africa, India, Singapore, Hong Kong and Australia, as well as possibly two in Canada, for trans-Atlantic and trans-Pacific communication.

The result of this decision is that there is in operation at Rugby, England, since the beginning of 1926, the most powerful station in the world, capable of transmitting messages to any part of the Empire. The total cost of this station was about £480,000.

Meanwhile, early in 1924, Senatore Marconi had published the results of his experiments on the beam transmission of short waves, and in July, 1924, the Home Government of the Dominions and India made a contract with the Marconi Company for the erection of beam stations in England, Canada, Australia, South Africa and India for the direct communication with England.

How the Beam Works.

HERTZ showed that electro-magnetic waves a few feet in length could be reflected by mirrors like a pencil of light, and in his early investigations Marconi employed metallic mirrors to

direct the wireless waves in the required direction. It is, however, a condition of such reflection that the dimensions of the mirror must not be very small compared with the wavelength. It was, of course, impossible to erect large mirrors of sheet metal of sufficient size to reflect electrical waves several thousand feet in wavelength, but it was found that skeleton mirrors formed by erecting vertical wires round a parabolic line would act as well if a vertical aerial radiator was erected in the focal line.

Early experiments by Senatore Marconi and Mr. C. S. Franklin, using a wavelength of 50ft., showed that a "wireless beam" could be projected by such a mirror from London to Birmingham, in which the electro-magnetic waves were kept from spreading just like a searchlight projects a straight beam of light. Further and extensive tests and researches have enabled investigators to project beams of electro-magnetic waves of about 90 metres or 300ft. in length, not only to Madeira and to St. Vincent, but even to South America, and most recently to Australia, a distance of 12,000 miles.

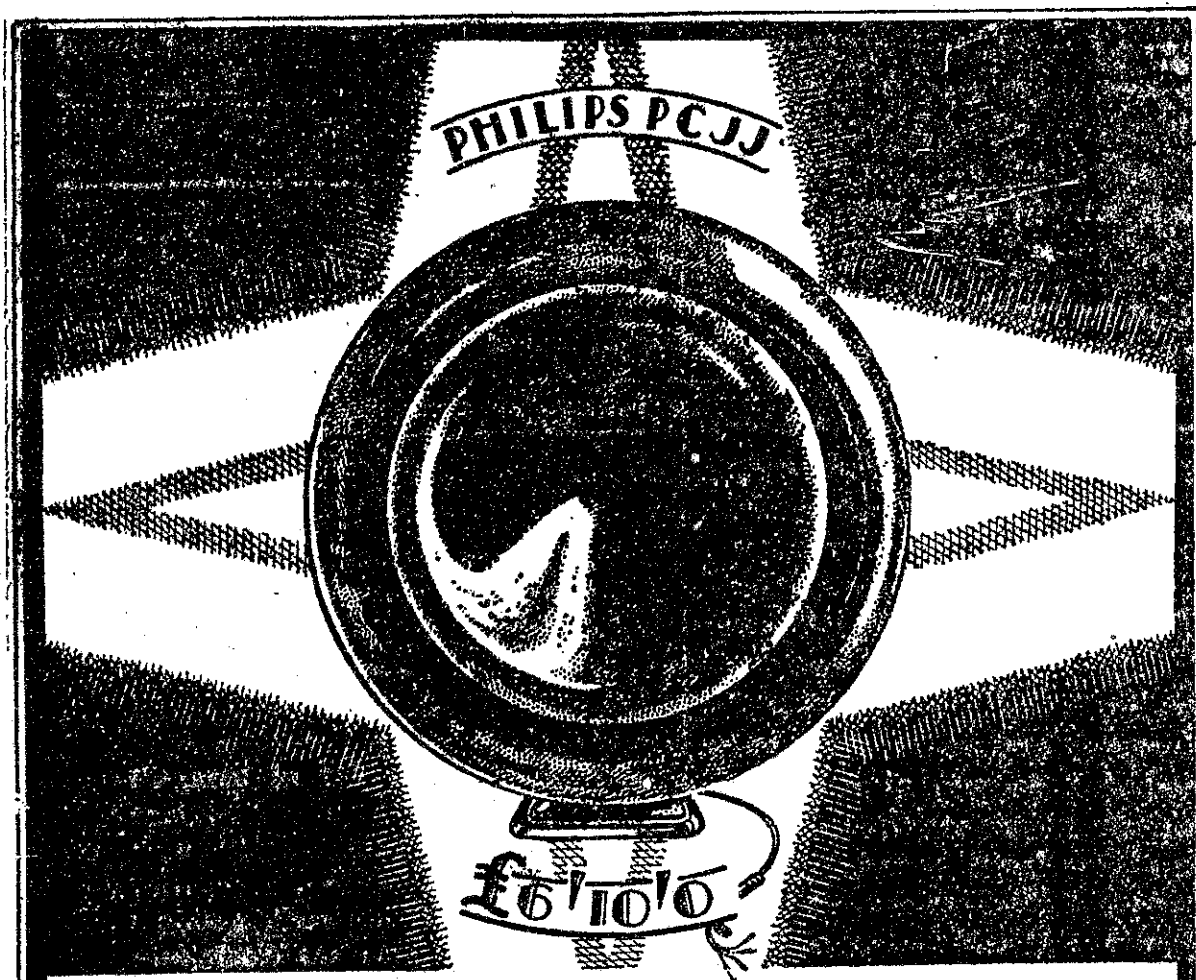
The Question of Control.

THE English stations were to be worked by the post office, the others by the company, or the company's representatives. Duplex communication at a speed of 100 five-letter words a minute each way was guaranteed for a daily service of 18 hours with Canada, 12 with India, 11 with South Africa, and seven with Australia.

No provision has yet been made for wireless telephone service, but experiments are now being carried out with apparatus for operating two high-speed telegraph circuits simultaneously with a duplex telephone circuit, using the same transmitter, aerial, and wave for the three circuits.

All the telegraph services have been in operation for several months, and on June 15 last, a similar beam service was opened between Australia and Canada. On the same day, too, the Post Office, England, opened a short-wave service, but not on the beam system between England and the Kenya Colony. The rates charged for these services are substantially lower than those charged by the cables, and a review of the whole system was made by a recent committee.

At the present time, the control of the cables and the beam wireless is a matter to be settled. A Bill has been presented to the English Parliament, providing for the sale of the cables, and the lease of the beam plant not controlled by the Post Office. It has brought down a storm of objections to



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a company with a capital of £30,000,000. The Post Office reserves the right to control the newer telephony service, such as that opened between England and America, and between England and Kenya Colony.

In discussing the project, Mr. Ramsay MacDonald stated that he thought it deplorable that one of the most essential Imperial services should pass into the hands of a private concern. The future existence of Imperial unity demanded the most perfect systems of communication.

"You might as well let out the Army and Navy to private contractors," concluded Mr. MacDonald.

A DIFFERENT aspect is thrown on the matter by the "Daily News," which states: "Swift development in telephony between England and Australia can follow if the restrictive clause is abandoned, as the Bill will be introduced and passed as soon as possible."

The Daily News points out that while the Anglo-American telephony system worked through Rugby, the Marconi experiments to Canada demonstrated that the beam can be used for multiplex telephony, and telegraphy at a much lower cost, implying that the existing beam stations can be used for Dominions telephony, including services to Australia and South Africa, without building special stations similar to that at Rugby.

Other Uses of the Beam.

IN this respect, the following occurrence is of more than passing interest. While ordinary telegraph traffic was being transmitted to Great Britain from the Canadian terminal of the British-Canadian beam service, near Montreal, a dance concert was simultaneously switched on to the beam. Without interrupting the telegraph traffic, or without being interrupted by it; the music from Canada was picked up at the British receiving station, at Bridgewater, and reproduced at full volume on loud speakers. An impromptu dance was held to it.

Subsequently, American engineers at the Bridgewater station heard addresses from friends in America so perfectly that every speaker could be recognised by his voice before his name was announced. It is claimed that in addition to greatly extending the amount of traffic which can be transmitted over a single beam, the new apparatus which makes it possible to use the beam simultaneously for telegraphy and telephony so affects the character of the wave radiated from the beam station that to a great extent fading is prevented. It is expected that the various Empire beam services will shortly be used for the interchange of broadcasting programmes between the countries in the Empire.

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Radio Round the World

THOSE amateurs interested in Morse are advised that from November 28 Philips Lamps Co. are inaugurating a new station, FBF5. Operating on 30 watts, telegraphy, this station should make itself heard between the hours of 8 a.m. and 12 a.m. The wavelength will be 41.3 metres. The station is subsequently to increase its power and introduce telephony.

THE Indian Broadcasting Board has made arrangements for a special programme to be transmitted through 5SW once a fortnight, so that it may be picked up and retransmitted for the benefit of Britishers resident in India. Only Englishmen who have resided in private ownership of stations as at India can realise how much this service will mean.

THROUGH apparatus by which electrical impulses controlled a beam of light, a narrow beam was changed into music and held under perfect control at will by Mr. John Taylor, consulting engineer for the General Electric Company. The equipment used is known as a photophone, built on old principles, with a perfected photo-electric tube, electric pick-up, new amplifiers and sound reproducers.

IN Britain and America architects are now giving full consideration to radio requirements in house building. Fixtures for aeriols are incorporated in plans, which also show locations for receivers, and a wiring system which enables loudspeakers to be transferred from room to room, and plugged in to wall sockets wired to the set.

BROADCASTING has provided the preacher with a scope undreamed of even ten years ago. The whole of the United States and quite a number of other countries will be able to hear the sermons of a well known American preacher, Dr. Parkes Cadman, who commences this month the biggest religious broadcast yet attempted. A continent-wide chain of over forty broadcasting stations will deliver his Sunday afternoon undenominational addresses from the Atlantic to the Pacific. Dr. Cadman is an Englishman, educated at London University.

IN view of the controversy aroused recently when German artists were invited to broadcast in Great Britain it may be recorded that a leading English radio artist broadcasted in Germany on October 5 from Langenberg, on October 7 from Frankfurt, and from Berlin. Her programme included a short speech in German, specially written for her by Dr. Kesser, a few lines from "Romeo and Juliet," Keats's "Ode to a Nightingale," an extract from "A Tale of Two Cities," some of A. A. Milne's children's poems, poems by Lichendorff, some lines from "As You Like It," and one of St. Joan's speeches in the trial scene of Bernard Shaw's play, "St. Joan."

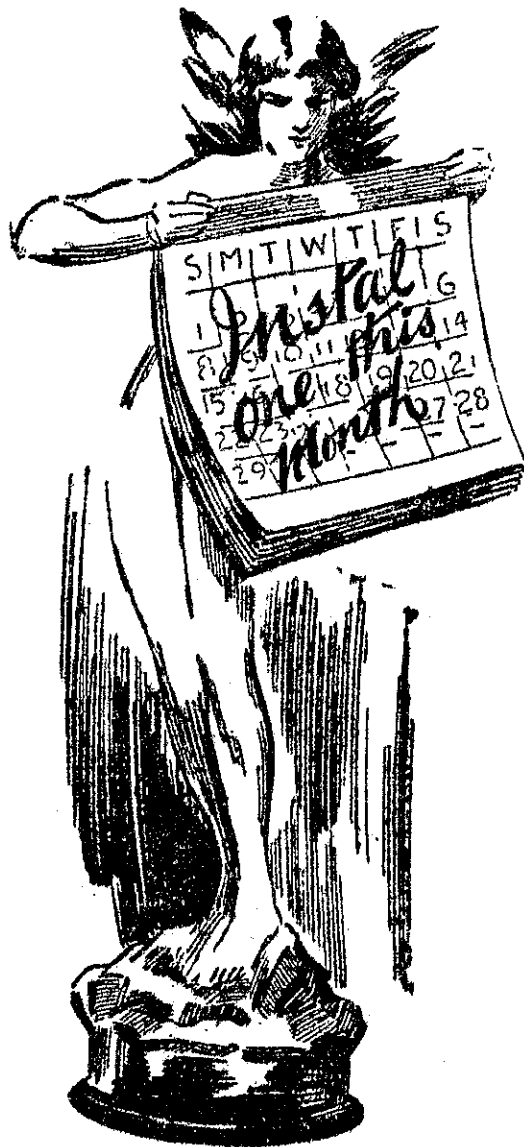
THIS is the statement of Mr. D. E. Gilman, manager of the Pacific division of the National Broadcasting Company, who more than many others, is in a position to realise imaginative creations likely to develop. "We have broadcast grand opera; we are broad-

casting light opera, in tabloid form, of course. I wouldn't be surprised if, within the next few months, we will be broadcasting a whole circus—animals, music, clowns, chariot races, with the side-shows, the fat lady, the lean man, Tom Thumb, and the rest of them—everything but the tent."

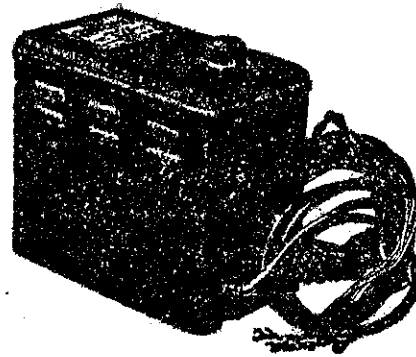
TROUBLE is brewing over the control of the proposed League of Nations wireless station, which it is planned to build in Geneva, Switzerland. This station would be used by the members of the League for communicating with one another. In the early discussions that took place the Swiss Government took the position that it should be in complete control of the station except in time of war, when it was willing to relinquish jurisdiction to the League officials. No objection has been voiced as to the actual erection of the station on Swiss territory. It is expected that the situation, which is being discussed privately by members of the League, will become an official matter during the present Assembly. It is voiced in certain quarters that the attitude of the Swiss Government may cause the League to locate itself in another neutral country.

TURKEY has Westernised her alphabet, and is making considerable use of the two main broadcasting services in the Ottoman Republic for disseminating knowledge of the innovation.

EARLY next month the B.B.C., in the hope of improving the service areas of their relay stations in and near the big cities, will have them all operating upon the one wave of 288.5 metres.

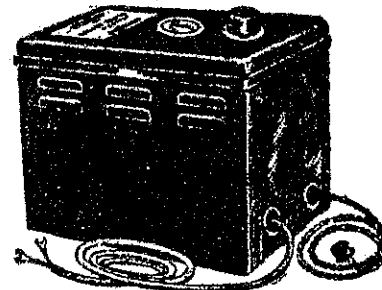


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WELLINGTON, FRIDAY, NOVEMBER 30, 1928.

EDITORIAL NOTES.

KEEN interest attaches to the effort to relay on December 7 by land line from Wanganui the special concert being presented for broadcasting purposes. The talent available in that city is quite outstanding, and, if technical skill can assure it, listeners will be given a special treat on that evening. Tests of the line so far conducted indicate that with favourable conditions the outcome will be satisfactory.

THE result of the popularity programme contest will be awaited with interest. We understand that entries have been heavy, but heavy though they may be we doubt if they will be a true index of the real interest taken in the event. Many people have been most interested in the evenings as given by the different stations, and have formed their own opinions of the merit of the various items, but have not felt inclined to undertake the task of computing the popularity of the items in the eyes of the public. That task, when fairly faced, has been one from which they have shrunk—and in the shrinking they will have come a little against the problem facing programme organisers in their daily task. From this point of view the success of the competition will not be assessable merely by the number of entries received from the public. The real success of the competitions will lie in the challenge to thought which they have presented to the general body of listeners. So soon as thought is given to the problem, by any person, whether belonging to the class of satisfied or unsatisfied listeners, realisation is forced of the point of view of "the other fellow." This is now becoming more and more recognised. In the early days of radio, enthusiasts were common who undertook to tell the world what "the public" want and in the telling wonder at the incalculable stupidity of those who refused to see and recognise their own particular angle of vision. That stage is passing. It is being replaced by a general recognition of the fact that what is one man's intellectual meat is another's poison, and that both classes must at times be catered for and at times must forgo for the benefit of the other. This tolerance is the outcome only of understanding and widening knowledge. A more considered use, too, is now being made of radio. Selection is replacing repletion. It is recognised that just as the gramophone owner does not run his machine afternoon and evenings for six days a week, so the radio listener need not necessarily give his set a full-time job to feel that he is receiving his "penn'orth per day." Selection of items is growing. This has been fostered, too, we think by a steady, all-round improvement in the programmes. In some degree this has been contributed by the use of well-selected gramophone records, which make available the world's best in various fields. With this aid and the addition of such variety as is available, listeners have appreciated a steady improvement in programme quality. The outcome of the competition now under discussion will be very illuminating, but as indicated, the benefit will be much wider than may be shown by the actual number of entrants.

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

Race Broadcasts

IN last week's issue we stated that a running description of the trotting meet at Hutt Park on Saturday, November 24, would be broadcast by 2YA, commencing at 3 p.m. In this instance our information was erroneously based, for it was not the intention of the company to broadcast running descriptions. Had it been intended to do so, 2YA would have been on the air from the commencement of the meeting and not from 3 o'clock.

While the company could, if it chose, broadcast running descriptions of races, it has so far refrained from doing so, in deference to the wishes of the clubs concerned.

The company's practice has been to broadcast all information as soon as it is available, and in that respect it is supplying a very efficient service.

Swimming Cook Strait

Broadcast Description Intended

IT was cabled out recently that Miss Gleitze, who swam the English Channel, was sailing for New Zealand, and that she intended to attempt to swim Cook Strait.

When the attempt is made the Broadcasting Company intends to describe it. A portable transmitter will be in one of the launchers or steamers, and the progress of the swimmer will be described throughout the whole course of her prolonged effort.

Licenses Now Exceed 42,000

The Secretary of the Post Office, Mr. G. McNamara, advises:—The undermentioned summary represents the number of radio licenses issued as at October 31, 1928:—

	Receiving.	Trans- mitting.	Dealers.	Private broad- casting.	Experi- mental.	Special.	Free (blind)
Auckland ..	13,645	55	410	2	1	2	69
Canterbury ..	7,882	31	277	1	—	—	47
Otago	2,777	18	159	3	—	—	25
Wellington ..	16,036	52	581	3	—	2	27
	40,340	156	1427	9	1	4	168

Total: 42,106.

Schubert Centenary

1YA Artists in Recital

THE debt that the cause of good music owes to broadcasting was further evidenced in the crowded audience that attended the Auckland Gramophone Society's Schubert Centenary Recital in the Lewis Eady Hall on the famous musical anniversary, Monday, November 19.

The salient features of the master melodist's career were sketched by the President, Mr. Karl Atkinson, at the outset, and informative notes were given by him on all the items of the programme. The outstanding event of the evening was a memorable performance of Schubert's Trio in B Flat, Op. 99, by the Auckland Trio from Station 1YA (Miss Ina Bosworth, violin, Miss Molly Wright, cello, and Mr. Cyril Towsey, piano). The ovation at the conclusion of the work, which was played in its entirety, was a well deserved tribute to the trio's painstaking preparation and its musicianly grasp of every subtlety and beauty of Schubert's stream of melodies. The zest of the players was infectious and carried the audience along from start to finish. Madame Mary Towsey sang with superb effect and dramatic intensity the famous narrative ballad "The Erl King," and Mr. John Bree's rendering of the equally popular song, "The Wanderer," evoked much appreciative applause. Needless to add, both accompaniments were adequate, and especially in "The Erl King," which was taken at a brisk pace, did Mr. Cyril Towsey give his hearers a dazzling reproduction of an accompaniment that is at once the

dread and despair of the average pianist. Since all six participants in the recital are continually associated with 1YA, the evening was a feather in the station's cap. A very fine programme of gramophone records was played, and no one present could doubt the many-sided genius of the composer, whose centenary is receiving so much attention just now, and whose wider fame in the Dominion owes much to broadcasting.

"Messiah" at 3YA

Fine Christmas Broadcast

3YA is preparing its programmes for the Christmas season. One big attraction that has been announced is a studio presentation of the principal excerpts from Handel's "Messiah." This will be produced in 3YA studio on Thursday, December 20, under the direction of Madame Gower Burns. As this performance will be complete with choir effect it will be one of the most elaborate studio productions yet attempted by 3YA.

The choir of the West Belt Wesley Church has been engaged. Three full choruses will be sung. There will be various solos and a duet. The Broadcasting Trio will play the "Pastoral Symphony," from "Messiah."

In addition to the "Messiah" numbers, the choir will sing a number of Christmas carols.

EXPERIMENTER'S SURPLUS.
Parts, valves, accumulators, slightly used. Sell half list. Send for list
J. MASON,
Tuakau.

Farewell to Uncle Ernest

Radio Valedictory on
Friday, December 7

ON Friday evening, December 7, there will be an interesting gathering at 2YA during the Children's Session, the occasion being a valedictory to the Rev. E. Weeks, "Uncle Ernest," who is soon to leave for England.

Uncle Ernest is the oldest radio uncle in New Zealand, not in point of age really, but only so far as radio service goes. Uncle Ernest was one of the first to realise the sphere of usefulness that radio opened up, and it is with the greatest regret that he is now relinquishing a labour of love. It is a great regret, too, to thousands of children who, though they have never met him, have learned to love him through radio. The affection in which he is held will be testified to by an album of names written by the children's own hands, which is to be presented to Uncle Ernest.

There will be an interesting gathering at 2YA on Friday, December 7, when a Radio Farewell is given to Uncle Ernest.

New Violin Concerto

Work of Christchurch
Composer

ON Wednesday, December 5, 3YA will rebroadcast part of the concert which is to be given by the Christchurch Orchestral Society. An interesting feature of this broadcast will be the fact that Christchurch and listeners-in will hear a new and as yet unpublished musical work. This is a composition by the society's conductor, Mr. Angus Gunter. It is a Concert-stuck in D Minor for violin and orchestra, the soloist being Miss Joan Carter, a pupil of Mr. Gunter. The first performance of this work will attract considerable attention, not merely in Christchurch but throughout the Dominion.

A concertstuck is the recognised type of a one-movement concerto, often written in freer form with varied tempi and change of time signature.

Mr. Gunter's work is written in strict sonata form in the manner of a symphony. The solo instrument is regarded as an inseparable part of an organic whole; the accompaniment never sinks into the background, but is thematic and the characteristic motives are taken up again and again by the different sections of the orchestra.

"It is absolute music," says Mr. Gunter. "But should a poetical idea be required it is that of an on-storming, fearless young soul fighting against the cramping fetters of Fate."

The first main theme is not heard until the 31st bar, since the orchestra, and later the solo violin, have an introductory prelude built on material which hints at the principal theme.

New and Interesting Features

Observations on Some of the New Models

(By "Observer.")

IT is interesting in going round town to notice the trend of radio as forecast by the new arrivals displayed by the leading dealers. Although we are rapidly approaching summer, there are some remarkably fine pieces of radio apparatus coming on to the market. Notable among these is the new electric model Crosley, on exhibition at the shops of the agents. Of these there are two distinct models, both fully shielded, and encased in a handsome metal case; one is a six-valve and the other an eight, that is, including the rectifier.

The larger of the two utilises two valves and two transformers in the famous "push-pull" hook-up which produces immense volume without distortion. A feature of these models is single dial control with a balancing unit, to ensure perfect selectivity. Both sets are worked entirely from the A.C. mains, all rectifiers and transformers being included in the neat cabinet, which in the largest model is only 18 inches in length and ten inches wide.

These manufacturers have brought out an attractive speaker on the dynamis principle to match the cabinet.

Battery Eliminators.

THE enthusiast who wishes to electrify his set without going to the expense of purchasing a new set will find a splendid outfit in the ABC eliminators, stocked by Messrs. L. Silver and Co., Manners Street. This type of eliminators can also be obtained for A and B separately. It is claimed that these eliminators will deliver very heavy amperage and still maintain a high voltage. This makes

them very suitable for the new power valves that are rapidly coming to the fore.

An Example of Push-Pull.

PASSING along Manners Street, one is often arrested by the large crowd collected around the shop of Messrs. Silver listening to the afternoon session from 2YA. The deep, rich tone is remarkable. The secret is push-pull amplification such as described by "Pentode" a few weeks back. A crystal detector is employed. The speaker, which handles the output faithfully, is a baffled Baby cone of a popular make.

Power Amplifier.

A TYPE of power amplifier that should appeal to those who have need of great volume, has been constructed by Messrs. Thomas Ballinger. Running directly from the mains, this unit can be applied to an ordinary wireless set, short-wave set, a crystal set, a gramophone pickup, or a microphone. The unit may be used as a speech amplifier for public addresses. Any type of speaker can be applied. While watching a demonstration, the writer was amazed at the tremendous undistorted volume supplied to a moving coil speaker. A small cone speaker was then hooked up and the same music (from a pick-up) was toned down to a whisper. It was a truly remarkable feat.

This amplifier was used in conjunction with a dynamic speaker on election night, and could be heard word perfect several hundred yards away against a stiff breeze.

A smaller unit is available for household use.

The Ideal Programme

4QG's Search For It

IN view of the great diversity of opinion existing among listeners, the management of 4QG, Brisbane, offered a prize of £5 to the listener who could furnish an ideal programme for one evening, i.e., from 8 p.m. to 10 p.m. It was hoped that by doing

After both the first and second main themes have been stated, a slow section of the work is inserted, marking the beginning of an elaborate working-out part.

The climax of this is a grand orchestral tutti, written in polyphonic style. The recapitulation follows orthodox lines. Attention may be drawn to the re-statement of the second main theme, now in the major key, and this time rhythmically allongated from 3/4 to 4/4 time.

In a more or less turbulent work, this is a particularly restful song of tender, trusting innocence. The whole comes to a seemingly jubilant end, were it not for a slow epilogue full of poignant emotion.

this, the station would be able to find out exactly what was wanted, at the same time giving scope for the expression of new ideas.

Views of the Competitors.

A LARGE number of listeners went out of the way to compile programmes, and forward them to 4QG. The judging of the efforts submitted was a rather difficult task, and it was finally decided to ask three capable persons to scan carefully all the efforts, and to express their views regarding them independently. None of these people discussed the efforts with each other; each expressed his own opinion, irrespective of what the others thought.

The entries were disappointing, for beyond showing who were the popular artists, they contributed nothing. Some had evidently devoted a great deal of time and thought to the matter, while others had written an ideal programme from their own point of view, and completely forgotten others. In this respect one lady, who took particular pains to assure 4QG that she held a university degree, handed in a programme composed entirely of gramophone records. This type of programme might suit her personally, but she quite overlooked the fact that she is not the only person who listens, and she, therefore, did not realise that what might please her immensely

would not be at all satisfactory to, say, the lady who lives next door.

The Ideal Programme.

SOME of the "ideal" programmes were merely a collection of oddments, certainly variety, but without a semblance of unity that makes so much for a perfect programme.

"Every programme broadcast from 4QG, or any other station," comments the station director, "pleases some of the listeners and displeases others. Almost every day some caller or some writer to 4QG states that some particular item or programme which has been broadcast, was the best ever given, and other writers or callers invariably class the same item as the worst. Both critics are right. The man who says a certain item or programme is beautiful is quite right. It is beautiful. It is beautiful because it appeals to his tastes or fancies or emotions and, therefore, pleases him. The man who says it is painful is also right. It is painful. It is painful to him because it does not appeal to his frame of mind. Both men forget, however, that what is pleasing to them is distasteful to the other fellow, and vice versa."

Difficulty in Providing Programmes.

HAVING explained that everything is being done to group programmes in such a way that all types of listeners are catered for and that the printing of programmes ahead gives the listener a chance to select his programmes (in this respect adopting the New Zealand system) he continues: "One of the greatest troubles of broadcasting to-day lies in the fact that very few people know how to listen in. If a man owns a gramophone, he does not for one moment play it from eight to half-past each morning, from eleven to twelve, from one to two, from three to half-past four, and from six to half-past ten or eleven, every morning, afternoon, and night of his life. Were he to do so he would soon be very sick of gramophones. Similarly, if a man owns a gramophone and buys a record which he does not like, he does not solemnly sit and listen to it in spite of the fact that he does not like it. Also if a gramophone company makes records which do not suit the particular taste of a gramophone owner, that owner does not write an anonymous letter to a newspaper and sign it 'Disgusted,' and say that the gramophone company is a badly run institution simply because it makes a certain type of record he does not care for. Not at all! He simply does not play the record he does not like, and plays the records he does like."

"So it is with a broadcasting station. No listener can reasonably expect to get all he wants all the time. The other fellow must be catered for. If a distasteful item comes along a snap of the fingers cuts it out. It must always be remembered, however, that an item is not distasteful merely because one individual listener thinks it distasteful. One man may not like boxing, but that does not for a moment constitute any fragment of a reason why 4QG should not broadcast from the stadium. There may be many listeners who do like it, and they all have to be catered for. Similarly, some listeners may not like classical music, but many others do. A station exists not to please either section, but to try and cater for all."

Broadcasting in India

DURING the radio season the Indian stations are able to be heard on sensitive sets in this country and the conditions pertaining there, will be of great interest to listeners.

Calcutta (7CA) and Bombay (7BY), working on wave-lengths of 370.4 metres and 357.1 metres respectively, are the real broadcasting stations of India, each serving a wide surrounding district. The bulk of the population of Bengal speak Bengali, while the European and Eurasian portion of the hinterland on the Calcutta station talk English. A programme under these conditions is doubly difficult; it presents the same problem as is faced by the English listener to the Continental programmes. Should an all-English broadcast be given, it appeals only to that section of the listeners conversing in English; to the remainder it is entirely foreign. With Bengali programmes the same applies to the English-speaking populace.

When Calcutta carried out regular transmissions it was usual to allow three nights of an all-English version, while the remainder of the week was given in the language of the country, principally Bengali.

Programme Difficulties.

THE providing of programmes in English is somewhat restricted, available artists are few and cannot be repeated too often. In consequence of this the gramophone plays an important part in the construction of programmes. With a Bengali broadcast this difficulty does not arise, since local artists are more or less national artists, and the gramophone is used only to fill in spaces.

It might be said, however, that from an English point of view Bengali music is not appealing, but it certainly pleases the native listener.

The license issued in India is very similar to that issued in this country, giving freedom to use a set for the purpose of a broadcast receiver. The set builder who desires to build a set for

the sake of wireless, will find a fair amount of diversion in logging the smaller stations as well as a few of the more powerful overseas stations. In addition there are a good number of amateur transmitters operating on the short waves.

Constructors Handicapped.

THE greatest handicap to the set-builder is the procuring of material, since to bring wireless apparatus into the country one requires a special importer's license. This license is sparingly granted, and without it any apparatus may be regarded as contraband and, as such, may be confiscated. It is, therefore, necessary to purchase the parts unobtainable locally through a dealer with an import certificate.

IF you want to use a set which has been stowed away and is covered with dust, do not forget the possibilities of the vacuum cleaner with a small suction attachment, which is very useful for removing dust from inaccessible places.

Auckland Notes

(By "Listener.")

THERE is every prospect of a brisk radio trade developing in Auckland during the coming month, for so much public attention has been drawn to the service rendered by broadcasting that the possession of a radio receiver in the home seems no longer a luxury. Many consider that the main function of broadcasting in the future will be not the provision of regular entertainment, but the conveying to the public of quick and vivid impressions of important happenings in every sphere of life. That is, of course, until television materialises commercially.

1YA broke its customary Monday silence this week to relay during the afternoon and evening a function and a service that attracted widespread attention throughout the Dominion. The visit of a distinguished Roman Catholic prelate was in itself sufficient justification for the relay, for Cardinal Cerretti is a figure of such importance in the religious world that people of all denominations were anxious to hear him. The ceremony of unveiling the memorial tablet at the Mater Misericordiae Hospital was fully described, and the speeches marking the occasion were transmitted excellently. It was the evening service at St. Patrick's Cathedral, however, that earned the approval of the big body of listeners. Never before has better choral music been broadcast from 1YA, and both choir and soloists were greatly appreciated by the big unseen congregation at speakers and phones, even though this congregation was not, in the main, of the faith of the worshippers in the Cathedral. A correspondent in the local Press has raised the question of what principle is involved in arranging such special broadcasts as the one on Monday night. The answer is so obvious that one wonders at the lack of perception displayed by the writer. It is part, and a very important part, of a broadcasting station's function to give its listener all of importance which will educate or entertain them. If Monday's relay does not come under such a category then the general public will be much surprised.

THE popularity test provided an interesting programme on Wednesday evening. Next day the writer came into contact with many who had quite enjoyed their temporary task as adjudicators, and these people will await eagerly the publication of the general consensus of opinion upon the items given. The test was quite attractive as a novelty, as well as a guide, and it might well be followed by another in which the human element participates, and mechanically reproduced music is replaced by the voices of actual artists.

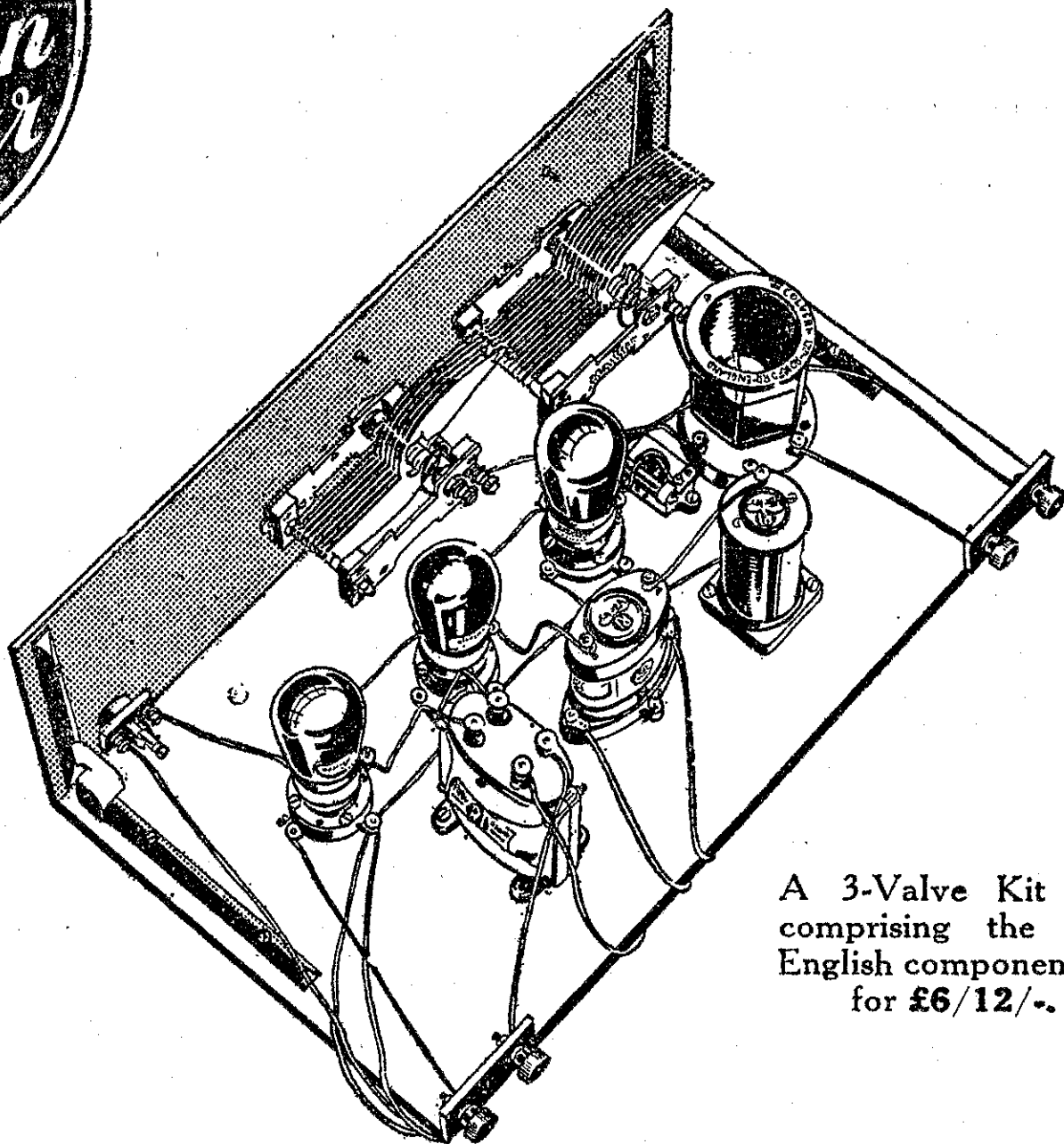
THE operatic excerpts from 1YA maintain their popularity, and "The Maid of the Mountains" proved as popular on Tuesday last as when it was first put over.

THERE are many keen followers of Australian cricket in Auckland, and for them 1YA usually manages to provide some early information. Usually, by 10 p.m. the day's scores in the big cricket matches across the water have been picked up from 2FC or 2BL, and are given out for the benefit of the many who cannot hear Australia at this time of year.



Mullard

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English components—
for £6/12/-.

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gives you a Short
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So simple that a boy of ten can assemble it in an hour. (To construct, merely place blueprint on baseboard and panel, mark positions clearly indicated, and screw apparatus down.) So efficient that the veriest novice can pick up broadcast from Australian and New Zealand stations at the first try-out and short-wave transmission from American and other distant stations. Over 250,000 sold in England already.

AN IDEAL CHRISTMAS GIFT.

KIRKCALDIE & STAINS, Ltd., RADIO DEPT.
WELLINGTON

(Continued from Front Page.)

MASTER Jack Buckley, twelve years of age, who will play a cornet solo to band accompaniment, is a son of Captain George Buckley, conductor of the Queen Alexandra's Own Band, himself at one time the champion cornetist of New Zealand and Australia.

IN Mr. Gordon Bergerson the band has a champion cornetist. His contribution to the evening's entertainment will be the "Arbuckienian Polka," to which the band will play the accompaniment.

UNIQUE items on the programme will be supplied by the Wanganui Harmonica Bands, of 60 performers. They will play "Drink to me Only" and "Old Black Joe."

Items from Champion Band.

SUPREME interest will be taken in the numbers by the Queen Alexandra's Own Band. Two contest selections are to be played and these have an added interest in view of the contest in Wanganui next year. These selections are Rimsky-Korsakov's "Scheherazade" and Wagner's "Tristan and Isolde." Other numbers will be the overture "Zampa," the descriptive "In a Monastery Garden," the sketch "The Mill in the Dale" and "The Dawn of Freedom," a fine march that will conclude the evening's entertainment.

READING somewhat like a romance has been the history of the Queen Alexandra's Own Regimental Band. Its present title gives little indication of its humble origin. Last century—or at any rate very near the beginning of this one—a few enthusiasts in a church organisation, the Trinity Young Men's Institute, formed a drum and fife band. Taking the initials, it became known as the "T.Y.M.I. Band" and as such it had varying fortunes, almost disappearing at times until it was resurrected as the "City Band." For many years this, too, had a precarious existence. It passed through the fires of scorn and ridicule, but one day the city learned with amazement that Mr. George Buckley, lieutenant and champion cornetist of the Wanganui Garrison Band, had become conductor of the City Band. In the years that followed, the genius of the conductor built up, moulded and trained the City Band, or, as it became known when it attained military status, the Queen Alexandra's Own Regimental Band, until it became the finest brass band combination in New Zealand, probably in the whole of Australasia. As the band competed at the various contests

in the Second Grade and finally in the First Grade, it carried off various prizes. Some people to whom the Queen Alexandra's was still the "City Band," and the "T.Y.M.I. Band," considered these successes were "flukes," due to the whim of the judges. But it was strange that each contest saw the band gaining more laurels until for the last two years it has carried off the premier honours for New Zealand.

Hawke's Bay Notes

"PRESSURE of business," mostly concerning the elections, has prevented the writer from keeping readers up to the mark with news from sunny Hawke's Bay of late, but now that things have quietened down, for a time at least, a few more notes will perhaps not be out of the way.

Of course the outstanding feature of late in the radio world was the YA broadcast of the election results, and on behalf of all local listeners the writer says "Thank you," and don't forget the capital "T." It was a great effort on the part of the company, and it was honestly appreciated, not only by licensees, but by a large section of the non-radio public, for one of the Hastings dealers had a set, an exponential horn and amplifier working in town in conjunction with the local results. Fortunately that night static was on good behaviour, and the public heard radio on one of its best nights. That broadcast must have made a lot of friends for radio.

ON more than one occasion on election night distortion took the place of static, and this question of distortion is one which is causing a lot of concern locally. Never since the big Wellington station was opened has this distortion been so bad, or at least so consistent. Night after night it has been impossible to hold 2YA steady for more than a couple of minutes at a time, and lots of fans came to the conclusion that their sets were out of gear, until they conferred with neighbours or tuned into Auckland or Christchurch. These stations get distorted at times, but only a fraction as compared with Wellington. The strange part of it, though, is that on almost any afternoon reception from 2YA is almost perfect, but as soon as darkness sets in along comes the distortion. Perhaps the "Radio Record's" technical experts can give some explanation, more especially as the writer can vouch from experience reception

at Napier is perfect when it is badly distorted in Hastings, and Hastings is only a dozen miles from Napier. Another strange feature in connection with this distortion was provided last Tuesday night, when 2YA put on its competition programme. Up till about 10 p.m. reception was almost perfect—no static, no distortion—and yet over the last half-hour distortion was there every two or three minutes. The problem should take some working out.

TOUCHING on that competition programme, the writer for one wishes to offer congratulations on the excellence of the selection of items, and it is a safe bet that if all programmes were on a par there would be no cause for complaint. The programme also proved that "canned music" properly delivered is the goods. The music was glorious and the singing as good. Practically every item deserved full marks, and a similar gramophone recital, say once a week, would be very welcome to listeners, up this way at any rate.

BY the time these notes appear, the Hawke's Bay Radio Society, which,

by the way, has its headquarters at Hastings, will have decided on the set which is to be installed in the Hastings Hospital. On Monday, the 26th, there is a meeting of the society when the selection will be made, and it is expected that the equipment will be in full working order before Christmas. It should be a nice Christmas present for the inmates. As this hospital is only a "baby" at present, the installation does not need to be exceptionally large. The cost will be about £160, this sum having been raised by the Radio Society.

RECEPTION of late has been nothing to rave over. Apart from the distortion of 2YA, static has had a good innings, and although the New Zealand stations have been fairly reliable for strength, the Aussies have been well below standard. In fact, they have not been worth while at all.

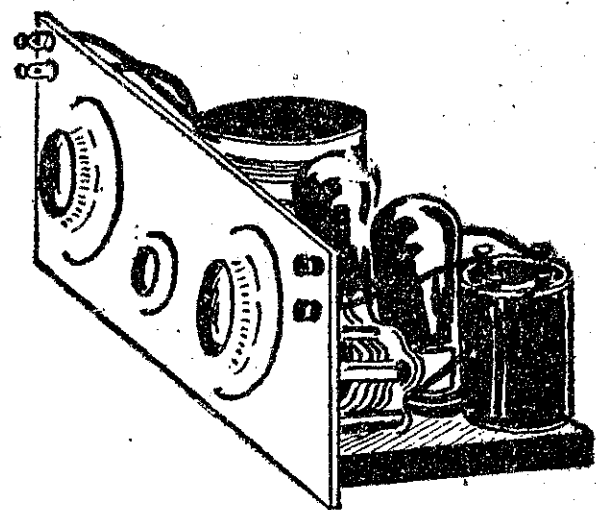
THE level of the liquid in an accumulator must be kept above the plates, but do not use tap water for this—use distilled water.

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Without Accessories

Or Complete with Valves, Batteries and Amplion Dragonfly Loudspeaker . . . **£5/15/-**



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3-Valve Set for 58/-

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

Terms if desired.

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

Name

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Complete Kit of Parts to make Crystal and Amplifier to operate from A.C. Mains

As described in last Issue of the "Radio Record."

£7-0-0 Postage Paid

Including Transformer and Choke Material, Ebonite Panel, Valves, Condensers, and all parts necessary. Just assemble according to instructions.

Mail Orders forwarded to any part of the Country.

L. H. WRIGHT, 10 Manners St., Wellington

A Little Appreciation.

MANY thanks for your kindness in dealing with my queries as set out in this week's "Radio Record," also for the fullness of the information given. Wishing yourself and the "Corner" every success.—"Sonora" (Lower Hutt).

Voltage on A Battery.

MY set is a two-valve; I use one cell, a dry battery to light both valves. Is this sufficient, or should each valve have a separate battery and rheostat. Would two or three of these A batteries connected in series be better or would you advise a different type of a battery.—Beginner (Palmerston North).

As with all A batteries, the most important question is, "What is the voltage and consumption of the valves in use?" With regard to the first great care should be exercised to ensure that the current on the filament is not at a voltage higher than that recommended by the makers. As the correspondent does not state the valves he is using it is impossible to answer his first question; he should find out what voltage his valves require, then reckon each dry cell as $1\frac{1}{2}$ volts. Valves except in certain circuits are connected in parallel with one rheostat. Where a valve requires a lower voltage than the rest it should be supplied with a separate rheostat of a high resistance.

Where more than two valves are in use, it is not wise to use dry cells. Even in circuits of one or two valves dry cells should not be used if the total consumption is greater than about .12 amperes per hour. When consumption exceeds this an accumulator should be employed preferably with a trickle charger.

There are two important points for the beginner to keep in view:

1. Valves requiring different filament voltages should not be used unless adequate precautions are taken to protect the filament of the valves requiring the lesser voltage. The voltage required is that of the valve requiring the highest voltage, not their sum.

2. The consumption is that of the sum of each valve added together.

Types of Aerials.

A CORRESPONDENT, M.W.Y. (Wellington), who has not read our rules, sends the following queries to "Pentode," who answers only those questions referred by "Observer," to whom all technical correspondence must be addressed:—

"Which of the following aerials is the most efficient—given that gauge of wire and other considerations remain constant:

"1. One length of 100 feet.



"2. Two parallel lengths of 50 feet —(a) 6 feet apart, (b) 3 feet apart.

"3. Four parallel lengths of 25 feet, 3 feet apart."

Many beginners no doubt ask themselves this question, and finally arrive at some solution, whether right or wrong. Here is the accepted solution. The two wire aerial of a given length will always bring in stronger signals than the single wire, other things being equal. Three wires would bring in stronger signals than the two-wire aerial, but there is no semblance of proportion, e.g., two wires would not

suitable than wires six feet apart. Four parallel lengths of twenty-five feet would be the least efficient.

Loose Coupling.

A CORRESPONDENT has asked the meaning of the term "loose coupled," and as it is one of the most common of radio terms, it may be worth a little explanation.

The term refers to the proximity of coils, not to the method of connection with the terminal, as our correspondent suggested. Around every conductor, charged with electricity, there exists a field

A Corner for Crystal Owners

NEXT week will see the institution of a corner devoted to the crystal owner. Crystal circuits are necessarily limited, but every effort will be made to place before the beginner as many adaptations as possible. These will be interspersed with descriptions of easily-made amplifiers for the crystal. All possible aspects of crystal use will be discussed. The direction of the aerial, the type of aerial, earth systems, leads, joints, types of crystals, coils, the value of the condenser, the resistance of the 'phones, systems of house wiring, and a thousand other problems confront the beginner and he is at a loss to know what to do for the best. These will be discussed as opportunity offers. Questions from the crystal user will be welcomed and will be used whenever possible. The corner will be conducted by "Galena," to whom correspondence relative to the page should be directed:—"Galena," Radio Record, P.O. Box 1032, Wellington.

give anything like twice the volume of one wire, although an increase in length would give rapidly increasing signal strength. That is to say, it is preferable to increase length than to introduce more wires.

Wires too close together serve no purpose, the optimum distance being six feet. Above this nothing is to be gained, while, when the wires are not separated by six feet, little is to be gained by the extra wires. Applying these facts to the questions asked: One wire 100 feet is preferable to two 50 feet. Wires separated by 3 feet are less

of magnetism, through which signals can be passed as through the conductor. The extent of this field is not very great. Coils or any other conductor placed in this field will pick up the signals from the other conductor. In this manner a connection exists between them, i.e., they are loosely coupled.

Coils placed very close to one another are said to be tightly coupled and strongly influence one another. This magnetic induction, as it is termed, may, if not properly controlled, seriously interfere with other conductors in the set and cause distortion. This explains shielding and space winding, and the separation of certain components such as transformers, coils, and condensers.

Valves Failing to Light.

I HAVE a factory-made wireless set, and it has given every satisfaction up till lately, but about four weeks ago, while moving the volume control towards soft, signals stopped, and I found that a valve had gone out and wouldn't light for some time, but trying the set next evening everything worked all right, though if I touch the volume control out goes the same valves every time, or if it does not go out it flickers down very low and stops reception. Now, sir, knowing nothing

about grid bias and such things, I can't give you such information, but I would be very pleased if I could get to know more about the set I am using, as I hardly know anything about the valves, so I might be mistaken in saying it is the power valve that is causing the trouble, but I will give the positions of them. [From the diagram it is the radio or high-frequency valve at fault.]

Last night I noted a new kind of static, so I tested the 3 B batteries, and they read 29 volts, 39 volts, 50 volts or more. Could you tell me how this happened? Don't the B batteries drain alike? How did the 45-volt block get to 50 or more when I tested them separately?

I bound the ends of the A battery terminals with fine sand-papered copper wire, for about an inch and I never get any of the fine strands of the leads broken or jammed when screwing on the top of the terminal.—F.H. (Westport).

THIS is just the type of letter we want—no matter how elementary the problem is, we welcome it. In this particular receiver the high frequency valve is controlled by a separate rheostat, or dial on the receiver. If for some reason this valve refused to light, one of three things may be suspected:

(1) That the A battery was too low.
(2) That the rheostat was not working properly.

(3) That the valve was broken.
From what our correspondent says, it appears as if the rheostat is faulty. Perhaps it has worked loose, and does not make a good connection. "Observer" has had that happen often to his set. Maybe there is a loose or broken connection between the rheostat and the valve or between the valve and the A battery.

F.H. would be advised to proceed as follows:—Disconnect the batteries, examine carefully the rheostat to see that there is nothing loose, likewise examine the wires coming to and from the valve and rheostat. Anything loose should be tightened.

Artificial Static.

REGARDING the second question, artificial static. A short time back we spoke of this being an indication that the B battery was low. On putting a voltmeter across his batteries F.H. finds this to be the case. Twenty-nine volts is too low and should be replaced. As the different blocks supply different valves, requiring varying amounts of battery, they run down at different rates.

Grid bias supplied by a small battery within the set is applied to the grid of the valve to regulate the flow to the plate. If this battery becomes too low it should be replaced. A grid bias registering 25 per cent. below normal should be replaced. The cost is trifling, but the effect is the reverse.

Some batteries certainly register above their rating, but these are uncommon.

The suggestion about binding the ends of the wires is a good one—we commend it to all readers.

Directional Effect.

2FB, Northland, writes:—I have tried two indoor aerials, one consisting of talking tape strung across the room and passing over another which consists of four copper wires separated at each end by a wooden cross and the lead taken from the middle. The result was that the talking tape worked

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wonderfully about R8-9, while the other one would not work at all. The reception from the upper was very bad when the lower was taken down. While leaving the lower up and working the set from the upper reception was three times as good as that from the outdoor aerial. The lower aerial had an insulator at each end, while the upper had none.

There are several points to consider in this question:—

(1) Directional effect. From a diagram supplied the aeriols run in different directions. The talking tape may be directional to 2YA and the wire aerial not.

(2) The four copper wires unless separated by six feet would not act as four separate aeriols. It appears they were not far apart so that they were acting as one only.

(3) The upper wire being the stronger, acted as a blanket and inducted the signals collected from the lower, thus augmenting its own signals by signals which were not in themselves strong enough to be heard.

(4) The outdoor aerial was possibly faulty and undirectional.

Getting the Americans.

"D.M." (Te Wera) writes: "I am using a five valve factory-made set with a power valve. 2FC, Sydney, I can get any day and any time they are broadcasting, that is, from 9 a.m. until they sign-off; sometimes only a whisper and other times loud enough to hear in the room with loudspeaker. All New Zealand stations are a good bet for me to get any day they are broadcasting. Plenty of volume. After nightfall the volume from New Zealand and Australians is enormous, in fact have to detune. I am using a good high aerial; lead-in not soldered, and short earth wire clamped only to a small pipe driven into the ground. I am using 90 volts wet B battery with 45 volts dry attached. Why cannot I get any stations outside New Zealand and Australian after night-fall?"

There are several considerations, any of which might affect the reception of distant stations, the most important are

(1) Direction of aerial. To receive the Americans an L aerial should run from N.E. to S.W., with the lead-in at the N.E. end. To receive the Japs an aerial running N. and S., with the lead-in N. would be the most directional. A compromise to get good results from each could be easily effected.

(2) These stations are heard usually late at night or in very early morning. Try burning the midnight oil.

Speaker Polarity.

"I WISH to know," writes "H.L.W." (Glen Oroua), "if you could give me some advice on the following:—I have just made a three-valve set, and on connecting the speaker in the usual way (red cord to B+) the tone and volume are very poor, harsh and rattling. If I connect the speaker the other way round with the red to the plate of the last valve the tone is improved, also the volume, and I can get more distant stations. I applied the test for polarity given in the "Radio Record" for November 2, and the correct way by this is with the black cord connected to B+. Hoping you can let me know about this, as I do not wish to damage the speaker by running the set wrongly connected."

The test is proof that there is a mistake in the wiring of the speaker. It is quite an easy thing for those assembling the set to put the black wire on to the positive pole instead of on to the negative. The correspondent is correct in joining the black to the B+, provided the test has proved it to be the positive speaker terminal. His is evidently one of the cases where the wires have been wrongly connected to the speaker.

This letter points to the necessity for listeners to test their speakers for polarity, as the colouring is not infallible, and damage can be done by a wrong connection.

Volume Control.

"WOULD you kindly advise me, through the columns of the "Radio Record" on the following matter? I have a factory-made set, and until lately was using valves of high consumption. I then changed over to the other valves to economise on A battery consumption. I got improved reception and greater volume, but I am unable to shut off the rheostats sufficiently to quieten the set. Could you advise me of a method in which I could overcome this difficulty?"—W.K. McK. (Glen Massey).

Volume control was fully dealt with in our issue of October 12, to which our correspondent is referred. Another method is to incorporate another rheostat in the filament circuit, making two in series.

An Efficient Earth.

THE same writer from Glen Massey sends the following description of an earth which we pass on to readers for trial and report:—

"I have also installed a type of earth which I consider has improved the efficiency of the set wonderfully, and which I consider may with advantage be adopted by many listeners. I sank a hole 6ft. deep and filled it up with clinker and cinders. The diameter of the hole is 3ft. I then spaced seven 3/4 in. galvanised water-pipes an equal distance apart around the hole, leaving the ends protruding above the surface of the earth about 2in. I then procured a length of seven-strand insulated wire and attached one strand by an earth clip to each pipe. The earth wire leading from the set was then soldered to the end of the ground wire, close to the set. Each galvanised pipe was bored with four 1/8 in. holes, and the ends of the pipes being open allow the water to be poured down them, thus keeping the clinker around the pipes in a moist condition. This earth gives first-class results."

Connecting A and B Batteries.

A CORRESPONDENT has asked "which is the best way to connect the 'A' and 'B' batteries together, the A— to the B— or the A+ to the B—?"

The system which is considered best in most receiving sets is one in which the A+ and B— are connected together. When these two terminals are connected together the effective B battery voltage is increased by the amount of voltage of the A battery.

IF you find one of the little "corks" or stoppers on your L.T. battery is missing, do not think that it does not matter, because, as a matter of fact, any small piece of metal getting into the acid will seriously shorten the life of your battery.

Questions and Answers

READERS are invited to submit to "Observer" questions that can be answered in this column. The questions should be short and concise and capable of a reasonably short answer.

2FB, Northland.—If you were to try Thos. Ballinger you would probably be able to obtain 260 feet of bell wire in one piece. The collars you could no doubt make.

G. M. Tiffen (Gisborne).—We do not know the make of receiver to which you refer. If you can submit anything in the nature of a diagram we shall be only too pleased to help you if we can.

Introducing a Voltmeter.

"IT has often been said that it is practically essential to place a voltmeter permanently in the circuit to ensure the correct working of valves, more so when dry batteries are used, but there has been an absence of information as to how and where it should go.

"I would be pleased if you could supply the following information:—

(1) Just where in the circuit should a meter be connected to read the voltage across all the filaments?

(2) What alterations, if any, would be necessary?

(3) Would a high grade instrument such as a Weston detract from the efficiency of the set?

"The set in use is the Browning-Drake described in 'Record.' Valves have been a very expensive item to me, and I now wish to give them every chance of a long and useful life. Before closing, may I express my appreciation for your corner and wish it every success."—F.L.R. (Christchurch).

Connect the voltmeter across the filament terminals of the valve sockets themselves. These are the two thicker valve pins. The meter can then be permanently fixed on the circuit. The current on the valves could then be read irrespective of the battery voltage. The Weston voltmeter, consuming as it does but little current, would be a safe proposition, and would not affect the set. An inferior one would be decidedly unsafe.

Length of Aerial.

"WHAT is the maximum length of aerial and lead-in on which 2YA can be tuned? How can this be calculated?"

Each aerial has a certain natural frequency or wave-length. A station operating on this wave-length could be received without tuning devices, that is

without a coil and condenser. The object of these latter is to tune the aerial or the set to the frequency of the signals desired. A station cannot be tuned in if its wave-length is shorter than that of the receiving aerial, without special devices. The exact natural frequency of an aerial is not easy to calculate without mathematical experience, but the following is a general method suggested by "Radio News." Add together the length in feet of the aerial, the lead-in and the ground wire, then multiply the total length by 1.5. For example, if the aerial is 100 feet in length, the lead-in 40 feet and the ground wire 20 feet, the total length is 150 feet. Multiplying this by 1.5, the result is 225, the natural period or wave-length of the aerial. Applying this, it will be found that the length of aerial above which 2YA cannot be received is 280 feet. In practice, except in the case of crystal sets, an aerial this length would be far too long; it would pick up rather much atmospheric noise, although the signal strength would be much greater than, say, with 100 feet.

Mushiness From Speaker

"I HAVE a crystal set using a permanent detector; this is resistance coupled to a one-stage amplifier with a valve requiring 90 volts on the plate (B). I am using a small speaker of a popular make. Speech and high music come through O.K. but as soon as anything heavy or mixed, such as full band or orchestral music or choral items comes on, the speaker blurs as if the magnets were too close to the diaphragm (speaker rattle). The same effect is noticeable when the speaker is connected directly to the crystal while the earphones give perfect reproduction."

This latter clause seems, as suggested by the writer, to point to the speaker and to rule out the amplifier. As this outfit is in use near to 2YA (Pipitea Street), it would seem that the fault is with the speaker, which is not capable of handling the volume, and the lower notes, as it takes a better speaker to handle these than the higher registers. Most speakers will handle the high notes fairly satisfactorily, but it takes a good speaker and amplifier to handle satisfactorily volume and low notes. A good cone is usually required.

THIS IS TO ANNOUNCE TO OUR CUSTOMERS WHO ARE AWAITING THE ARRIVAL OF THE ELECTRIC MODELS.

5-VALVE CROSLY "CEMBOX."

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THE WOMAN'S POINT OF VIEW

By "VERITY"

Gifts for Christmas

By "JOHNEEN"



Philosophy

*If I have failed, I have done what no man
Has done before me—lost for love of
losing:*

*For to see shattered some high-vaulting
plan*

*Winged with ambition, brings a man
to choosing*

*In one way or another God's very crown
Of trial; and with it all such diadems
Of grave humiliation and renown*

*As most light tired eyes to glowing
gems.*

*Vain is success that knows fear but no
hope*

*Worth hoping for; but lovely is defeat
In which, unfearing, kindly comrades
grobe*

*Their human way towards yonder
mercy seat.*

*Yet, if to fail brings so great happi-
ness,*

*Must I—for failure's sake—achieve
success?*

P. R. LAIRD.

("Saturday Review" Literary Competi-
tion.)

EACH year, as Christmas approaches, by those who are deft of finger and possess artistic taste, there is that renewed search for presents and knick-knacks that rejoice in the appearance of being "different." Those who are truly wise keep their eyes open during the whole year, and on seeing anything that particularly appeals by virtue of its attractiveness, cheapness, or easiness in making, make a mental note of it, and set to work in some of their spare moments. But, after all, Christmas would hardly seem like Christmas without a great, jolly bustle to get everything done in time, and most of us seem to leave the making of presents to nearly the last minute. It is then often too late to ransack everywhere for original ideas. The following are new, quick and easy to make, and when done are quite good to look upon. Hand-made gifts have a charm all their own, probably reflected from the pleasure taken in making, and are always so much more appreciated.

Hearth Brush.

THE first is a hearth brush that will prove most useful, and add just the right touch of colour to the fireplace. It is perhaps one of the most satisfying things one can make from practically nothing.

Take a piece of thick rope 28 inches in length, and bend it over till the

ends are level. Begin $4\frac{1}{2}$ inches from the loose ends and bind very securely together for the length of 5 inches with fine wire—working towards the looped end. Tease and comb out the two loose ends of rope till like a thick mop. Cut off all the straggly bits, and dip just the mop end in dark brown or navy dye. When this is properly dry, begin to bind round the loop with raffia coloured to match the brush end. Then pick three very gay colours and bind each one over the centre wired portion for a width of nearly 2 inches. Be careful to tuck away all ends of raffia securely and neatly. These three bands of bright colours and a piece of ribbon tied from the centre in the form of a loop by which to hang it, give just the right finish to a very unusual yet practical gift.

Shoulder Posies.

FROM the small scraps of silk and organdie one finds lying tucked away in boxes and drawers can be made most delightful buttonhole posies—and posies of flowers never fail to please. Organdie is the better material to use as it can be curled, and gives a much daintier appearance.

Fold a strip about 4 inches in length and about $5\frac{1}{2}$ inches wide in two—making the underneath fold of material 3 inches and the top $2\frac{1}{2}$ inches. Shape the bottom edges slightly in the form of petals, and join sides together to form the shape of a Canterbury bell. Dip the tips of the flower in some dye of your favourite colour, and when dry, curl the petals up with the scissors by drawing the sharp side over the material gradually towards oneself. Instead of cutting the ends of all the flowers in petal shape, have the material on the cross, and just stretch and curl back the ends like a convolvulus flower. A few beads threaded from the centre and dangling just over the tip of the bells form the centre. Use very fine wire for the stem and cover with soft green. To make round petalled flowers, take a 5-inch square of organdie and fold over into a triangle. Take the folded side tightly between your thumb and forefinger and roll it over two or three times. Catch the ends with needle and thread before they unwind, and gather all round the open edge. Draw this up tightly, and it will form one petal. Make four or five of these and join all together with large silk French knots for centres. Make wire stems for them also and cover with green. A couple of these placed with the bells will make a very dainty buttonhole.

Attractive Boxes.

WHEN covering boxes with fancy paper to hold your gifts, pad them slightly on top with soft tissue a moderately hot oven. The cake may paper, or a small fold of material. Cut the cut into squares and stored in a tin.

your ribbon in two and gum one end of each piece neatly inside the lid, and then tie into a bow. This makes it possible to tie your ribbon slantwise on your box.

Colourful Gifts.

MOST delightful little gifts can be made from sealing wax. This can be procured in all colours, and has a very fine gloss. A small methylated spirit lamp is required, as this burns with a clear flame, and does not smoke the wax. Cut a small basket shape out of cardboard and cover with black or blue wax by letting the melted wax drop on to the board and holding it over the flame till the shape is covered evenly. Then fill the basket with flowers by letting tiny drops of coloured wax fall on the covered shape, and mould them with a needlework stillette. Run a length of very fine black silk braid, long enough to reach your waist, through the handle of the basket, and knot just above. These pendants can be made in all shapes, and are being much worn at present. Marmite jars covered with black shiny wax, with a bright colour wreathing its way round the top of the jar, make charming little bowls for pansies or other small flowers.

For the Powder Puff.

AN unusual powder puff holder for your purse can be made by cutting a small circle about $2\frac{1}{2}$ inches in diameter from cardboard, and covering one wide with silk and sewing the puff on the other. Join a piece of ribbon long enough to go round the outside of the circle, up the sides, making a cylindrical shape, and sew to the covered circle. Wire the top end of the ribbon and sew an odd flower or two just round the top. Twist this in the centre, and press down flat. It is a handy size for a purse, and very tidy. The twist in the silk prevents powder spilling from off the puff.

Odds and Ends.

Covered boxes holding needles, scissors, coloured cottons, and silks, with a length of tempting lace, are always acceptable, and those filled with multi-coloured beads are a delight to all youngsters.

These few suggestions should prove of some use to those who have not yet brought their list of Christmas gifts up to date.

Granny's Cake.

CREAM $\frac{1}{2}$ cupful of butter with 1 cup of granulated sugar. Add 1 egg. Mix with $1\frac{1}{2}$ cupfuls of flour, 1 teaspoonful of mixed spice, Stir 1 teaspoonful of soda into a cupful of apple sauce, then alternately add a little of the sauce and a little of the flour to the butter-sugar-egg mixture, until all is well blended. Beat thoroughly. (If desired $\frac{1}{2}$ cupful of chopped raisins or nuts may be added.) Pour into a square, well-greased tin, and bake in a moderately hot oven. The cake may

Click! went the 'Kodak'



*You don't want to
trust these enjoy-
able experiences to
memories that grow
less and less dis-
tinct each year.
You want to be
able to keep them
alive—to recall
them in all their
glorious detail
many times after-
wards. Here's a
way you can.*

Take a 'KODAK' with you

Modern Kodaks from 30/- Brownies from 10/6. Catalogue Free.

A10

OF ALL 'KODAK' DEALERS.

Annotations of Annabel

Books.

NOR MANY WATERS.

(Alec Waugh.)

IN his latest novel Mr. Alec Waugh has returned to what is obviously the city of his heart. Not, however, the London of cabaret and cocktail of former short and frothy stories, but the capital of twenty-five years back is the stage upon which he moves his puppets in his rendering of that well-worn theme, the unhappy yoking of mature man and immature maid.

This is something of a treatise upon English divorce laws of the last century, the youthful and able author attacking with Galsworthian indignation and tenacity the lamentable injustice of those laws in their relation to women. The thread upon which he hangs his thesis is the attempt made by a young and lovely woman to obtain legal freedom from marriage with a man for whom she has but a tepid affection; and in whose possession she finds one of those letters unwisely penned by men and women—usually the latter—when in the throes of a dubious passion. Unhappy and inexperienced, the wife supposes this indubitable evidence of unfaithfulness is sufficient to enable her to escape from a captivity that has become hateful to her; but finds that is not so simple, that she must also prove cruelty, and in the process of obtaining legal redress, herself endure harassing comment and innuendo.

This is the framework upon which is built the chivalrous love of the lawyer who takes up the case of the fascinating plaintiff; and, as the weeks pass, the two find themselves enmeshed in an irresistible attraction. Marian is fresh and fair, and unspotted from the world; though, it would seem, surprisingly free with kisses and caresses in an era when attractive young women did not make these demonstrations in public. She frivols and flutters in and out of the pages; but finally in those difficult days when "newspaper reports were not restricted, and men and women could not seek private recourse for private grievances without making Aunt Sallies of themselves in public," she withdraws her plea, and, impelled by unselfish wish to save her lover from social ruin, makes reconciliation with her husband, and goes forth with him to begin again amid fresh fields and pastures new of Australia.

Mr. Waugh is a shrewd observer, and possessed of an uncanny knowledge of the human heart, remarkable when one realises how few are the years since this author stormed the novel-reading world, at the age of eighteen, with "The Loom of Youth." —R.U.R.

DEAREST:

Mr. John Galsworthy is usually subtle, sometimes cynical, invariably intuitive; "The Pigeon," presented in Wellington last week by the National Repertory Society being an arresting and illuminating presentation of juxtaposition of well-meant, but abortive, effort on the part of social reformers and psychology of waster and wanderer, degenerate and down-and-out.

THE large audience at first was somewhat at a loss to grasp the spirit of the play, and inclined to be insistent upon farcical element; but, as the problem developed, interest quickened, and the unfolding of the plot was followed with keen and intelligent interest throughout.

INTO the studio of Christopher Wellwyn, lovable and unsystematic doer of good deeds to the despair of pretty and practical daughter Ann—attractively played by Miss Thyra Baldwin—drift varied types from the street without; all beyond social pale, derelicts wandering the earth, unstable as water, and unable and unwilling to excel in a community whose god is Efficiency and objective the Main Chance.

TO Mr. Wauchop goes the palm for finished portrayal of vagabond Ferrand, that wise tramp and citizen of the world; a typically Galsworthian creation in impetuous rebellion against things as they are, belief in the god of luck, insistence on seeking incentive in tramping the open road and avoidance of dust and ashes of conventional track. Vitriolic are his comments on organised institutions. Something they lack, those cold homes for sad and spiritless spindrift, tossed aside by winds of fate; something, it would appear, of tolerance and comprehension of the human heart. "They waste their time," says Ferrand, in an impassioned arraignment, "trying to make rooks white! Do not try to change our skins, we wild ones!" It is wonderful, that speech in which he makes clear the

hatred of his class to organised interference; the hopelessness of reforming those who are predestined parasites and loafers from birth to death.

MR. Wauchop's interpretation of this great part was a triumph of verisimilitude. Voluble, urbane, never at fault in accent or gesture; the cosmopolitan rover and dosser in many a casual ward lived and moved before the audience; and the accomplished exponent of the open-eyed alien is to be congratulated on the most finished of his many successes in dramatic art.

AS the "Pigeon," that guileless soul, prodigal of sympathy and liquor, Mr. E. S. Baldwin showed himself true to type in appealing portrayal; recalling beloved exemplars of those whom, mercifully, the poor have always with them. The inveterate hanger-on Timson, a cabby out of a job through onrush of progress and incursion of ubiquitous motor, finds consolation in the rum of the genial host whom blandly he fleeces; and is irresistibly funny, as played by Mr. O. N. Gillespie. As was to be expected, this was an outstanding characterisation; the actor's resonant voice, flair for drama and great sense of the comic being exemplified in high degree.

THE luckless Guinevere, flower-girl and denizen of the dark, was acted well by Miss Mary Cooley, who struck no false note from initial draggle-tailed appearance until carried in after unsuccessful attempt to leave a world which has no use for her, but will not permit her to quit it. Great room for travesty in this role; but Miss Cooley played with truth and insight the poor little drab in her ignorance and deterioration, Cockney drawl and sudden, forlorn gaiety.

AS the youthful apache of a husband, Mr. Rogers transfixed attention by virile portrayal of salient characteristics, dogged persistence on point of view of the submerged, subtle suggestion of budding Bill Sykes. Clever and arresting work:

while Mr. Pope, as dignified cleric was impressive, and the rest of the capably-chosen cast extremely effective.

NO Labourite am I, neither Bolshevik nor Communist, Socialist nor Sybarite, bond nor free. A lover of tried paths, with leanings towards old order rapidly disappearing, an aristocracy of code and conduct; yet at times assailed with a pang of pity, recurrent doubt of ultimate justice, futile regret for hardship of bruised and barren lives that abound even in our Fortunate Isles.

KUDOS is accorded to Miss Kathleen Woodward for overcoming prejudice of class and circumstance, rebellion of spirit induced by dark ways of violence and grinding want, and clear-eyed contemplation of ineptitudes of imperfect social order. After generous tribute to Queen Mary, in biography of that stately and well-beloved Lady, the ex-mill girl now publishes story of early struggle. "Jipping Street" has authentic ring of sincerity of an "over true tale." Listen to story of emergence into world of wage-earners.

"Armoured against hunger with four slices of bread and dripping, fortified with a few curt words from mother, I walked over the interminable London Bridge in a pair of hockey boots picked up cheap. They had the oddest bumps on the soles and ankles, and I recall how, in pride of going to work for the first time, I said, 'I won't wear boots with bumps all over them.' 'Mind you don't get a — bump somewhere else,' said mother. And all the world gazed at my feet that day!"

Think of it, ye New Zealand maidens, who in nice silk stockings and almost reptilian shoes trip daintily to daily job in this land of hope and glory.

Your

ANNABEL LEE.

Bottled Runner Beans.

GATHER the beans when about three-quarters grown. Cut off both ends, remove the string, and slice as for boiling. They can, on the other hand, be preserved whole.

Put them in a pan of cold water with half-teaspoonful of salt and a pinch of carbonate of soda to every pint of water, and bring to the boil. Keep them at boiling point for five minutes. Then take them off, strain; then put again into cold water.

When quite cold, strain and pack into bottles; shake well while filling them. Mix one teaspoonful of borax and quarter-teaspoonful of salt to each pint of boiling water (the borax keeps the beans a good colour).

Stir well, and when this water has become cold, fill the bottles with it.

Put the rubber rings and caps on loosely. Place the bottles in a fish kettle or large pan, with cold water reaching almost to their necks. Bring to the boil and keep at boiling point an hour and a-half. Take the bottles out one at a time, and firmly screw the rubber rings and caps.

Beans preserved in this way will last the whole winter, retaining all the delicacy of flavour and colour they had when picked.

Macaroon Tartlets

4ozs. flour, 2ozs. butter, short crust, not too thick. Filling: 2ozs. ground almonds, 1½ozs. castor sugar, stiffly beaten whites of two eggs.

Tonking's Linseed Emulsion
is a Certain Cure for Coughs and Colds

Features of Next Week's Programmes

"Carmen" at 1YA

EIGHT vocalists, headed by Madame Irene Ainsley, will present excerpts from Bizet's famous opera, "Carmen," on Tuesday evening. All the best-known solos and choruses will be sung. The cast of characters will be:—

Carmen, Madame Irene Ainsley.
Micaela, Miss Nancye Hanna.
Frasquita, Miss Marjorie Fair.
Mercedes, Miss Irene Frost.
Don Jose, Mr. Lambert Harvey.
Escamillo, Mr. Len Keven.
Ramendado, Mr. H. C. Burr.
Don Cairo, Mr. A. E. Davies.

THE whole of the second portion of the programme will be occupied by the presentation of "Carmen," the vocal items being interspersed by orchestral numbers.

THE supporting programme will consist of ballads and popular numbers, including "Orpheus with his Lute" (Sullivan), sung by Miss Nancye Hanna; "My Heart is Weary" (Thomas), sung by Madame Irene Ainsley; and "To-morrow" (Keel), sung by Mr. Len Keven. Contributing to the orchestral portion of the programme, the Studio Orchestra will render popular numbers, including the "Magic Flute" (Mozart), "Voice of the Bells" (Thurban), "Maid of the East" (Morgan), and "Der Rosenkavalier" (Strauss).

ON Wednesday evening, the attraction at 1YA will be Madame Humphrey Steward's party, who will make their first appearance at this station. Madame Humphrey Steward is a soprano of note in Auckland, being well known in musical and dramatic circles. She will be assisted on this occasion by Miss Mavis Grevatt, lyricist, who is well-known in musical circles throughout the Dominion as "The Girl of the Golden Harp." Miss Grevatt was broadcast from 1YA on the occasion of the demonstration concert last year, and has appeared for all the musical societies in the city.

NOVEL items will be given on this programme by the Bohemian Duo, whose numbers will include "Girl of my Dreams," and "Ain't That a Grand and Glorious Feeling," while humour will be provided by the Hebrew Two, "Happy Abe and Dismal Ike," being one of their items. Mr. Arthur E. Wilson, organist at the Auckland Baptist Tabernacle, will provide a programme of very beautiful organ music, included in which will be "Miniature Suite" (Rogers), "Conzonetta" (Fry-singer), and "The Swedish Wedding" (Soderman). Miss Doreen Logan, soprano, will assist Mr. Wilson on this evening by singing Dudley Buck's "Fear Not Ye, O Israel," with organ

accompaniment, also "God's Garden" (Baker).

MR. BARRY CONEY'S Quartet will be the principal vocalists on Thursday's programme, their quartet numbers being, "Fisherman's Good-night" (Bishop). A duet will be sung by Messrs. Lambert Harvey and Barry Coney, "I Wish to Tune my Quivering Lyre," Miss Dorothy Youd, soprano, will sing, "I Got a Robe" (Burleigh), Miss Martha Williamson, "I Heard you Singing" (Coates), Mr. Lambert Harvey, "By the Sea" (Schubert), and Mr.



—Photo., Andrew.

ELOCUTIONARY items to be given on Friday evening by Mr. J. F. Montague will be "A Short Story—"The Girl" (O. Henry) and "A Bunch of Roses," also "The Little Irish Mother." On the instrumental side of the programme the Studio Orchestra will provide a variety programme of popular music, including "Stars and Stripes" (Sousa). A banjo quartet will perform this evening. "Saxophone Waltz" (Lisk) and "In Old Manila" (Earl) are two of their numbers.



—Photo., Andrew.

TWO ARTISTS TO APPEAR AT 1YA.

On the left is Mrs. Humphrey Steward, a soprano of note in the city, being well known in musical and dramatic circles.

On the right is Miss Mavis Grevatt, the lyricist, broadcast from 1YA on the occasion of the demonstration concert last year. She has played for all the musical societies in Auckland.

Both artists will appear at 1YA on Wednesday, December 5.

Barry Coney, "Peter Warlock's Fancy" (Warlock).

A debate, lasting forty minutes, has been arranged for Thursday evening, "That the Heart is more Important than the Mind." Listeners who have been so interested in debates in the past will look forward to this one. The debaters are Mr. F. W. Barker and Mr. Vernon Drew.

THE chief vocalists on Friday evening's programme, which will be of a popular nature, will be the St. Andrew's Quartet, their quartet numbers being, "Brightly Dawns" (Sullivan), and "Sweet Day, Grow Cool" (German). The solos on the programme will include "Two Little Irish Songs" (Lohr), sung by Miss Adelaide Taylor, "My Ships" (Barratt), sung by Miss Phyllis Gribben, "I Know a Sea" (Grey), by Mr. Robert Peter, and "Song of the Toreador" (Bizet), by Mr. Arthur Colledge.

A VERY popular entertainment is promised on Saturday evening. Mrs. Daisy Basham and Mr. Arthur Briggs will provide an extremely varied programme. A baritone solo, "Queen of the Earth" (d'Hardelot) will be sung by Mr. Arthur Briggs. Mrs. Daisy Basham and Mr. A. Briggs will sing a duet, entitled "A Night in Venice" (Lucantoni) at the conclusion of which "An Irish Lullaby" (Needham) will be sung. After an instrumental interlude provided by the Auckland Trio, excerpts from "The Yeoman of the Guard" will be performed. These will include, "When a Maiden Loves She Sits and Sighs," "I Have a Song to Sing, O." Following this, excerpts from "Iolanthe" will be sung, "When Britain Really Ruled the Waves" being one of the numbers. A duet by Mrs. Basham and Mr. Arthur Briggs will be "When You and I and I and You" from "The Cingalee" (Monckton). Dance music will conclude the programme.

At the conclusion of the church service on Sunday evening, a gramophone lecture recital will be given by Mr. A. Fairburn from the studio.

Features from 2YA

ON Tuesday evening several artists new to 2YA will be appearing. Mr. John Prouse, the favourite baritone, will be heard in four songs of different types. Mr. Roy Hill, tenor, has included among his items two modern settings of Elizabethan poems. Mrs. E. Meban, soprano, will be heard in "Amarella" and the very old favourite, "Il Bacio." The contralto songs to be sung by Miss Zoe Millar will include two by Mallinson and one by Quilter, "Now Sleeps the Crimson Petal." The elocutionary items to be given by Mr. J. S. Webb will be Ingersoll's dramatic poem, "The Tomb of Napoleon," and "The Moral Umbrella."

THE instrumental portion of the programme on Tuesday will be specially interesting. The orchestra will open with "The Rape in the Seraglio." The other numbers will be the "New World Symphony," and "Slavonic Rhapsody." There will also be cornet and violin solos, with orchestral accompaniment, and piano solos will be played by Miss Helen Hart.

THE Petone Black and White Benefit Entertainers will be welcomed back to 2YA on Tuesday evening. The previous broadcasts by these artists will be remembered with pleasure. On this occasion new performers will be included and the programme will be entirely new. Solos, duets, trios, choruses, comic songs, humorous sketches, novelty items and instrumental numbers will be featured. There will also be a boy soprano, Master Jack Harris. The vocalists of the party will be Misses Margaret and Molly Keating, Messrs. R. Park, L. Boyd and Hart. Mr. Les Andersen will contribute to the humour of the evening. Misses Jean Leadbetter and Kerry Rowe will stage a humorous sketch. Miss G. Smith and W. Rowe will put on a novelty turn, "Novelty Story Scena," the plot for which is original. Little Miss Joan Craig will sing the juvenile song, "Barefoot Days." Another original humorous turn will be "A Bit of Blarney," to be performed by Messrs. Rowe, Boyd and Hart, and Mr. Ted Adams will sing a comic song. Apart from the items by the Studio Orchestra, instrumental numbers will be given by members of the party, the Maori members of which will play "Maori Melodies."

THE City Silver Band, under the baton of Mr. Harry Baker, has been engaged for Thursday evening. One of the band's typical bright programmes will be presented. The vocalists for the evening will be the Lyric Four. Their con-

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cered numbers will include "Sally in Our Alley," "They Kissed" and "Calm is the Sea." Mr. W. Binet Brown will sing "Tally Ho" and "Ho, Jolly Jenkin." "Drink to Me Only" will be sung as a duet by Messrs. C. Williams and W. Goudie. Humorous elocutionary numbers will be given by Miss Rose Carte.

ON Friday night there will be a concert relayed from Wanganui.

SATURDAY evening's concert will be provided by the Melodie Four, Mr. W. J. McKeon (humorous recitations, in association with the Studio Orchestra. The Melodie Four will provide one of their best programmes.

ARTISTS engaged for the after church concert on Sunday evening are Mr. and Mrs. George Millward, tenor and soprano respectively.

A SPECIAL attraction for 2YA on Saturday evening, December 1, will be the appearance of Mr. Wally Perks, novelty instrumentalist from U.S.A. Mr. Perks has broadcast from the principal stations on the Pacific Coast in America, and also in the east. He is under special engagement with the Ambassadors, Melbourne, and this will be his only appearance in this country. Mr. Perks' numbers will include novelty items on the mandolin, banjo and other stringed instruments.

Notes from 3YA

DERRY'S Military Band, under the baton of Mr. J. Scott, will provide a varied programme on Monday evening. The items will include marches, a foxtrot, an Afro-Celtic intermezzo entitled "Cleopatra Finnegan," a selection from "No, No Nanette," a valse, a humoresque, "The Irish Wedding," and the intermezzo from "Cavalleria Rusticana," altogether a very engaging programme. Other instrumental items for the evening will be provided by the Studio Trio.

THE vocalists for Monday evening will be Mrs. Frank O'Brien, Miss Margaret Lorimer, Mr. John Jacobs, and Mr. Charles Lawrence. They will contribute very popular items, Mr. Lawrence being, of course, an entertainer in himself.

THE first half of Wednesday evening's entertainment will consist of a relay of the Christchurch Orchestral Society's concert in the Municipal Concert Hall. This concert is usually one of the musical events of the year in Christchurch, and will be no exception on this occasion. From 9 o'clock on there will be a studio entertainment of a miscellaneous type.

THE Rev. B. Dudley (F.R.A.S.) will appear in the dual role of astronomical lecturer and entertainer on Wednesday evening. "The Milky Way," that mysterious and indefinable band of stars and nebulae which spans the night sky, will be the subject of Mr. Dudley's address. His other item will be the recounting of a personal experience. He calls it "I get splashed and go to the Mercer's."

SINGING from the studio on Wednesday evening will be Miss Nellie Lowe and Miss Hilda Hutt, Mr. T. G. Rogers, and Mr. A. G. Thompson. The

"The Voice of the Bells"

THURBAN'S "The Voice of the Bells," a charming descriptive number which has been very popular, will be played at 1YA on Tuesday evening. The following synopsis of the piece will interest listeners:—
"The sun is slowly rising behind the mountain tops. The monks of St. Bernard assemble for their morning prayer. The voice of the bells is heard far and near. A storm creeps up, then breaks with sudden fury. The monks, in haste, leave the monastery to succour the victims of the storm, which rapidly increases in intensity. The voice of the bells is heard in warning: "Try not the pass." The wind howls and the snow eddies around the monks as they beat their way through the storm, battling with the elements. At last they reach the poor, half-frozen wayfarer, "Excelsior." They lift the sufferer upon their shoulders and prepare to carry him to a safe haven. The wind increases and the storm becomes more terrific in its intensity. Alas! The monks fear that they and their burden are lost. They pause and pray for guidance. They listen—their prayer is answered. They hear again in the distance "The Voice of the Bells," calling to home and safety."

songs chosen are all well known and popular.

OPERATIC numbers on Thursday evening's programme are taken from "Madame Butterfly," "Master Singers of Nuremberg," "Il Trovatore," and "Maritana." The vocalists will be Miss Renetta Rings, Miss Anita Graham, Mr. W. Bradshaw, and Mr. Fred A. Miller. Among the miscellaneous songs will be Tosti's "Beauty's Eyes," Schubert's "The Wild Rose" and "Rolling Down to Rio."

CHOPIN'S "Scherzo in C Minor" will be played by Miss Dorothy Davies, a brilliant pianiste.

ON Friday, 3YA will rebroadcast 2YA, the occasion being the relay from Wanganui of a concert to be given by the Queen Alexandra's Own Regimental Band. It will be a brilliant entertainment, additional interest being added by the fact that the relay, 125 miles, is the longest yet attempted by the Broadcasting Company.

THERE will be another vaudeville entertainment on Saturday evening. Bright songs at the piano will be sung by the Joyous Duo. The tenor songs by Mr. Arthur T. Couch will include "Lolita" and "Mignonette." Two of Mr. Robert Samson's baritone songs will be "The Blind Ploughman" and the amusing "Young Tom o' Devon." Songs at the piano will comprise Mr. Franklyn Brown's items. Humorous Scottish songs will be sung by Mr. Bracey Wilson. Varied selections will be played by the Studio Orchestra.

Notes from 4YA

THE service from the Moray Place Congregational Church will be broadcast at 6.30 p.m. on Sunday evening. Following this, weather permitting, the St. Kilda Band will present a band concert at the seaside, and this will be relayed.

DURING the band concert on Tuesday evening some particularly fine music will be heard. A classical selection, comprising the "Introduction to Faust," will be among the outstanding numbers, a selection of "Welsh Songs" (by Frost) and Greenwood's overture, "Golden Cross," will also be heard. A cornet solo with band accompaniment "Easter Hymns," will be another interesting item.

MISS IRENE HORNIBLOW (contralto), Miss Molly Vickers (mezzo-soprano), and Mr. Arthur Lungley (baritone) will be the vocal artists on the programme for Friday evening. Mr. Chas. E. Gibbons will render flute solos, including "Sweet Genevieve," arranged by Le Thiere, while Mrs. Ernest Drake will play two of Cyril Scott's compositions, "Asphodel" and "Dance Negre." Dance music will be relayed from the Savoy at the conclusion of the studio concert.

A BRIGHT and varied programme will be heard on Saturday evening. Miss Betty Roberts will sing "Tea for Two" (Youmans) and "Will You Remember Me," while Miss Thelma Blackman will sing "Ma Sunflower Babe" and "Just a Little Lady." Mr. Chris Harlie, the Lancashire comedian, will sing "A Very Queer Crew" and "How Many Beans Make Five." The Scottish comedian, Mr. Buster Brown, will sing three of Lauder's numbers. Humorous sketches will be given by Miss Sheila Neilson and Mr. J. B. McConnell.

NEXT year Canada will establish a big national broadcasting system, which will place radio in that Dominion under conditions of control very similar to those existent in Britain. A system of censorship will be established, but it is understood that this will allow of the greatest possible freedom in the transmission of music and speech. There is great opposition on the part of broadcasting companies in Canada to this move for nationalisation, but the Government is dissatisfied with the quality of much that now vibrates the Canadian ether, and as a result the Federal authorities will assume control, though all details of this are not yet finalised.

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Full Programmes for Next

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Sunday, December 2

1YA, AUCKLAND (333 METRES)—SUNDAY, DECEMBER 2.

- 3 p.m.: Afternoon session—Selected studio items.
 4.0: Literary selection by the announcer.
 4.8: Selected studio items.
 4.30: Close down.
 6.0: Children's session, conducted by Uncle Leo.
 6.55: Relay of service from St. Mary's Cathedral. Preacher, Canon Percival James. Organist, Mr. Edgar Randall.
 8.30: Selected studio items.
 9.30: Close down.

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

- 3 p.m.: Chimes of the G.P.O. clock.
 3.1: Relay from Basin Reserve of concert by Wellington Combined Bands' Association in aid of Queen Iphigenia (Entertainment and Music Queen of the Carnival being held in connection with the campaign to raise funds for the National Art Gallery and Dominion Museum).
 6.0: Children's Sunday service, conducted by Uncle Ernest.
 7.0: Relay of evening service from Church of Christ, Vivian Street. Preacher, Pastor W. G. Carpenter; organist, Mrs. Sincock; choirmaster, Mr. W. J. Mason.
 8.15 (approx.): Studio concert.
 Orchestral—Symphony Orchestra, "Oberon" Overture (Weber) (H.M.V. Record D1311).
 Contralto solo—Miss Hilda Chudley, "None but a Lonely Heart" (Tschalkowsky).
 Pianoforte solo—Mark Hambourg, "Hungarian Rhapsody No. 8" (Liszt) (H.M.V. Record B2667).
 Tenor solo—Mr. E. W. Robbins, "Crossing the Bar" (Willeby).
 String quartet—London String Quartet, "Andante Cantabile Quartet in D," Op. 11 (Tschalkowsky) (Columbia Record 04146).
 Duet—Miss Hilda Chudley and Mr. E. W. Robbins, "The Sabbath Morn" (Mendelssohn).
 Orchestral—New Queen's Hall Light Orchestra, "Petite Suite de Concert" (Coleridge-Taylor) (Columbia Records 02588/9).
 1. "La Caprice de Nanette."
 2. "Demande et Response."
 3. "Un Sonnet d'Amour."
 4. "La Tarantelle Fretillante."

- Bass, with orchestra—Theodore Chaliapin, "Song of the Viking Guest" (Rimsky-Korsakov) (H.M.V. Record DB1104).
 Overture—Berlin Philharmonic Orchestra, "Carnaval Romain" (Berlioz) (H.M.V. Record D1365).
 Tenor solos—Mr. E. W. Robbins, (a) "Until" (Sanderson); (b) "If I Might Come to You" (Squire).
 Violin solo—Joseph Szigeti, "Slavonic Dance in G Minor No. 1" (Dvorak-Kreisler).
 Contralto solo—Miss Hilda Chudley, "Through the Day" (Medley).
 Organ solo—G. T. Pattman, "Liebestraume" (Liszt) (Columbia Record 01003).
 Duet—Miss Hilda Chudley and Mr. E. W. Robbins, "Nightfall at Sea" (Goring Thomas).
 Cello solo—Felix Salmond, "To a Wild Rose" (Macdowell) (Columbia Record 03591).
 Baritone solos—John Brownlee, (a) "So, Sir Page!" (from "The Marriage of Figaro") (Mozart); (b) "Sirs! Your Toast" (from "Toreador's Song") (Bizet) (H.M.V. Record D1396).
 Orchestral—Hall Orchestra, "Rakoczy March" (Berlioz) (Columbia Record 04155).
 Close down

3YA, CHRISTCHURCH (396 METRES)—SUNDAY, DECEMBER 2.

- 3 p.m.: Afternoon session—Selected studio items.
 4.30: Close down
 5.30: Children's song service conducted by Uncle David.
 6.30: Relay of evening service from Oxford Terrace Baptist Church. Preacher, Rev. J. Robertson, M.A.; choirmaster, Mr. Vic. Peters; organist, Mr. Melville Lawry.
 A short after-church programme will be continued from the Church, followed by a programme from the studio.
 8.0 (approx.): Orchestral—Philadelphia Symphony Orchestra, "Toccata and Fugue in D Minor" (Bach) (H.M.V. Record D1428).
 8.8: Mezzo-contralto solos, Miss Kathleen Johns, (a) "Still as the Night" (Bohm); (b) "Smiling Through" (Penn).
 8.14: Grand organ solo—Arthur Meale, "Cavatina" (Raff, arrgd. Meale) (H.M.V. Record B2695).
 8.18: Baritone solo—Mr. Cyril Rishworth, "When God Gave You to Me" (Nicholls).
 8.22: Choral, with organ—Choir of the Temple Church, London, "I Waited for the Lord" (H.M.V. Record C1398).
 8.26: Mezzo-contralto solo—Miss Kathleen Johns, "My Dear Soul" (Sanderson).
 8.30: Orchestral—(a) Chicago Symphony Orchestra, "Valse Triste" (Sibelius); (b) San Francisco Symphony Orchestra, "Funeral March of a Marionette" (Gounod) (H.M.V. Record ED5).
 8.38: Baritone solos—Mr. Cyril Rishworth, (a) "Where the Abana Flows" (from "A Lover in Damascus"); (b) "Kashmiri Song" (from "Four Indian Love Lyrics"); (c) "The Gaon of Kama" (Woodforde-Finden).
 8.48: Violin solo—Isolde Menges, "Ave Maria" (Schubert, arrgd. Wilhelm) (H.M.V. Record D1313).
 8.52: Orchestral—Victor Symphony Orchestra, "Dance of the Hours" (from "La Gioconda") (Ponchielli) (Zonophone Record EF12).
 9.0: Bass-baritone solo—Peter Dawson, "Thou're Passing Hence" (Sullivan) (H.M.V. Record C1427).
 9.4: Cello solos—Pablo Casals, (a) "Moment Musical" (Schubert); (b) "Le Cygne" (Saint-Saens) (H.M.V. Record DA776).
 9.12: Tenor, with orchestra—Franklyn Baur, "Beloved" (Kahn) (H.M.V. Record EA392).
 9.16: Orchestral—Symphony Orchestra, "Oberon Overture" (Weber) (H.M.V. Record D1311).
 9.24: Selected items.
 Close down.

4YA, DUNEDIN (463 METRES)—SUNDAY, DECEMBER 2.

- 5.30 p.m.: Children's song service conducted by Big Brother Bill.
 6.30: Relay of service from Moray Place Congregational Church. Preacher, Rev. Albert Meade, M. A.
 8.0: Relay from St. Kilda of concert by the St. Kilda Band under the direction of Mr. James Dixon.
 9.15: Close down.

Monday, December 3

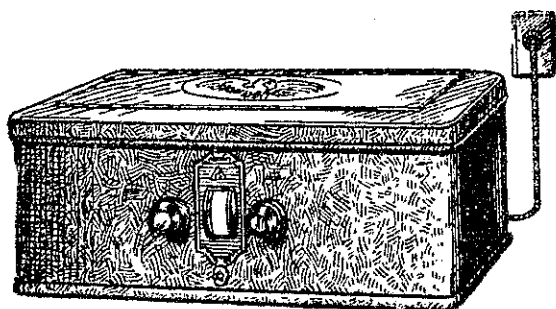
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2YA, WELLINGTON (420 METRES)—MONDAY, DECEMBER 3.

- 3 p.m.: Chimes of the G.P.O. clock.
 3.1: Selected gramophone items.
 4.30 and 4.55: Sports results to hand.
 5.0: Close down.
 6.0: Children's session, conducted by Uncle Jeff and Aunt Gwen.
 7.0: News session, market reports and sports results.
 7.40: Lecturette—Mr. H. C. South, "Books—Grave and Gay."
 8.0: Chimes of the G.P.O. clock
 8.1: Overture—Orchestra, "The Rape in the Seraglio" (Mozart).
 8.9: Soprano solo—Mrs. E. Meban, "Amarella" (Winne).
 8.13: Pianoforte solos—Miss Helen Hart, L.A.B., A.T.C.L., (a) "Chopin Study," Op. 10, No. 12 (Chopin); (b) "Scherzo in D Minor" (Chopin).
 8.20: Baritone with orchestra—Mrs. John Prouse, (a) "Vittoria, Vittoria" (Carissimi); (b) "Thou'rt Passing Hence" (Sullivan).
 8.27: Symphony—Orchestra, "New World Symphony," Pt. 1 (Dvorak).
 8.35: Contralto solos—Miss Zoe Miller, (a) "A Lad That Is Gone" (Mallinson); (b) "Over the Western Sea" (Mallinson).
 8.42: Recital—Mr. J. S. Webb, "The Tomb of Napoleon" (Ingersoll).
 8.47: Tenor solos—Mr. Roy Hill, modern settings of two anonymous Elizabethan poems, (a) "Weep Ye No More" (Quilter); (b) "Now Is My Chloris" (Lidgey).
 8.54: Violin solo with orchestral accompaniment—Miss Ava Symons and orchestra, "Aria on G String" (Bach).
 Cornet solo with orchestral accompaniment—Miss Ava Symons and orchestra, "Elsa's Dream" (Wagner).
 9.5: Weather forecast.
 9.6: Grand organ solo—G. T. Pattman, "Liebestraume" (List) (Columbia Record 01003).
 9.14: Soprano solo—Mrs. E. Meban, "Il Bacio" (Arditi).
 9.18: Instrumental—Orchestra, repeat number.
 9.26: Baritone solos—Mr. John Prouse, (a) "O Ship that Sailed" (Coleridge-Taylor); (b) "In Sheltered Vale" (Arrgd. Formes).
 9.33: Recital—Mr. J. S. Webb, "The Moral Umbrella" (Anon).
 9.38: Organ solo—G. T. Pattman, "Andantino" (Lemare) (Columbia Record 9135).
 9.42: Contralto solo—Miss Zoe Miller, "Now Sleeps the Crimson Petal" (Quilter).
 9.46: Tenor solo—Mr. Roy Hill, "In Summer Fields" (Brahms).
 9.50: Rhapsody—Orchestra, "Slavonic Rhapsody" No. 2 (Dvorak).
 10.3: God Save the King.

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

- 3 p.m.: Afternoon session—selected studio items.
 4.25: Sports results.
 4.30: Close down.
 6.0: Children's session, conducted by Scatterjoy.
 7.15: News session.
 8.0: Chimes.
 Programme by Derry's Military Band, under the conductorship of Mr. J. Scott, and assisting artists.
 8.1: March—Band, "Unter den Linden" (Hawkes).
 Foxtrot—Band, "Forgive Me" (Yellens).
 8.11: Baritone solo—Mr. John Jacobs, "Lighterman Tom" (Squire).
 8.15: Male Voice Quartet—Goodrich Silvertown Quartet, "Under the Clover Moon" (Healy) (Columbia Record 01192).
 8.19: Soprano solos—Mrs. Frank O'Brien, (a) "A Heart That's Free" (Robyns); (b) "A May Morning" (Weatherley).
 8.23: Instrumental trios—Christchurch Broadcasting Trio, (a) "Melodies Mignonnes" (Sinding); (b) "Dance No. 4" (Brahms).
 8.32: Soprano and male quartet—Norah Blaney and the Ramblers, "Sweet Suzanne" (Leslie and Gilbert) (Columbia Record 01170).
 8.36: Afro-Celtic Intermezzzo—Band, "Cleopatra Finnegan" (Moret).
 8.41: Mezzo-contralto solo—Miss Margaret Lorimer, "My Ain Folk" (Lemon).
 8.45: Wurlitzer organ solos—Milton Charles, (a) "From the Land of the Sky Blue Water," (b) "At Dawning" (Cadman) (Columbia Record 01161).
 9.0: Entertainer—Mr. Charles Lawrence.
 9.36: Selection—Band, "No! No! Nanette" (Youmans).
 9.6: Weather forecast.
 9.7: Duet with chorus and orchestra, "Deep in My Heart, Dear" (from "The Student Prince") (Romberg), (Columbia Record 02511).
 Duet with chorus and orchestra—"Just We Two" (from "The Student Prince") (Romberg), (Columbia Record 3904).
 9.15: Baritone solos—Mr. John Jacobs, (a) "When I Awake" (Wright), (b) "The Gladiator" (Adams).
 9.22: Valse—Band, "Appassionata" (Ketelbey).

- 9.28: Soprano solo—Mrs. Frank O'Brien, "The Dear Little Shamrock" (Blockley).
 9.32: Instrumental trios—Christchurch Broadcasting Trio, (a) "Spring Song" (Mendelssohn); (b) "Andante Scherzo" (Mathias).
 9.40: Mezzo-contralto solo—Miss Margaret Lorimer, "The Nightingale of Lincoln's Inn" (Oliver).
 9.44: Humoresque—Band, "The Irish Wedding" (Puerner).
 9.50: Entertainer—Mr. Charles Lawrence.
 9.57: Intermezzo—Band, "Intermezzo" (from "Cavalleria Rusticana") (Mas cagni).
 March—Band, "Loyal Comrades" (Blankenburg).
 God Save the King.

4YA, DUNEDIN (463 METRES)—MONDAY, DECEMBER 3.

SILENT DAY

Tuesday, December 4

1YA, AUCKLAND (333 METRES)—TUESDAY, DECEMBER 4.

- 3 p.m.: Afternoon session—Selected studio items.
 4.0: Literary selection by the Announcer.
 4.8: Studio items.
 4.25: Sports results to hand.
 4.30: Close down.
 6.0: Children's session, conducted by Uncle George.
 7.15: News and market reports—book review.
 8.0: Overture—Orchestra, "Magic Flute" (Mozart).
 8.10: Soprano solo—Miss Nancye Hanna, "Orpheus with his Lute" (Sullivan).
 8.14: Relay of musical entr'acte from Majestic Theatre Orchestra, under the direction of Mr. J. Whiteford Waugh.
 8.20: Baritone solo—Mr. Len Keven, "To-morrow" (Keel).
 8.24: Novelty—Orchestra, "The Voice of the Bells" (Thurban).
 (Synopsis: The sun is slowly rising behind the mountain tops. The monks of St. Bernard assemble for their morning prayer. The voice of the bells is heard far and near. A storm creeps up, then breaks with sudden fury. The monks in haste leave the monastery to succour the victims of the storm, which rapidly increases in intensity. The voice of the bells is heard in warning, "Try not to pass." The wind howls and the snow eddies around the monks as they beat their way through the storm, battling with the elements. At last they reach the poor, half-frozen wayfarer, "Excelsior." They lift the sufferer upon their shoulders, and prepare to carry him to a safe haven. The wind increases, and the storm becomes more terrific in its intensity. Alas! the monks fear that

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they and their burden are lost. They pause and pray for guidance. They listen—their prayer is answered. They hear again in the distance "The Voice of the Bells," calling to home and safety.)

- 8.30: Contralto solo—Madame Irene Ainsley, "My Heart is Weary" (Goring Thomas).
 8.34: Selection—Orchestra, "Maid of the East" (Morgan).
 8.44: Tenor solo—Mr. Lambert Harvey, selected.
 8.48: Lecturette—Mr. A. B. Chappell, M.A., "The Maori—His Use of Magic."
 9.3: Weather forecast.
 9.5: Presentation of excerpts from "Carmen" (Bizet), produced under the direction of Madame Irene Ainsley.

Cast.

Carmen	Madame Irene Ainsley
Micaela	Miss Nancye Hanna
Frasquita	Miss Marjorie Fair
Mercedes	Miss Irene Frost
Don Jose	Mr. Lambert Harvey
Escamilion	Mr. Len Keven
Ramendada	Mr. H. C. Burr
Don Cairo	Mr. A. E. Davies

Overture—Orchestra, "Carmen" (Bizet).
 Chorus—"See the Square."
 Contralto solo—"Habanera."
 Tenor and soprano duet—"Speak to Me of my Mother."
 Contralto solo—"Sequidille."
 Entr'acte—Orchestra, "Carmen" selection (Bizet).
 Baritone solo—"Toreador Song."
 Contralto solo—"Bohemian Song."
 Quintette—"Smugglers' Song."
 Tenor and contralto duet—"At Last 'Tis Thou."
 Chorus—"Away To Our Mountains."

10.0: God Save the King.

2YA, WELLINGTON (420 METRES)—TUESDAY, DECEMBER 4.

- 3 p.m.: Chimes of the G.P.O. clock.
 3.1: Selected gramophone items.
 4.30 and 4.55: Sports results to hand.
 5.0: Close down.
 6.0: Children's session, conducted by Big Brother Jack.
 7.0: News session, market reports and sports results.
 7.40: Lecturette by a representative of the Agricultural Department—"For the Man on the Land."
 8.0: Chimes of the G.P.O. clock.
 A special programme by the Petone Black and White Entertainers, assisted by 2YA Orchestra.
 8.1: Overture—Orchestra, "Misaniello" (Auber).
 8.11: Chorus—Black and White Entertainers, "Drinking Song" (from "The Student Prince") (Romberg).
 8.15: Boy soprano—Master Jackie Harris, "Come to the Fair" (Easthope Martin).
 8.19: Cornet solo—Jas. Compton, "An Emblem" (Thompson) (Columbia Record 01065).
 8.23: Humour—Mr. Les Andersen, "The Troubles of Guy de Vere" (Anon).
 8.28: Vocal duet—Misses Margaret and Molly Keating, "Look Down, Dear Eyes" (Fisher).
 8.32: Pianoforte duet—Misses Margaret Scott and G. Smith, "Qui Vive" (Ganz).
 8.36: Vocal trio—Messrs. R. Park, L. Boyd and Hart, "Nola" (Arndt).
 8.40: Novelty—Mr. W. Rowe and Miss G. Smith, "Novelty Story Scena" (Original).
 8.45: Soprano solo and chorus—Miss M. Keating and Black and White Entertainers, "The Bubble Song" (from "High Jinks") (Hartley).
 8.49: Humorous sketch—Misses Jean Leadbetter and Kirry Rowe, "That Child in the Train" (Anon).
 8.54: Light vocal duet—Miss M. Keating and Mr. R. Park, "Dew, Dew, Dewy Day" (Johnson, Tobias and Sherman).
 8.58: Weather forecast.
 9.0: Instrumental—Orchestra, repeat number.
 9.8: Juvenile song—Joan Craig, "Barefoot Days" (Bremen).
 9.12: Instrumental—Maori members of the Company, Maori Melodies and Selected Popular Numbers.
 9.22: Light baritone solo—Mr. Les. Boyd, "Beautiful" (Shay and Gillespie).
 9.26: Humour—Messrs. Rowe, Boyd and Hart, "A Bit of Blarney" (Original).
 9.31: Novelty—Orchestra, "Bells of St. Mary's" (Adams).
 9.37: Duet with chorus—Miss Mollie Keating, Mr. R. Park, and Petone Entertainers, "Not Now, But Later" (from "High Jinks") (Hartley).
 9.41: Comic song—Mr. Ted. Adams, "Only Come down for the Day" (Weston and Lee).
 9.46: Flexitone solo—Mr. F. Brown, "Ramona" (Wayne).
 9.50: Sketch—Miss Jean Leadbetter and Mr. W. Rowe, "Foiled."
 9.54: Vocal duet—Messrs. R. Park and J. Warren, "Side by Side" (Woods).
 9.58: Closing chorus—Black and White Entertainers, "High Jinks" (Hartley).
 10.2: Musical comedy selection—Orchestra, "Cabaret Girl" (Kern).
 10.12: God Save the King.

3YA, CHRISTCHURCH (306 METRES)—TUESDAY, DECEMBER 4th.

SILENT DAY.

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

- 3 p.m.: Town Hall chimes.
 3.1: Gramophone recital.
 4.25: Sports results.
 4.30: Close down.
 6.0: Town Hall chimes.
 6.1: Children's session, conducted by Big Brother Bill.
 7.15: News session.
 8.0: Town Hall chimes.
 Concert by the St. Kilda Band, under the conductorship of Mr. James Dixon, and assisting artists.
 8.1: March—Band, "My Regiment" (Blankenburg).
 8.5: Waltz—Band, "Forest Flowers" (Greenwood).
 8.13: Tenor solos—Mr. L. E. Dalley, (a) "The Land o' the Leal" (Moffatt), (b) "Macushla" (MacMurrough).
 8.18: Violin solo—Sascha Jacobsen, "Pale Moon" (Columbia Record 01146).
 8.22: Mezzo-soprano solo—Miss Dorothy Sligo, "One Morning Very Early" (Sanderson).
 8.25: Classic selection—Band, "Introduction" ("Faust") (Gounod).
 8.30: Recital—Mr. Lester Moller, "Bombadier Gerrard" (Sterne).
 8.35: Soprano with flute and piano accompaniment—Marie Kurenko, "Gounod's Serenade" (Sing, Smile and Slumber) (Gounod), (Columbia Record 04137).
 8.39: Bass solos—Mr. E. G. Bond, (a) "Farmers' Pride" (Russell), (b) "Rueben Ranzo" (Coates).
 8.45: Cornet solo with band accompaniment—"Easter Flowers" (Sanderson).
 8.50: Address—Rev. W. B. Scott, "Early New Zealand—George Grey, our Greatest Governor."
 9.5: Weather forecast.
 9.7: Selection—Band, "Welsh Songs" (Frost).
 9.17: March—Band, "Prince of Smiles" (Louka).
 9.21: Tenor solo—Mr. L. E. Dalley, "Onaway, Awake Beloved" (Coleridge-Taylor).
 9.25: Male voice quartet—Goodrich Silvertown Quartet, "Who's Blue Now?" (Meyer and Caesar), (Columbia Record 01192).
 9.29: Mezzo-soprano solos—Miss Dorothy Sligo, (a) "Spreading the News" (Oliver); (b) "Four Leaf Clover" (Brownell).
 9.35: Overture—Band, "Golden Cross" (Greenwood).
 9.45: Recitals—Mr. Lester Moller, (a) "The Seekers" (Masefield), (b) "The Spring Poet" (Anon).
 9.51: Organ solo—G. T. Pattman, "Four Indian Love Lyrics" (Columbia 02696), (a) "Kashmiri Song"; (b) "Till I Awake" (Woodforde-Finden).
 9.55: Bass solo—Mr. E. G. Bond, "Lackaday" (Crampton).
 9.58: Vocal solo and chorus—Raymond Newell and chorus, "We're All Bound to Go" (from "The Shanty Book" (Terry) (Columbia Record 01024).
 10.2: March—Band, "Changing Guard" (Hume).
 10.7: God Save the King.

Wednesday, December 5

1YA, AUCKLAND (333 METRES)—WEDNESDAY, DECEMBER 5.

- 3 p.m.: Afternoon session—selected studio items
 4.0: Literary selection by the Announcer.
 4.8: Selected studio items.
 4.25: Sports results.
 6.0: Children's session conducted by Uncle Tom.
 7.15: News and market reports—Book review.
 7.45: Lecture—Mr. Norman Kerr, "Physical Culture."
 8.0: Chimes.
 8.1: Overture—Royal Opera Orchestra, "Marche Militaire" (Schubert), (H.M.V. Record C1279).
 8.5: Chorus—Madame Humphrey Steward's Quartet, "The Cherubic Host" (Gaul).
 8.9: Soprano solo—Miss Ida Holmes, "The Jewel Song" (from "Faust") (Gounod).
 8.13: Violin solo—Fritz Kreisler "Caprice Viennois" (Kreisler), (H.M.V. Record DB1091).
 8.17: Novelty—Bohemian Duo, (a) "Girl of My Dreams" (Clapp); (b) "Blue Ridge Mountain Home" (Robinson).
 8.24: Humour—Hebrew Two, "Happy Abe And Dismal Ike".
 8.32: Organ and vocal—Mr. Arthur E. Wilson, (a) "By The Sea" (Schubert); (b) "Gavotte Pastorale" (Durand); (c) "Fear Not Ye, O Israel" (Buck); (d) "Thanksgiving Prelude—Now Thank We All Our God" (Dicks).
 8.52: Contralto solo—Miss Doris Gower, "Softly Awakes My Heart" (Saint-Saens).
 8.56: Orchestral—New Light Symphony Orchestra, "Rustic Wedding Symphony" (Goldmark) (H.M.V. Record C1210).
 9.0: Weather forecast.
 9.2: Harp solo—Miss Mavis Grevatt, "Rising of the Lark" (Thomas).
 8.7: Novelty—Bohemian Duo, (a) "Girl of My Dreams" (Clapp); (b) "letto" (Verdi).
 9.11: Baritone solos—Mr. John Bree, (a) "Yeoman's Wedding Song" (Poniatowski); (b) "Lady Mine" (Lohr).
 9.18: Orchestral—New Light Symphony Orchestra, "Malaguena" (A Spanish Dance) (Moszkowski) (H.M.V. Record C1210).
 9.22: Vocal duet—Mrs. Arthur Wallis and Miss Doris Gower, "Still as the Night" (Bohm).

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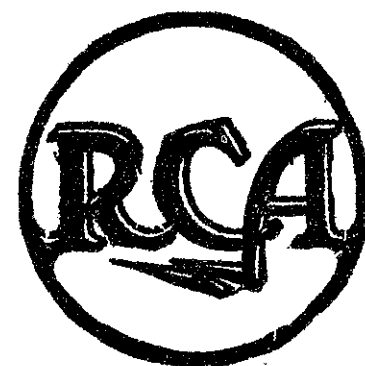
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WELLINGTON

- 9.26: Recital—Mr. Thomas Harris, "The Bachelor's Club."
 9.31: Organ and vocal—Mr. A. E. Wilson, (a) Miniature Suite (Rogers),
 1. "Prelude" 2. "Intermezzo." 3. "Pastorale." 4. "Toccata."
 (b) "Canzonetta" (Frydinger); (c) "God's Garden" (Vocal solo)
 (Baker); (d) "Swedish Wedding March" (Soderman).
 9.51: Baritone solo—Mr. John Bree, "The Fortune Hunter" (Willeby).
 9.55: Novelties—Bohemian Duo, (a) "My Souvenir" (Nicholls); (b) "Ain't
 That a Grand and Glorious Feeling" (Ager).
 10.2: Light orchestral—Victor Salon Orchestra, "The World is Waiting for
 the Sunrise" (Lockhart-Seitz) (H.M.V. Record EA186).
 10.6: Vocal duet—Misses Sybil and Winnie Stevens, "Somewhere a Voice
 is Calling" (Tate).
 10.10: Close down

2YA, WELLINGTON (420 METRES)—WEDNESDAY, DECEMBER 5.

SILENT DAY.

3YA, CHRISTCHURCH (306 METRES)—WEDNESDAY, DECEMBER 5.

- 3 p.m.: Afternoon session—selected studio items.
 4.25: Sports results to hand.
 4.30: Close down.
 6.0: Children's session, conducted by Uncle Peter and Mother Hubbard
 7.15: News session.
 7.30: Addington stock market reports.
 8.0: Chimes.
 8.1: Overture—National Symphony Orchestra, "Light Cavalry" (Suppe)
 (Zonophone Record EE102).
 8.10: Relay from Municipal Concert Hall of Christchurch Orchestral Society's
 concert.
 9.0: Studio programme.
 Weather forecast.
 9.2: Talk on "Astronomy"—Rev. B. Dudley, F.R.A.S., "The Milky Way."
 9.17: Orchestral suite—New Queen's Hall Light Orchestra, "Peer Gynt
 Suite" (Grieg), (a) "Anitra's Dance"; (b) "Dance of the Elfs"; (c)
 "Solveig's Song" (Columbia Record L1517).
 9.25: Contralto solos, followed by soprano and tenor duet—Miss Nellie Lowe
 and the Harmony Duo, (a) "The Meeting of the Waters" (Moore); (b)
 "How Many a Lonely Caravan" (Woodforde-Finden); (c) "I'll Sing
 to You" (Thompson).
 9.36: Saxophone solo—Rudy Wiedoeft, "Sax-o-Phun" (Wiedoeft) (Columbia
 Record 4037).
 9.40: Baritone solos—Mr. A. G. Thompson, (a) "Wanderer's Night Song"
 (Moore); (b) "At Gretna Fair" (Paul Marie).
 9.47: A personal experience—Rev. B. Dudley, "I Get Splashed and go to
 the Mercers" (MS.).
 9.51: Soprano solos—Miss Hilda Hutt, (a) "The Waking of Spring" (Del
 Riego); (b) "Vorrei" (Tosti).
 9.59: Waltz with vocal chorus—Organ solo, G. T. Pattman, "Janette" (Wil-
 liams and Nicholls) (Columbia Record O1144).
 10.2: Tenor solos, followed by contralto and baritone duet—Mr. T. G. Rogers
 and the Dulcet Duo, (a) "Roses of Picardy" (Haydn Wood); (b) "Thy
 Beaming Eyes" (McDowell); (c) "Barcarola" (Gounod).
 Close down.

4YA, DUNEDIN (463 METRES)—WEDNESDAY, DECEMBER 5.

- 7 p.m. Town Hall chimes.
 7.1: Request gramophone concert.
 7.40: News session—Burnside stock sales report.
 8.0: Town Hall chimes.
 8.1: Suite—Ketelbey's Concert Orchestra, "In a Fairy Realm" (Ketelbey)
 (Columbia Records 02694/5):
 (a) "The Moonlight Glade";
 (b) "The Queen Fairy Dances";
 (c) "The Gnomes March."
 8.13: Quartets—4YA Harmonists, (a) "Hail, Smiling Morn" (Spofforth);
 (b) "Drink to Me Only With Thine Eyes" (Old English).
 8.19: Violin solo—Miss Eva Judd, "Elegie" (Ernt).
 8.24: Tenor solo—Mr. C. C. Scott, "The Sunlight Highway" (Moir).
 8.27: Saxophone solo—Rudy Wiedoeft, "Minuet" (Beethoven) (Columbia
 Record 01176).
 8.31: Soprano solo—Miss Roma Buss, "Ye Banks and Braes" (Moffatt).
 8.34: Scottish comedian—Will Fyffe, "I Belong to Glasgow" (Fyffe) (Colum-
 bia Record 961).

- 8.38: Baritone solo—Mr. F. M. Tuohy, "What the Red-haired Bosun Said"
 (Harry).
 8.42: Recitals—Miss Madge Yates, (a) "Hoodoo McFiggins Christmas" (Lea-
 cock); (b) "The Old Stage Queen."
 8.50: Mezzo-soprano solo—Miss Mollie Andrews, "Hills of Donnegal" (San-
 derson).
 8.53: Instrumental—4YA Broadcasting Trio, "Spanish Dance No. 2" (Mosz-
 kowsky).
 8.58: Weather forecast.
 9.0: Quartet—4YA Harmonists, "The Cat and the Fiddle" (Smith).
 9.4: Pianoforte solo—Mrs. Ernest Drake, "Mexican Serenade" (Mowrey).
 9.9: Tenor solo—Mr. C. C. Scott, "My Sweet" (Jewitt).
 9.12: Novelty—Band of H.M. Grenadier Guards, "In a Clock Store" (Orth)
 (Columbia Record 9029).
 9.16: Soprano solo—Miss Roma Buss, "Nightingale and the Rose" (Hanley).
 9.19: Cello solos—Mr. P. J. Palmer, (a) "Serenade" (Squire); (b) "Morning
 Breezes" (Jensen).
 9.30: Baritone solo—Mr. F. M. Tuohy, "Tops'l Hal' Yards" (Harry).
 9.33: Recital—Miss Madge Yates, selected.
 9.37: Mezzo-soprano solo—Miss Mollie Andrews, "I Wonder if Love is a
 Dream" (Forster).
 9.40: Instrumental—4YA Broadcasting Trio, "Spanish Dances Nos. 1 and 4"
 (Moszkowski).
 9.50: Comedian with orchestra—Will Fyffe, "Dr. McGregor" (Columbia
 Record 9108).
 Foxtrots—Denza Dance Band, (a) "Adoree" (West); (b) "There's
 Something about a Rose" (Kahn, Wheeler and Fain) (Columbia
 Record 01189).
 10.0: Close down.

Thursday, December 6

1YA, AUCKLAND (333 METRES)—THURSDAY, DECEMBER 6.

- 3 p.m.: Afternoon session—selected studio items.
 4.0: Literary selection by the Announcer.
 4.8: Further selected studio items.
 8.25: Sports results.
 4.30: Close down
 6.0: Children's session conducted by Peter Pan.
 7.15: News and market reports—Book review.
 8.0: Chimes.
 8.1: March—Royal Opera Orchestra, "Marche Hongroise" (Berlioz),
 (H.M.V. Record C1279).
 8.5: Duet—Messrs. Lambert Harvey and Barry Coney, "I Wish to Tune My
 Quivering Lyre" (Watson).
 8.9: Soprano solo—Miss Dorothy Youd, "I Got a Robe" (Burleigh).
 8.13: Instrumental trio—Auckland Trio, "Scherzo from C Minor Trio" (Men-
 delssohn).
 8.21: Baritone solo—Mr. Barry Coney, "Young Dietrich" (Henschel).
 8.25: Waltz with vocal refrain—Goodrich Silvertown Cord Orchestra, "The
 Church Bells are Ringing for Mary" (Colby) (H.M.V. Record
 EA381).
 Light orchestral with vocal chorus—Salon Orchestra, "My Blue
 Heaven" (Whiting, Donaldson) (H.M.V. Record EB18).
 8.32: Contralto solo—Miss Martha Williamson, "I Heard You Singing"
 (Coates).
 8.37: Violin solo—Miss Ina Bosworth, "Sicilienne" (Bach).
 8.41: Tenor solo—Mr. Lambert Harvey, "By the Sea" (Schubert).
 8.45: Wurlitzer organ solos—Chas. W. Saxby, (a) "Can't You Hear Me Say I
 Love You?" (Derickson, Brown); (b) "Janette" (Waltz) (Nic-
 holls), (Zonophone Record 5094).
 8.53: Weather forecast.
 8.55: Debate—Pro and Con, "That the Heart is More Important Than the
 Mind."
 9.35: Instrumental trio—Auckland Trio, "Cavotte Fantastique" (Speaight).
 9.43: Soprano solos—Miss Dorothy Youd, "Two Short Songs" (Gynne,
 Morris).
 9.47: Baritone solo—Mr. Barry Coney, "Peter Warlock's Fancy" (Warlock).
 9.51: Light orchestral—Picadilly Orchestra, "My Beloved Gondolier" (Tibor)
 (H.M.V. Record B2575).
 9.55: Contralto solo—Miss Martha Williamson, "The Garden of My Heart"
 (Ball).
 9.59: Tenor solo—Mr. Lambert Harvey, "As You Pass By" (Russell).
 10.3: Waltz—International Concert Orchestra, "The Merry Widow" (Lehar)
 (Zonophone Record EF9).
 10.7: Vocal quartet—Mr. Barry Coney's Quartet, "Fisherman's Goodnight"
 (Bishop).
 10.11: Close down.

2YA, WELLINGTON (420 METRES)—THURSDAY, DECEMBER 6.

- 3 p.m.: Chimes of the G.P.O. Clock.
 3.1: Selected gramophone items.
 4.30 and 4.55: Sports results to hand.
 5.0: Close down.
 6.0: Children's session conducted by Aunt Gwen.
 7.0: News session, market reports and sports results.
 7.40: Lecture on "Gardening" by Mr. A. J. Nicholls, representative of
 Hutt Valley Horticultural Society.

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- 8.0: Chimes of the G.P.O. Clock.
Concert by the City Silver Band under the conductorship of Mr. Harry Baker, and assisting artists.
- 8.1: March—Band, "Caractacus" (Layman).
Air and variations—Band, "Eventide" (Rimmer).
- 8.16: Vocal quartet—Lyric Quartet, "Sally in Our Alley" (Carey).
- 8.20: Tenor solo—Mr. Chas. Williams, selected.
- 8.24: Cornet solo—Bandsman McPherson, "The Lost Chord" (Ord Hume).
- 8.31: Recital—Miss Rose Carte, "Whistling in Heaven" (Anon).
- 8.36: Soprano with orchestra—Amelito Galli-Curci, "Last Rose of Summer" (Arr. Moore) (H.M.V. Record DB602).
- 8.40: Bass solo—Mr. W. Binet Brown, "Tally Ho!" (Leoni).
- 8.44: Vocal quartet—Lyric Quartet, "They Kissed" (Hawley).
- 8.48: Selection—Band, "Folk Song" (Newton).
- 8.58: Weather forecast.
- 8.59: Vocal duet—Messrs. C. Williams and W. Goudie, "Drink to Me Only" (Arr. Newton).
- 9.3: Wurlitzer organ solo—Jesse Crawford, "Serenade" (Schubert), (H.M.V. EA325).
- 9.7: Baritone solos—Mr. Will Goudie, (a) "Devil May Care" (Tate); (b) "Keep on Hopin'" (Clark).
- 9.13: Selection—Band, "Giralda" (Adam).
- 9.23: Soprano with orchestra—Hulda Lashanska, "Aloha Oe" (Farewell to Thee) (Liliuokalani) (H.M.V. Record DA922).
- 9.27: Bass solo—Mr. W. Binet Brown, "Ho! Jolly Jenkin" (Sullivan).
- 9.31: Waltz—Band, "Fascination" (Greenwood).
March—Band, "The Challenge" (Calbert).
- 9.43: Tenor solo—Mr. Chas. Williams, selected.
- 9.47: Humour—Miss Rose Carte, (a) "By Special Request" (Anon); (b) "Just Like a Man" (Anon).
- 9.53: Vocal quartet—Lyric Quartet, "Calm is the Sea" (Pfeil).
- 9.57: March—Band, "Silver Wood" (Hawkes).
- 10.1: God Save the King.

3YA, CHRISTCHURCH (306 METRES)—THURSDAY, DECEMBER 6.

- 3 p.m.: Afternoon session—selected studio items.
- 4.25: Sports results to hand.
- 4.30: Close down.
- 6.0: Children's session, conducted by Uncle Hal.
- 7.15: News session.
- 8.0: Chimes.
- 8.1: Rebroadcast of 2YA, Wellington.
- 8.7: Soprano solo, followed by mezzo-contralto and bass duet, Miss Renetta Rings, Miss Anita Graham and Mr. Fred. A. Millar, (a) "One Fine Day" (from "Madame Butterfly") (Puccini); (b) "Beauty's Eyes" (Tosti).
- 8.15: Pianoforte solo—Miss Dorothy Davies, "Scherzo in C Sharp Minor" (Chopin).
- 8.23: Tenor solo—Mr. W. Bradshaw, "Walther Before the Masters Guild" (from "The Master Singers of Nuremberg") (Wagner).
- 8.27: Instrumental trios—Christchurch Broadcasting Trio, "Moderato," "Larghetto" and "Finale" (Gade).
- 8.36: Mezzo-contralto solos—Miss Anita Graham, (a) "Recompense" (Sanderson); (b) "The Wild Rose" (Schubert).
- 8.42: Violin solo—Miss Irene Morris, "Souvenir" (Adlington).
- 8.46: Bass solo—Mr. Fred. A. Millar, "Oh, Mine's the Best Philosophy" (Dawson).
- 8.50: Humour—Mr. George Titchener.
- 8.59: Weather forecast.
- 9.1: Orchestral—Royal Philharmonic Orchestra, "Tannhauser" (Venusberg Music) (Wagner), (Columbia Records 04016/7).
- 9.15: Soprano and tenor duet—Valencia Duo, "Miserere—A Che La Morte" (from "Il Trovatore") (Verdi).
- 9.19: Contralto solo—Miss Anita Graham, "Dawn" (Curran).
- 9.23: Violin solo—Miss Irene Morris, "Chanson Meditation" (Cottenet).
- 9.27: Tenor solo—Mr. W. Bradshaw, "There is a Flower That Bloometh" (from "Maritana") (Wallace).
- 9.31: Instrumental trios—Christchurch Broadcasting Trio, (a) "Indian Canzonetta" (Dvorak); (b) "Tarantella" (Trousselle).
- 9.40: Soprano solo—Miss Renetta Rings, "Happy Summer Song" (Kahn).
- 9.44: Humour—Mr. Geo. Titchener.
- 9.48: Bass solo—Mr. Fred. A. Millar, "Rolling Down to Rio" (German).
- 9.54: Tenor solo and chorus—Valencia Quartet, "Funiculi Funicula" (Denza), (soloist, Mr. W. Bradshaw).
- 9.58: Military Tattoo—Band of H.M. Grenadier Guards, "Wembley Military Tattoo" (Columbia Record 9073).
- 10.2: Close down.

4YA, DUNEDIN (463 METRES)—THURSDAY, DECEMBER 6.

SILENT DAY.

Friday, December 7

1YA, AUCKLAND (333 METRES)—FRIDAY, DECEMBER 7.

- 3 p.m.: Afternoon session—selected studio items.
- 4.0: Literary selection by the Announcer.
- 4.8: Selected Studio Items.

- 4.25: Sports results.
- 4.30: Close down.
- 6.0: Children's session conducted by Nod and Aunt Jean.
- 7.15: News and market reports—Book review.
- 8.0: Chimes.
- 8.1: March—Orchestra, "Stars and Stripes" (Sousa).
Waltz—Orchestra, "Klegtemnestra" (Lotter).
- 8.12: Vocal quartet—St. Andrew's Quartet, "Brightly Dawns Our Wedding Day" (Sullivan).
- 8.16: Grand organ solo—Arthur Meale, "Cavatina" (Raff, arrgd. Meale) (H.M.V. Record B2695).
- 8.20: Soprano solos—Miss Adelaide Taylor, "Two Little Irish Songs" (Lohr).
- 8.24: Recitals—Mr. J. F. Montague, (a) "A Bunch of Roses"; (b) "The Little Irish Mother."
- 8.33: Bass solo—Mr. Arthur College, "Song of the Toreador" (Bizet).
- 8.37: Cello solo—Pablo Casals, "Le Cygne" (Saint-Saens), (H.M.V. Record DA776).
- 8.41: Vocal duet—Miss A. Taylor and Mr. Robt. Peter, "My Song Shall be Always Thy Mercy" (Mendelssohn).
- 8.45: Suite—Orchestra, "Choliniana Pt. 2" (Finck).
- 8.57: Tenor solo—Mr. Robert Peter, "An Evening Song" (Blumenthal).
- 9.1: Weather forecast.
- 9.2: Banjo quartets—Banjo Quartet, (a) "Saxophones Waltz" (Lisk); (b) "Oh! Doris" (Kohn).
- 9.9: Contralto solo—Miss Phyllis Gribbin, "My Ships" (Barratt).
- 9.13: Violin solo—Heifetz, "Rondo" (Schubert) (H.M.V. DB1047).
- 9.17: Recital—Mr. J. F. Montague, A Short Story, "The Girl" (O. Henry).
- 9.25: Waltz—Orchestra, "Invitation a La Valse" (Weber).
- 9.31: Tenor solo—Mr. Robert Peter, "I Know a Sea" (Grey).
- 9.35: Banjo quartets—Banjo Quartet, (a) "Among My Souvenirs" (Nicholls); (b) "In Old Manilla" (Earl).
- 9.43: Cinema organ solo—Chas. W. Saxby, "Classica" (Potpourri selection) Arrgd. Ewing) (Zonophone Record A334).
- 9.47: Vocal quartet—St. Andrew's Quartet, "Sweet Day, Grow Cool" (German).
- 9.51: Selection—Orchestra, "Yeoman of the Guard" (Sullivan).
- 10.11: God Save the King.

2YA, WELLINGTON (420 METRES)—FRIDAY, DECEMBER 7.

- 3 p.m.: Chimes of the G.P.O. clock.
- 3.1: Selected gramophone items.
- 4.30 and 4.55: Sports results to hand.
- 5.0: Close down.
- 6.0: Children's session—"Farewell" to Uncle Ernest.
- 7.0: News session, market reports and sports results
- 8.0: Chimes of the G.P.O. clock.
Relay from the Opera House, Wanganui, of concert by the Queen Alexandra's Own Regimental Band (New Zealand's Champion Band), assisted by Mr. Hubert Carter, the Dominion's leading tenor.
- Overture—Queen Alexandra Band, "Zampa" (Herold).
- 8.7: Opening speech by His Worship the Mayor, Mr. W. J. Rogers.
- 8.10: Fantasia—Wanganui Primary Schools Harmonica Bands (60 performers), (a) "Drink to Me Only"; (b) "Old Black Joe" (Foster).
- 8.15: Speech by Mr. Louis Cohen (past-President North Island Brass Bands' Association).
- 8.17: Soprano solo—Mrs. G. E. Tarrant, "The Nightingale's Trill" (Gany).
- 8.24: Vocal duet—Messrs. Hubert Carter (tenor) and Keith Grant (baritone)—"Solenne in Questa Ora" (La Forza del Destino) (Verdi).
- 8.31: Cornet solo with band accompaniment—Master Jack Buckley (12 years old)—"O For the Wings of a Dove" (Mendelssohn).
- 8.37: Contralto solo—Mrs. Leo. Campion, "Lament of Isis" (Granville Bantock).
- 8.43: Humorous monologue—Mrs. T. L. Sperring, "The Soliloquy of the Safety Pin" (White).
- 9.0: Tenor solo—Mr. Hubert Carter, Aria, "Heavenly Aida" ("Aida") (Verdi).
- 9.6: Contest selection—Queen Alexandra Band, "Scheherazade" (Rimsky-Korsakov).
- 9.14: Soprano solo—Miss Edna Greenwood, "Sparga D'Amaio Aide" ("Aida") (Verdi).
- 9.20: Cornet solo with band accompaniment—Mr. Gordon Bergersen, "Arbucklenian Polka" (Hartman).
- 9.26: Contralto solo—Mrs. S. Wills, "Ships of Arcady" (Head).
- 9.32: Contest selection—Queen Alexandra Band, "Tristan and Isolde" (Wagner).
- 9.45: Contralto solos—Miss Vivienne Ralph, (a) "Go Not, Happy Day"; (b) "Love is a Merry Carpenter" (Hill).
- 9.51: Vocal quartet—Miss Edna Greenwood, Mrs. Leo. Campion, Mr. Keith Grant and Mr. Hubert Carter—"Un Di—Se Ben Rammentomi" ("Rigoletto") (Verdi).
- 9.58: Descriptive selection—Queen Alexandra Band, "In a Monastery Garden" (Ketelbey).
- 10.5: Humorous monologue—Mr. J. George Swan, "Kitty O'Toole" (Lover).
- 10.10: Sketch—Queen Alexandra Band, "The Mill in the Dale" (Cope).
- 10.15: March—Queen Alexandra Band, "The Dawn of Freedom" (Alloter).
- 10.20: God Save the King.

3YA, CHRISTCHURCH (306 METRES)—FRIDAY, DECEMBER 7.

- 3 p.m.: Afternoon session—selected studio items.
- 4.25: Sports results.
- 4.30: Close down.
- 6.0: Children's session, conducted by Big Brother.

- 7.15: News session.
 8.0: Chimes.
 8.1: Rebroadcast of 2YA, Wellington (relay of concert by the Queen Alexandra's Own Regimental Band, Wanganui—New Zealand's champion Band, assisted by Mr. Hubert Carter).
 Close down.

4YA, DUNEDIN (463 METRES)—FRIDAY, DECEMBER 7.

- 3 p.m.: Town Hall chimes.
 3.1: Gramophone concert.
 3.15: Talk on "Fashions" by Miss Buccleuch, of the D.S.A., Ltd.
 3.30: Relay of afternoon tea music from the Savoy.
 4.15: Gramophone item.
 4.25: Sports results.
 4.30: Close down.
 6.0: Town Hall chimes.
 6.1: Children's session, conducted by Aunt Sheila and Big Brother Bill.
 7.15: News session.
 8.0: Town Hall chimes.
 8.1: Overture—Concertgebouw Orchestra, "Tannhauser" (Wagner) (Columbia Records L1770/1).
 8.16: Contralto solos—Miss Irene Horniblow, L.R.A.M., (a) "The Poet's Life" (Elgar); (b) "Song of Autumn" (Elgar).
 8.23: Flute solo—Mr. Chas. E. Gibbons, "The Mascot" (Audran).
 8.29: Baritone solo—Mr. Arthur Lungley, "If You Would Love Me" (MacDermid).
 8.32: Wurlitzer organ solos—Milton Charles, (a) "From the Land of the Sky Blue Water"; (b) "At Dawning" (Cadman) (Columbia Record 01161).
 8.36: Mezzo-soprano solos—Miss Molly Vickers, (a) "Make Up" (Phillips); (b) "Dedication" (Franz).
 8.42: Pianoforte solos—Mrs. Ernest Drake, (a) "Asphodel" (Cyril Scott); (b) "Dance Negre" (Cyril Scott).
 8.47: Mezzo-soprano and baritone duet, Miss Molly Vickers and Mr. Arthur Lungley, "Nocturne" (Denza).
 8.51: Suite—New Queen's Hall Light Orchestra, "Peer Gynt Suite, No. 2"—(a) "Return of Peer Gynt"; (b) "Solveig's Song" (Grieg) (Columbia Record 02632).
 8.59: Humorous monologue—Milton Hayes, "Meanderings of Monty—Monty Attends a Board Meeting" (Hayes) (Columbia Record 01106).
 9.7: Weather forecast.
 9.9: Baritone solo—Mr. Arthur Lungley, "You Along o' Me" (Sanderson).
 9.12: Flute solos—Mr. Chas. E. Gibbons, (a) "Sweet Genevieve" (arrg. Le Thiére); (b) "Serenade" (Braga).
 9.21: Contralto solo—Miss Irene Horniblow, "Like to the Damask Rose."
 9.26: Tenor and chorus with orchestra, Eisdell and chorus, "In a Monastery Garden" (Ketelbey) (Columbia Record L1454).
 9.30: March—H.M. Grenadier Guards Band, "Bond of Friendship" (Rogan) (Columbia Record 4359).
 Relay of dance music from the Savoy.
 11.0: Close down.

Saturday, December 8

1YA, AUCKLAND (333 METRES)—SATURDAY, DECEMBER 8.

- 3 p.m.: Afternoon session—selected studio items.
 4.0: Literary selection by the Announcer.
 4.8: Selected studio items.
 4.25: Sports results.
 4.30: Close down.
 6.0: Children's session conducted by Cinderella.
 7.15: News and market reports—Book review.
 8.0: Chimes.
 8.1: Overture—New Light Symphony Orchestra, "Merry Wives of Windsor" (Nicolai) (H.M.V. Record C1260).
 8.9: Baritone solo—Mr. Arthur Briggs, "Queen of the Earth" (D'Hardelot).
 8.13: Vocal duet—Mrs. Daisy Basham and Mr. Arthur Briggs, "A Night in Venice" (Lucantoni).
 8.17: Contralto solo—Mrs. Daisy Basham, "An Irish Lullaby" (Needham).
 8.21: Instrumental Trio—Auckland Trio, "Chopiniana" (Roberts).
 8.29: Vocal duets—Mrs. D. Basham and Mr. Arthur Briggs, (a) "When a Maiden Loves, She Sits and Sighs"; (b) "I Have a Song to Sing O" (from "The Yeomen of the Guard" (Sullivan).
 8.37: Military Band selections—Band of H.M. Coldstream Guards, (a) "Pirates of Penzance" (Sullivan); (b) "Iolanthe" (Sullivan) (H.M.V. Record C1368).
 8.45: Vocal duets—Mrs. Daisy Basham and Mr. A. Briggs, excerpts from "Iolanthe" (Sullivan), (a) "The Lord Chancellor's Song"; (b) "None Shall Part us From Each Other"; (c) "When Britain Really Ruled the Waves."
 9.1: Weather forecast.
 9.3: Baritone solo—Mr. A. Briggs, "Good Company" (Adams).
 9.7: Contralto solo—Mrs. D. Basham, "Tis I" (Pinsuti).
 9.11: Instrumental trio—Auckland Trio, "Second Valse" (Godard).
 9.19: Baritone solo—Mr. A. Briggs, "My Old Dutch" (Chevallier).
 9.23: Cello solo—Miss Molly Wright, "Nocturne" (Popper).
 9.27: Vocal duet—Mrs. D. Basham and Mr. A. Briggs, "When You and I and I and You" (from "The Cingalee") (Monckton).

- 9.31: Programme of dance music.
 11.0: Close down.

2YA, WELLINGTON (420 METRES)—SATURDAY, DECEMBER 8.

- 3 p.m.: Chimes of the G.P.O. clock.
 3.1: Selected gramophone items.
 4.30 and 4.55: Sports results to hand.
 5.0: Close down.
 6.0: Children's session, conducted by Uncle Toby and Aunt Gwen.
 7.0: News session, market reports and sports results.
 8.0: Chimes of the G.P.O. clock.
 8.1: March—Orchestra, "Washington Post" (Sousa).
 Waltz—Orchestra, "Tesoro Mio" (Becucci).
 8.10: Quartet—Melodie Four, "Doan Ya Cry Ma Honey" (Macy).
 8.14: Hawaiian selections—Kane's Hawaiians, (a) "Drowsy Waters" (Ailan); (b) "Hilo Hawaiian March" (Zonophone Record 2992).
 8.22: Tenor with quartet—Mr. Sam Duncan, "Just Before the Battle Mother" (Williams).
 8.26: Humour—Mr. W. J. McKeon, "A Nonsense Novel" (Leacock).
 8.32: Orchestral novelties—Orchestra, (a) "The Old Clock"; (b) "By the Blue Hawaiian Waters" (Ketelbey). 1, Hula Dance; 2, The Kanaka Lover Appears; 3, Song of the Hula Girl; 4, Dance of the Betrothal Ceremony.
 8.43: Vocal quartet—Melodie Four, "Honey, I Wants Ya Now" (Coe).
 8.47: Wurlitzer organ solo—Jesse Crawford, "La Paloma" (The Dove) (Yradler), (H.M.V. Record EA190).
 8.51: Instrumental—Orchestra, Repeat number.
 8.59: Weather forecast.
 9.0: Comedian with orchestra—Leslie Sarony, "Don't Do That to the Poor Puss Cat" (Sarony, Eyton) (H.M.V. Record B2714).
 Vocal foxtrot novelty—Coon Sander's Orchestra, "Ready for the River" (Kahn, Moret) (H.M.V. Record EA378).
 9.8: Baritone solos—Mr. R. S. Allwright, (a) "The Star" (Foster); (b) "Nightfall at Sea" (Phillips).
 9.15: Musical comedy selection—Orchestra, "Blue Mazurka" (Lehar).
 9.25: Bass solo—Mr. W. W. Marshall, "Gipsy Love Song" (Herbert).
 9.29: Humour—Mr. W. J. McKeon, "Behind the Front" (Anon).
 9.37: Tenor solos—Mr. Frank Bryant, (a) "Two Eyes of Grey" (McGeogh); (b) "Mighty Lak a Rose" (Nevin).
 9.44: Vocal quartet—Melodie Four, "Song of Hawaii" (Bories, arrgd. Melodie Four).
 9.48: Instrumental—Orchestra, Dance Novelties.
 9.58: Dance programme.
 11.0: Close down.

3YA, CHRISTCHURCH (306 METRES)—SATURDAY, DECEMBER 8.

- 3 p.m.: Afternoon session—selected studio items.
 4.30: Close down.
 6.0: Children's session, conducted by Chuckle and Aunt Pat.
 7.15: News session.
 7.30: Sports results.
 8.0: Chimes.
 8.1: Overture—Rebroadcast of 2YA, Wellington—(a) "Washington Post" (Sousa); (b) "Tesoro Mio" (Becucci).
 8.7: Tenor solo, followed by bright songs at the piano—Mr. Arthur T. Couch and the Joyous Duo, (a) "Lolita" (Buzzi-Pecchia); (b) Entertaining Vocal Numbers.
 8.19: Jazz band—Denza Dance Band, "Adoree" (West) (Columbia Record 01189).
 8.23: Baritone solos—Mr. Robert Samson, (a) "The Blind Ploughman" (Coningsby Clarke); (b) "I Know a Lovely Garden" (D'Hardelot).
 8.29: Orchestral selections—Studio Orchestra, under Mr. Harold Beck, (a) "Valse" (Cyril Scott); (b) "Pavane" (Saint Saens); (c) "Czardas" (Delibes).
 8.37: Humour—Mr. Franklyn Brown, Songs at the Piano.
 8.43: Novelty—Flotsam and Jetsam, "The Business Man's Love Song" (Hilham) (Columbia Record 0995).
 8.51: Humorous Scottish Song—Mr. Bracey Wilson, "Roamin' in the Gloamin'" (Lauder).
 8.56: Weather forecast.
 8.58: Orchestral—Studio Orchestra, "Zampa" (Herold).
 9.7: Tenor solos—Mr. Arthur T. Couch, (a) "Mignonette" (Harris); (b) "Why Shouldn't I?" (Kennedy-Russell).
 9.13: Humour—Milton Hayes, "The Near East" (Columbia Record 3233).
 9.21: Songs at the piano—Joyous Duo in More Bright Moments.
 9.27: Saxophone solo—Rudy Wiedoeft, "La Cinquantaine" (Arrg. Wiedoeft) (Columbia Record 4037).
 9.31: Humorous Scottish song—Mr. Bracey Wilson, "John! Put Your Trousers On" (Williams).
 9.36: Orchestral—Studio Orchestra, "Two Norwegian Dances" (Grieg).
 9.44: Humour—Mr. Franklyn Brown, Songs at the Piano.
 9.50: Foxtrot with vocal chorus—Denza Dance Band, "There's Something About a Rose" (Kahn, Wheeler and Fain) (Columbia Record 01189).
 9.54: Baritone solos—Mr. Robert Samson, (a) "Valse" (Russell); (b) "Young Tom o' Devon" (Russell).
 10.0: Dance programme.
 11.0: Close down.

4YA, DUNEDIN (463 METRES)—SATURDAY, DECEMBER 8.

- 7.15: News session.
 8.0: Town Hall chimes.
 8.1: Relay of orchestral music from the Octagon Theatre Orchestra, under the direction of Monsieur Henri de Rose (Mus. Bac.).
 8.11: Humorous Scottish songs—Mr. Buster Brown, (a) "The Laddies That Fought and Won" (Lauder); (b) "The Boss o' the Hoose" (Lauder).
 8.18: Baritone with violin, 'cello, celeste and piano accompaniment, Alex. Whitson, "The Adorable Outcast" (Hayes) (Columbia Record 01215).
 8.22: Light soprano solo—Miss Thelma Blackman, "Ma Sunflower Babe" (Marky).
 8.26: Humorous sketch—Miss Sheila Neilson and Mr. J. B. McConnell.
 8.36: Humorous songs—Mr. C. Harlie, (a) "A Very Queer Crew" (Gros-smith); (b) "How Many Beans Make Five" (Naish).
 8.43: Relay of orchestral music from the Octagon Theatre.
 8.58: Popular song hit—Miss Betty Roberts, "Will You Remember Me?" (Hall).
 9.2: Weather forecast.
 9.4: Waltz—Eddie Thomas' Collegians, "Beautiful Ohio" (Earl) (Columbia Record 02651).
 Male voice quartet—Goodrich Silvertown Quartet, "Under the Clover Moon" (Healy) (Columbia Record 01192).
 9.12: Humorous Scottish song—Mr. Buster Brown, "She's Ma Daisy" (Lauder).
 9.16: Octette—J. H. Squire's Celeste Octet, "Serenade" (Titl) (Columbia Record 9116).
 9.20: Light soprano solos—Miss Thelma Blackman, (a) "Just a Little Lady" (Craker); (b) "Penelope" (Mill).
 9.27: Humorous sketch—Miss Sheila Neilson and Mr. J. B. McConnell.
 9.37: Humorous song—Mr. C. Harlie, "As Soon as They Heard My Voice" (Foley).
 9.42: Banjo solo—Len Fillis, "Banjoviality" (Fillis and Bright) (Columbia Record 0990).
 Tenor with orchestra—James Melton, "When Love Comes Stealing" (Rapee, Pollock) (Columbia Record 01215).
 Vocal duet with violin, saxophone and mustel celeste accompaniment, Jack Lumsdaine and Len Maurice, "Goodnight" (Columbia Record 01191).
 9.51: Popular song hits—Miss Betty Roberts, (a) "Tea For Two" (Youmans); (b) "Whistle and I'll Come" (Trdtl).
 9.57: Chorus—Light Opera Co., "Oh, Kay!" Vocal Gems (Gershwin) (Columbia 02558).
 March—National Military Band, "Washington Post" (Sousa) (Columbia Record 01130).
 10.3: Close down.

Sunday, December 9

1YA, AUCKLAND (333 METRES)—SUNDAY, DECEMBER 9.

- 3 p.m.: Afternoon session—selected studio items.
 4.0: Literary selection by the Announcer.
 4.8: Selected studio items.
 4.25: Sports results.
 4.30: Close down.
 6.0: Children's session, conducted by Uncle Leo.
 6.55: Relay of service from Mt. Eden Congregational Church—Preacher: Mr. R. C. Roberts, B.A., B.D. Organist and choirmaster: Mr. Hawkin.
 8.30: Gramophone lecture-recital by Mr. A. Fairburn.
 9.30: Close down.

2YA, WELLINGTON (420 METRES)—SUNDAY, DECEMBER 9.

- 3 p.m.: Afternoon session—selected studio items.
 4.30: Close down.
 6.0: Children's Sunday Service, conducted by Uncle Ernest.
 7.0: Relay of evening service from Terrace Congregational Church—Preacher: Rev. Ernest R. Weeks. Organist and choirmaster: Mr. H. Brusey. (This will be the last service to be broadcast by the Rev. Weeks before he leaves for England).
 8.15: (Approx.)—Studio concert.
 Overture—Mengelberg's Concertgebouw Orchestra, "Anacreon" (Cherubini) (Columbia Record 04054/5).
 Mezzo-soprano solo—Mrs. G. Millward, "Ave Maria" (Mascagni).
 Orchestral—National Symphony Orchestra, "Prelude—La Traviata" (Verdi) (H.M.V. Record EB24).
 Quartet—Galli-Curci, Homer, Gigli and De Luca, "Bella Figlia Dell'Amore" (from "Rigoletto"), (Verdi) (H.M.V. Record DQ102).
 Pianoforte solos—William Murdoch, (a) "Song Without Words" (Mendelssohn); (b) "Minuet in G" (Paderewski), (Columbia Record 02666).
 Duet—Mr. and Mrs. George Millward, "Miserere" Duet (from "Il Trovatore") (Verdi).
 Cello with orchestra—Giulhermina Suggia, "Kol Nidrei" (Bruch) (H.M.V. Record DB1083).
 Tenor solo—Mr. George Millward, "Comfort Ye, My People" (from "The Messiah") (Handel).
 Overture—London Symphony Orchestra, "Coriolan" (Beethoven) (H.M.V. Record D1409).

Mezzo-soprano solo—Mrs. G. Millward, "Song of Ruth" (Gounod).
 Organ solos—Reginald Goss-Custard, F.R.C.O., (a) "The Question" (Wolstenholme); (b) "The Answer" (Wolstenholme) (H.M.V. Record E415).
 Baritone solo—Peter Dawson, "Six Australian Bush Songs" (James) (H.M.V. Record C1125).
 Violin solo—Joseph Sziget, "Slavonic Dance in G. Minor" (Dvorak-Kreisler) (Columbia Record 04129).
 Duet—Mr. and Mrs. Geo. Millward, "Barcarolle" (from "Tales of Hoffman") (Offenbach).
 Band—H.M. Grenadier Guards, "The Rose" (Myddelton) (Columbia Record 02521).
 Tenor solo—Mr. Geo. Millward, "Down in the Forest" (Landon Ronald).
 Orchestral—Royal Opera Orchestra, "1812" Overture (Tschaiikowsky) (H.M.V. Records 1280/1).
 Close down.

3YA, CHRISTCHURCH (306 METRES)—SUNDAY, DECEMBER 9.

- 3 p.m.: Gramophone recital of selected items, electrically reproduced
 4.30: Close down.
 5.30: Children's song service, conducted by Uncle David.
 6.30: Relay of service from Trinity Congregational Church—Preacher: Rev. Gardner Miller. Choirmaster: Mr. A. G. Thompson, B.A.
 7.45: (approx) Overture—Halle Orchestra, "Rosamunde" (Schubert) (Columbia Record 04056).
 7.53: Tenor solo—Mr. H. Blakeley, "I Arise from Dreams of Thee" (Salaman).
 7.58: Choir—Sheffield Choir, "The Sun Shall be no More" (Woodward) (Columbia Record 02584).
 8.2: Bass solo—Mr. E. J. Johnston, "For all Eternity" (Mascheroni).
 8.6: Tenor and bass duet—Lyric Duo, "Watchman, What of the Night?" (Sargeant).
 8.10: Orchestra—London Symphony Orchestra, "Coriolan Overture" (Beethoven) (H.M.V. Record D1409).
 8.18: Tenor solo—Mr. H. Blakeley, "Oft in the Stilly Night" (Trdtl).
 8.22: Bass solo—Mr. E. J. Johnston, "The Norseman's Song" (Allitsen).
 Relay from Municipal Concert Hall of the Schubert Centenary (repeat) programme, produced by Messrs. Chas. Begg and Co., in aid of Bandmen's Memorial Fund.
 9.30: Close down.

4YA, DUNEDIN (463 METRES)—SUNDAY, DECEMBER 9.

- 5.30 p.m.: Children's song service, conducted by Big Brother Bill.
 6.30: Relay of service from Hanover Street Baptist Church—Preacher: Rev. E. S. Tuckwell, Choirmaster: Mr. H. P. Desmoulins. Organist: Mr. Upton Harvey.
 8.0: Relay from St. Kilda, of concert by the St. Kilda Band.
 9.15: Close down.

"Pirating"

"PIRATES," or unlicensed listeners, are in an unhappy position in Australia, especially in New South Wales, where £1293 has been collected in fines ranging up to £10. Altogether, the Commonwealth Government has collected £2434 from this source.

Regarding pirating, the editor of "Wireless Weekly" (N.S.W.) says:

"It is a queer psychological fact, this common desire to defraud the Government or public institutions by evasion of small taxations and dues. In the country districts particularly, where, until now, there has been small possibility of prosecution, and the local postmaster, a prominent member of a small community, seldom enforces his authority, many hundreds of people must take the opportunity of evading the license fee.

But apart from these opportunists, there is a strong body of people who simply refuse to pay their fee because

they believe that they should be entitled to their entertainment free of all charge and that the company does not need their small contribution in order to carry on. This is a very wrong idea, and, of course, other listeners have to carry them on their shoulders.

"The broadcasting companies are today spending ten times as much on their programmes as they spent four years ago, and the ratio of their expenses to their incoming revenue has increased a great deal."

New Zealand inspectors are actively seeking the pirates who are so abundant in our country, and from time to time reports come to hand of some of these having to pay an unusually large license fee.

After all, it is not worth trying to evade a moral obligation for a mere 30s. Someone has to pay if the service is to continue. More licenses mean better service, and it is in the interests of every listener that these "pirates" who, not realising their position, sacrifice their self-respect, should be brought to account.



ANSWERS TO CORRESPONDENTS.

A.D.R. (Thorndon): The performer upon whose absence you comment, in wartime language, "disappeared without trace." This illustrates some of the difficulties of programme organisation. In the circumstances substitution of gramophone selections was inevitable.

Mystery Stations.

HEARD a station on about 320 metres open up with "Hello, Everybody, Randwick calling, station 2B—" something, and seem to fade away. Heard him no more. Who is this strange Aussie? Also, on November 10, Saturday, using a six-valve set, heard a station clear and very distinct on a fox-trot, "At Sundown," on 420 metres, it was not 5CL, KZRM, or JOBK, the announcement was foreign. Could it be the C. A. Larsen? Did any listener hear it after 2YA closed down? Cheerio. —S. Ellis.

An Explanation.

I FEEL I must come to the rescue of Mr. Ireland, Taradale, seeing no other DX listener helped him out of his difficulty. The station heard is KPLA, Los Angeles, California, 500 watts, "Official station of the Los Angeles Examiner." This station is on the air at 7.30 a.m. and sometimes earlier on their "Breakfast Frolic," on a wave-length of 288.3 metres. I heard him on Saturday, November 17, at 1 a.m. Sunday, advertising Firestone tires, etc. I was using a six-valve factory-built set at the time. Cheerio. —S. Ellis, Okato.

Grand Opera Enjoyed.

I FEEL that I must express my appreciation of the performance of the "Bohemian Girl" broadcast by 2YA last Thursday. It certainly was a treat. The Wellington station certainly has a good collection of first-class gramophone records, and programmes have been greatly improved by including some of these. I wonder if the gentleman responsible for the programme arrangement would let us hear, some evening, the quartet, "Bella figlia dell' amore" (Verdi), and the aria, "Eri tu che macchiavi quell' anima" (Verdi), both of which are on H.M.V. records. I am not trying to state what "all listeners want," but for my own part can say: Let 2YA give us plenty of grand opera music, vocal

Our Mail Bag

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

and instrumental, and I for one, would be quite willing to pay twice the license fee and would still say, "Viva Radio." —"Zedder" (Masterton).

Service Appreciated.

I WISH to say how I appreciate the company's services in regard to broadcasting in New Zealand. I am sure most listeners must recognise the difficulties in arranging and securing artists for the four stations in New Zealand, and I for one enjoy the concerts very much because there is always a variation. I also wish to thank you for the excellent broadcasting of the Southern Cross flight, and also last week of the racing results at Christchurch, which came through lovely and distinctly. The "Record" is very handy for the listener because you know what is coming next week and one can arrange for his friends to come and hear anything special. —W. Nelson, junr. (Clinton).

Diggers' Night Enjoyed.

WE wish to record our appreciation of the "Diggers' Concert" given on Saturday, 10th inst., by 2YA. We thought that the concert given on August 4 was very good, but this one left it well in the shade. We invited a few ex-service men and had a great time, and would like to suggest you put on similar evenings three times a year—two as has been done this year and one before Anzac Day.

We had practically a perfect evening for reception—two only slight fades during the whole transmission.

We also received the rebroadcast of 5SW at 11 p.m. quite good enough to make it interesting, and were able to follow the prayers and hymn quite well; also "Last Post" and "Reveille." —S.P. (Milton).

Country Appreciation.

KINDLY allow me to thank all those responsible of the staff of 2YA who put such an excellent broadcast on the air on election night (14th). As

is usual in the country districts, we "called our neighbours in," and one and all thoroughly enjoyed every item from start to finish. As an old Wellingtonian, I was quite excited at the sound of the crowd and enjoyed to the full the bustle and excitement (in imagination) of an election gathering in a city. There was only one thing marred it, and that was the crowd's reception of the Prime Minister. I think they should have shown him common courtesy (no matter what their feelings were), which is the kind of charm that attracts the respect of all, and too much of it is better than too little. However, that is beside the point at present. I would like to say here and now that I always enjoy the programmes put on by 2YA. Surely your correspondent who considers the gramophone sessions "rotten" was satisfied with the items the other night, and indeed all this week. I would suggest to him that he come and live on a farm, 25 miles from a town, where he could hear any records at all, and which he would be justified often in terming "rotten"—and work 16 hours a day—far too busy to listen of afternoons to find fault; and when evening comes he would be, oh so glad! to sit down by the fireside and tune-in to 2YA, and for this respite he would feel thankful (as we do), to enjoy a few records in peace without having to jump up and "change the needle" every time. Yes, we folk in the country enjoy the radio programmes—all the YA's—but 2YA comes in the best, so we cling to it pretty consistently, and I think on an average their programmes are A1—a good assortment for all tastes. Perhaps it's because I'm a "country bumpkin and never heard any better," so don't know much about it; but not 20 years have passed since I made my bow in the Concert Chamber of the Town Hall, Wellington, and I was then intimately associated with the best of music, so perhaps I do know after all! Or I may have forgotten, of course. But all arguments aside, I do think 2YA does well, handling all "big events" most capably, and catering for all the diverse tastes of its vast unseen audience. And when we are prone to criticise from our individual standpoint, let us remember it's not so easy to please everybody, and when faults do intrude let's have a sense of humour, which is life's saving grace, and see if we can't be as liberal with our praise as we are with our criticism! In closing, let me thank you and once again say, "Well done, 2YA!"—"Nikau Palm" (Miko).

Election Night.

JUST a line of congratulation on the wonderful broadcast of the election. It was a pleasure to sit and listen; the announcer was wonderfully clear. 2YA certainly fills the bill at all times. I consider last night's broadcast was worth the whole of the license fee itself. The service from the London Cenotaph was fine—most interesting to men who, like myself, have stood round about the original

spot on the first Armistice Day itself. The broadcast came very clearly on my five-valve set. I don't know what license-holders have to growl about with 2YA. I think it is absolutely the very best in giving one everything that is interesting. 2YA spares no pains in giving every service it can, and if the fee was twice 30s. I would not call it expensive. There's only one thing I've got to "growl" at, and that is not quite enough humorous items and not nearly enough of Mr. Tichener; also, how about one evening giving us some more Zonophone records.—2YA Fan.

Two New Stations Logged.

SINCE my last letter I have logged two "new" stations in 4ZO and WLAC. 4ZO, Dunedin, operates on a wavelength of approximately 275 metres and was received at good speaker strength, reception of speech and music being clear and steady. WLAC, owned by the Life and Casualty Insurance Company, Nashville, Tennessee, and operating on a wavelength of 1490 kilocycles (201.2 metres), was logged by me on the 18th inst., when their "Midnight Jamboree" was being broadcast. This station was received at quite good speaker strength—speech could be distinguished some feet from the speaker—the volume far exceeding that of any American station heard by me for some time with the exception of the 50,000-watt stations that have been on the air recently. During the twenty minutes that I listened reception was very clear and there was an entire absence of "fading," but it was partially spoilt by a peculiar "surging," which also affected other American stations logged the same evening—perhaps the

"Five Advantages"

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Copies of the leaflet may be obtained from any Office or Agent of the Public Trustee, or free by post from the Public Trustee, Wellington.

B.1

THE MAN WHO HAD SPENT £14 ON PARTS

He had taken his set back to the dealer, who advised in succession, new valves, new transformers, new batteries, new speaker, till the total reached £14, but his reception was still faulty when he came to us. Ten minutes on the testing board disclosed a faulty wiring at the factory.

Our charge was 7/6, and the set that was to be sold as "dud" is right now, giving perfect performance.

Radio Information? Ask MACK. He knows.

Call or write. Give details of your problem or difficulty. Sound and unbiased advice on every technicality that will help the home constructor or experimenter.

You'll get better reception if you ask MACK,
76 and 77 Kent Terrace, Wellington.

Aurora Australis was in evidence again.

One of the other American stations I held till it signed off at 7.56 p.m., but although volume was good reception was not clear enough to enable me to get the call. The last letter sounded like "S" or "F" and the wavelength was about 221 metres. I would be pleased if any other listener who picked up this station could let me know which it was.—Guy C. Holmes (Masterton).

Schubert Centenary.

I AM writing to tell you how very much I enjoyed the Schubert centenary concerts. Schubert's music comes out particularly well with the wireless, and I do hope we get plenty of it in the future. The lecturettes were very much appreciated. Could you not arrange to have a series of lectures on music by the same able lecturers?—"Country Listener."

Power Line Leakages.

PERMIT me to express my appreciation of the Diggers' concert given on Saturday last. It was excellent, and I for one could do with an early repetition. I wonder if you could give me any help in the following trouble:—Several of my friends and I are operating five-valve commercial sets, the circuit of which I enclose. We are frequently troubled with a very loud-power roar (A.C.). Our aerials are at

right angles and about 200 yards from the power lines. Could you tell us—

(1) If there is any method of cutting the noise out?

(2) Can we ask the Power Board to do anything? Any transformers there are will be at least a quarter-mile away.—Merlin Storey (Otana).

[(1) The noise can be reduced by means of a filter by erecting a counterpoise, instead of an earth, and by fully shielding the set. A good dealer will help you. (2) A complaint addressed to the District Telegraph Engineer would probably be effective.—Ed.]

Who Did Not Use Radio?

A CORRESPONDENT in Gisborne, in writing appreciatively of the broadcast of results on election night and the use made of the "Radio Record" score sheet, mentions that election night was enjoyed by ten people round his set, and he estimated that in Gisborne alone 6000 people listened to the results by means of radio. "Try and find out," he says, "if there were any newspapers who did not rely on radio for the news. The "Poverty Bay Herald" had 2YA on all the time, and by means of loudspeakers enabled 3000 people to hear the results. Personal friends had the following number of people listening in:—A, 6; B, 3; C, 4; D, 5; self, 10, totalling 28, and giving an average of 6 per set.

A Stranger on 490 Metres.

I WONDER if some reader could inform me what the following station is. Tuning-in last Sunday afternoon (28th), at 2.30 p.m. (summer time). On a wave-length of about 490 metres I heard music of some kind, but it was too faint to distinguish.—Kowhai Bush.—[The station nearest this wave-length heard in New Zealand is RGW, Portland, Oregon, a station of 1 k.w. power, operating on 492 metres.—Ed.]

Pulling the Long Bow

An Election Echo

IN its desire to "boost" the Palmerston North station 2ZF, the Manawatu "Evening Standard" draws the long bow to some purpose. That it is quite all right, if this paper in its local pride would confine itself to facts, without seeking to falsify the position concerning others. It commits itself to the following statement: "It is interesting to note that, when the Radio Broadcasting Company's station had broadcast 25 completed results, the local station had sent out 43 and was nearly an hour ahead of the other."

This is simply bunkum. With the closest possible knowledge of the course of events on that evening, we can say definitely that it was humanly impossible for any station anywhere to be ahead of 2YA on that evening. As was outlined in last week's issue, the station was in direct communication with the very centre of information, the Registrar-General's office in the Chief Post Office. Even the system of "employing three boys to go to and from the post office in Palmerston North and 2ZF" as eulogistically outlined by the "Standard," would not, we think, equal the rapidity of direct telephonic communication between the Wellington Post Office and 2YA, even

though the Palmerston North boys might have been equipped with wings in advance of their time! Our Palmerston contemporary concludes by saying: "2ZF was the last station on the air, and closed down at 1.10 a.m. with only one result yet to come in." As readers will remember, 2YA closed down at 1.5 a.m. with no results yet to come in.

WE do not mind our Palmerston contemporary boosting 2ZF for all that it is worth. We quite appreciate the excellent service that 2ZF is giving to its district, and have at different times given publicity to it through our columns, but we would suggest that some regard for facts be entertained by enthusiastic admirers.

Reserved Train Seats and Sleeping Berths

THE Railway Department recently announced that arrangements had been made to enable passengers to reserve seats on principal mail and express trains between stopping places, irrespective of distance.

In order to provide still further for the convenience of intending travellers who may desire to reserve seats or sleeping berths, but who are unable to make personal application, the Department has arranged that bona fide re-

quests by letter, telephone or messenger, will ensure accommodations being held. Those who avail themselves of this privilege should confirm the reservation in the usual way later.

During holiday or rush periods, it is particularly desirable for the smooth working of the system that reservations be confirmed in reasonable time before the departure of trains. It is only by passengers in general doing this that congestion will be avoided.

A LONDON man, whose reception was upset by using a water main to which the earth lead of an ill-worked receiver was attached, decided to use an independent earthing, but possessed no earth tube or suitable metal to bury in the soil. Wishing to complete his experiments during a week-end, when no shops were open, he connected his set to a German soldier's helmet, a trophy of the late war, which he buried in his coal cellar. He claims that his reception is better than he can recall having enjoyed previously, and says that if the war did nothing else it made his listening pleasurable.

THE residents of Buenos Aires, the big city of the River Plate, are determined to know all that goes on during the sittings of their municipal council, and for the purpose of following the discussions of that body are installing a special transmitting plant of considerable radius.

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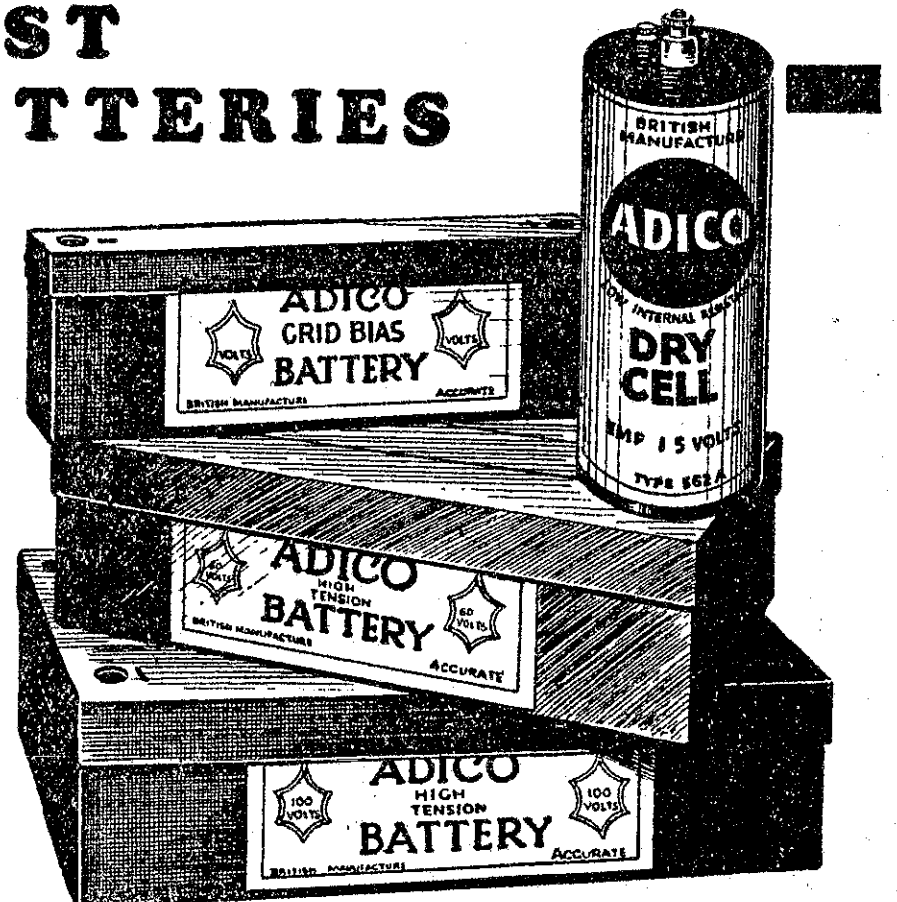
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WELLINGTON.

Crystal and Valve with Three-Valve Performance

By "Pentode"

HOW many listeners live too far away from a broadcasting station to be able to hear the programme on a loudspeaker, using a valve detector with one stage of audio amplification? This little receiver was designed for speaker reception of stations from 20 to 100 miles from a broadcasting station, and 'phones' reception of the remaining three New Zealand stations under favourable conditions. By using a second stage of audio amplification all the main broadcasting stations can be heard on the speaker on good nights, and many nights the writer has heard Australian stations, using but two valves and a crystal. The theoretical diagram will show that this is not a reflex set, and is very inexpensive to build.

Only one tuning condenser is used, with a reaction or volume control, so that it is quite an easy set to operate. Like so many sets for which super claims are made, this is not a tricky receiver. It can be built by a novice in an evening, and is always certain of results, providing the instructions have been carefully followed.

IN the ordinary crystal receiver, the crystal detector has a great damping effect on the tuning system. Space winding with thick wire is used to cut down the resistance of the coil, but there is still the detector. In this receiver reaction is used, which still further reduces the resistance of the tuning coil. In fact, it goes further than reducing the resistance of the coil. It makes up for the added damping of the crystal detector.

In the usual reflex set, two or more tuning coils and condensers are used. These are a source of expense, very often producing a set that is tricky to operate.

Beyond the price of the components for a crystal and one-valve amplifier, there is only a small fixed condenser and resistance, and the writer considers the whole circuit eminently suitable for New Zealand conditions.

Arranging for Reaction.

THE coil will be described first. For economy, cardboard tubing of the diameter specified would do quite well, but this must first be dried thoroughly in the oven and given a liberal coating of shellac varnish or solution of celluloid in amylacetate. This prevents absorption of moisture in damp weather.

In one end of the 3-inch tube, the reaction coil has to be able to be turned round by the spindle from a knob on the front panel. Various methods of assembly will suggest themselves to the reader, but the method employed by the writer was quite easy to construct and has caused no trouble by slipping, etc. In opposite sides of the larger tube, about half-inch from the end, two holes were drilled large enough to take a length of tapped brass rod. In each side and in the middle of the smaller piece of ebonite tube two holes were also drilled. The rod can then be threaded through both tubes, the smaller inside the 3-inch diameter tube, so that the inside tube will revolve round without touching the sides of the outer

tube. When wound, four nuts and a few spacing washers can be threaded on, so that the smaller tube is clamped tightly to the spindle, and will turn freely inside the outer coil.

In order that the reaction knob will be in the middle of the panel, three inches from top and bottom, this coil will have to be arranged to stand one

from this aerial coil, wind on 60 turns of the 22 s.w.g. d.c.c. wire and fasten the ends to the former. A nut and bolt with a small soldering lug makes a very neat way of beginning and finishing off the ends of the wire, and it is easy to solder on the various leads when connecting up. This should bring the end of the wire about $\frac{1}{4}$ in. from the

It depends to some extent on the crystal detector, the amount of coupling between the two coils, etc. The writer uses fifty turns, and this number can be wound on as a first trial. This is wound with the No. 28 s.w.g. d.c.c. wire, and if there is not enough room can be wound on in two layers, separated by a layer of paper. If the set oscillates too readily when finished a few turns can be wound off. If the reaction effect is insufficient to overcome the damping, then more turns will have to be employed. To each end of this coil, two flexible leads are soldered and fastened to two small terminals or soldering lugs on the larger coil.

Arranging the Components.

So far, so good. The components should now be arranged on the baseboard and screwed down, after the front panel has been drilled for the variable condensers, etc., and screwed to the front edge of the baseboard. A far neater job can be made if the base is first planed, sandpapered, and given a coating of stain and varnish. Spirit soluble aniline dye can be dissolved in methylated spirits and brushed evenly on. After it is dry a coat of shellac varnish will bring the colour up and give the whole a professional touch.

The front panel has just three dials: the variable tuning condenser, the reaction control, and the rheostat filament switch. Aerial, earth, speaker, and battery terminals are all arranged on strips of ebonite along the back of the baseboards. Two clips should be made for the grid leak and permanent detector, and arranged on ebonite bases so as not to have any parts touching the baseboard. The fixed condensers, too, should be arranged to stand clear of the wooden bases unless square, stiff busbar is used, when they will be self-supporting. Very indifferent results often occur if grid condensers, etc., are screwed directly to a wooden surface, especially if the wood is at all damp.

Arrange the components according to diagram, and this brings all connecting wires fairly short, on which 75 per cent. of the efficiency depends.

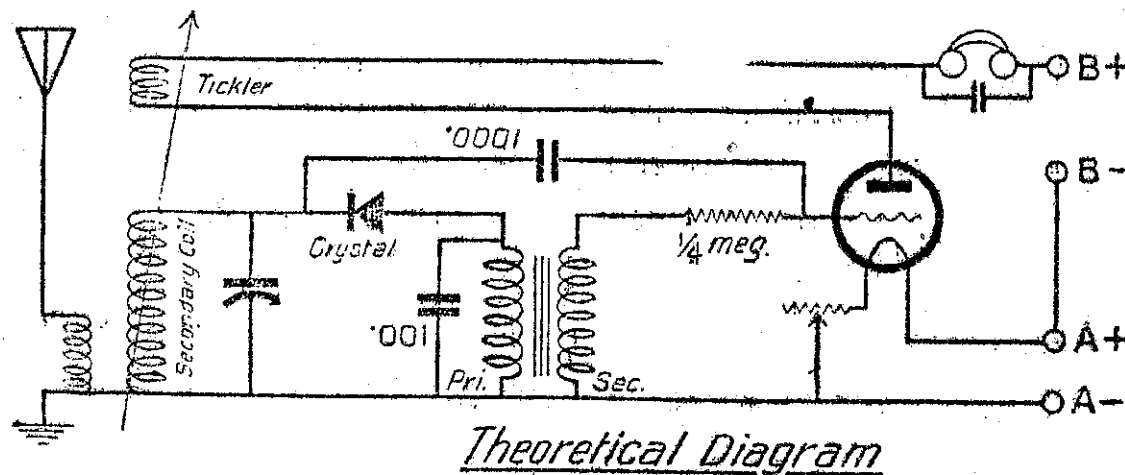
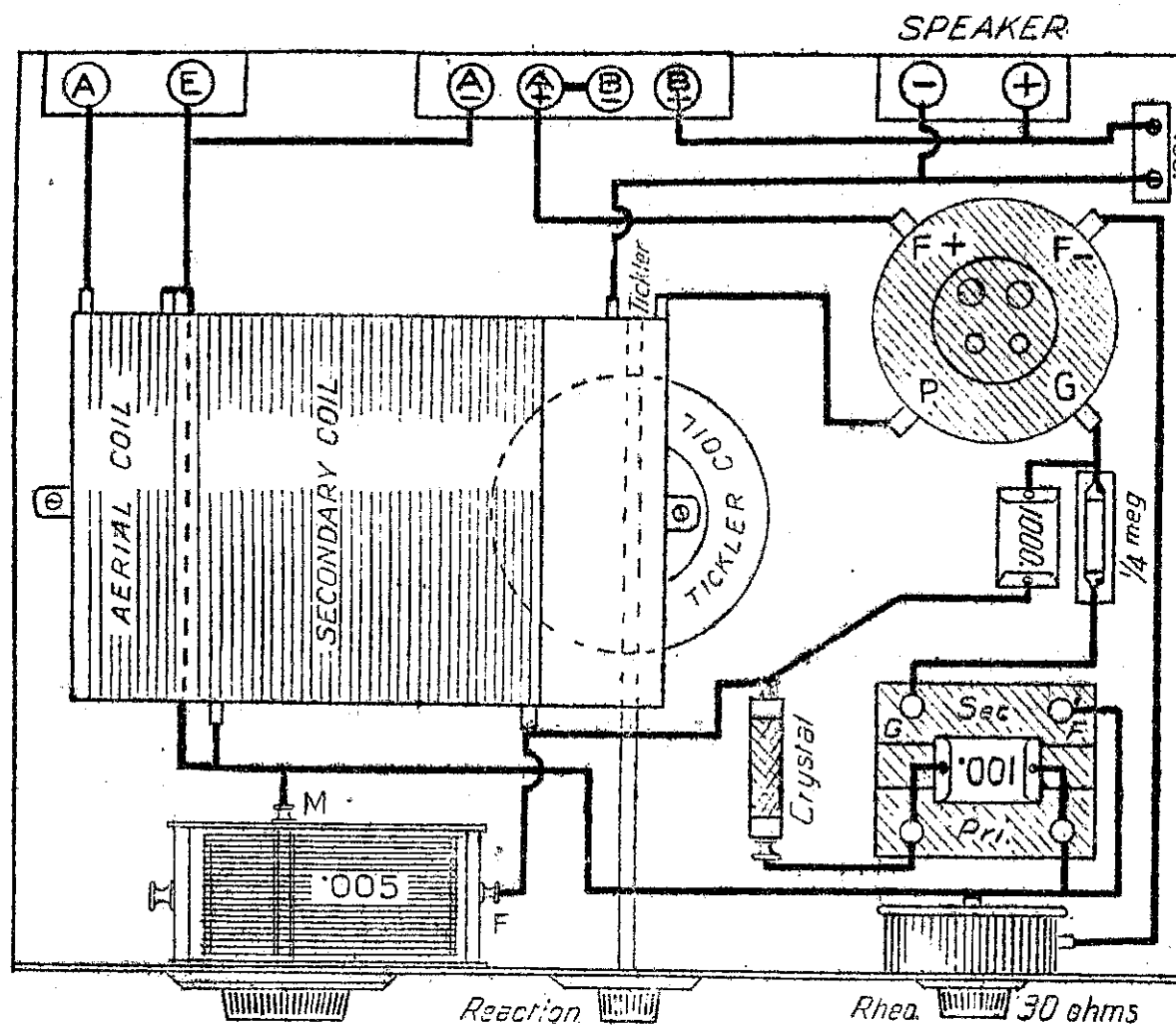
It will be seen that the filament and rheostat is in the negative lead, and when the audio transformer is connected as shown, it provides grid bias automatically by the voltage drop across the rheostat. Always work with the filaments as low as possible without introducing distortion, as this not only prolongs the life of the valve, but gives more C bias and consumes less B battery current, at the same time clearing up the tone.

The Wiring.

No difficulty should be experienced in following out the wiring, and each lead should be checked off as it is put on.

Begin at the earth terminal, and join to the following points:—A battery negative terminal, inside end of aerial coil, moving plates of the variable condenser, left end of secondary coil, one terminal of rheostat, B+ and F- terminals of transformer, and one side of a .001 mfd. fixed condenser across the primary windings.

Join the remaining rheostat terminal to F- terminal of valve holder. Plus filament terminal on holder to A+ and B- terminal on strip of ebonite. Join the fixed plates of the variable con-



Theoretical Diagram

inch from the baseboard. Two ebonite strips $5\frac{1}{2}$ in. long by $\frac{1}{2}$ in. wide can be used to clamp the bottom of the coil. These will project $\frac{1}{2}$ in. over each end and can be drilled so that when an $1\frac{1}{2}$ in. screw is passed through these holes and two blocks of wood $1\frac{1}{2}$ in. high the whole will be firmly fixed to the baseboard, one inch above it.

Winding the Coils.

NOW the coils must be wound. Dismantle the reaction coil arrangement. Beginning at $\frac{1}{4}$ in. from the end opposite to the reaction coil, wind on 40 turns of the 28 d.c.c. wire. Make two small holes in the former to pass the beginning and ends of the wire in and out to hold fast. Beginning $\frac{1}{4}$ in.

holes through which the reaction spindle passes. Both these coils should be wound in the same direction.

The tickler coil deserves attention next. This is wound in two sections, one on each side of the spindle and enough room will have to be left for the clamping nuts. If necessary, these may have to be filed thinner one way so that they will not press on and cut the wiring. Another way is to slip a small insulating washer between the nut and the ebonite former round which is the coil.

The number of turns on this coil will vary, and the amateur will not be surprised if he has to wind on a few more turns or take a few off after the receiver has been tried out.

denser to tickler end of secondary coil, one end of detector and to the fixed condenser .0001 capacity. Free end of detector joins to the P terminal of transformer primary also to free end of .001 bridging condenser. Terminal C on transformer to one end of grid leak. The other end of grid leak to grid of valve and free end of .0001 m.f.d. condenser. Plate of valve to one end of reaction coil (found by experiment). Free end of reaction coil to one loudspeaker terminal, also to one side of the .001 mfd. by-pass condenser. The other speaker terminal joins to by-pass condenser and B + terminal. Finally the aerial terminal is connected to the end of the aerial coil on the left. This completes the wiring, and after checking over the wiring the batteries should be connected and phones used for a try-out. Turn the reaction coil round; if it does not oscillate do not jump to the conclusion that more turns will have to be added. Try reversing the reaction coil connections, as this may be connected the

If the reader has a high frequency choke on hand, this can be used quite efficiently in the place of the $\frac{1}{4}$ -megohm grid leak.

Concerning the Crystal Valve.

Any general purpose type will do, but preference should be given to one with a fairly low impedance consistent with an amplification factor of eight or over.

A note about the type of detector to be used. This is preferably of the fixed or semi-permanent type. If the cat-whisker variety is used, the receiver bursts into oscillation every time the crystal is jarred, and necessitates different reaction settings every time the crystal is adjusted. The property of a detector is to be able to pass more current in one direction than the opposite other, and here is a valuable hint before inserting a fixed crystal in any set: Give it a rough test by the aid of a small $4\frac{1}{2}$ -volt C battery and a pair of phones. Fasten one phone tip to one end of the C battery, and with the free

site way round. If both clicks are of the same intensity, then the detector will not rectify, and is very little use in any set. Some commercial detectors, when unable to rectify, can be improved by giving them a sharp tap or literally dropping them on the floor, although the writer does not recommend this remedy for glass-enclosed types.

As has been mentioned before, it is quite a simple matter to add a further stage of audio amplification by connecting the output leads to the primary of another audio transformer and using another valve. A point worth noting is the following: If the builder is using a very long aerial the number of turns in the aerial coil can be reduced to 25, as, if the aerial and coil are in resonance to the station to be received, difficulty may be experienced in getting the receiver to oscillate. In any case, various tappings can be brought out at the twenty-fifth, thirtieth, and thirty-fifth turns, and the

most suitable one by experiment connected to the aerial terminal.

Artificial Static

ASIDE from being unsightly and causing general corrosion of A-battery leads, dirty terminals on a storage battery are responsible for much of the so-called "static" experienced in many receivers.

Dirty terminals are easily cleaned by washing with a saturated solution of baking (bicarbonate) or washing soda. The terminals should be swabbed with this solution until there is no more effervescence. The terminals and battery top may then be wiped perfectly clean with a rag.

In addition to cleaning the battery, the soda wash effectively puts a stop to the corrosive action by neutralising the acid—an effect that can not be secured by ordinary cleaning.

Components for Crystal and Valve

Variable Condenser .0005 m.f.d.	Ebonite Strips, Terminals, etc.
2 Fixed Condensers .001 m.f.d.	$\frac{1}{2}$ lb. 22 D.C.C. Wire.
1 Fixed Condenser .0001 m.f.d.	2ozs. 28 D.C.C. Wire.
1 Valve Holder	3in. dia. Ebonite Tube, $4\frac{1}{2}$ in. long.
1 Permanent Crystal	2in. dia. Ebonite Tube, $1\frac{1}{2}$ in. long.
1 Fixed Grid Leak $\frac{1}{4}$ meg. or H.F. Choke.	Panel 9in. x 6in. x $\frac{3}{16}$ in.
1 Intervalve Transformer	Baseboard 9in. x 7in. x $\frac{1}{2}$ in.
1 Rheostat, 30 ohms.	6in Brass Rod, 4BA, with Nuts, etc.

wrong way round, and can only be found by experiment.

As the valve is acting under the capacity of high and low frequency amplifier, the anode voltage can be up to 90 volts, above which outside grid bias will have to be used.

tip touch alternately one end and then the other of the detector, with the opposite end of detector touching the free terminal of the C battery. A loud click should be heard when connected one way round, and nothing or a much fainter click when connected the oppo-

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Push-Pull Amplification

A Correspondent Questions the Pentode

The following series of questions submitted by a correspondent, W.A.R., are of sufficient general interest to warrant their being devoted a little space:

(Q. 1).—Would a pentode give satisfaction if used in the first stage of push-pull, and, if so, would not the high milliamperage, which I understand is 12 m.a.'s, cause saturation in the transformer?

(A.).—The pentode is essentially a last stage valve, and cannot be used in previous stages because of the tendency, or rather the actual fact of the saturation of the following transform-

er, although in this case more than half the D.C. current is flowing from the second grid, and misses the plate current. The correspondent is using AF5's. Why not try a high-frequency or R.C. valve in first stage, with a fairly high amplification and impedance? The AF5 has a high primary impedance and can be used with a valve of impedance of 10,000 to 30,000ohms.

(Q. 2).—Would a pentode work in the last stage of push-pull? I often take out one of the P.M.6's when listening on the 'phones or listening to a distant station on the speaker, obtaining the same volume as I would if I had in both P.M.6's.

(A.).—It would work quite O.K., in fact, there is no reason why two could not be used to get enormous amplification from one stage. Incidentally, when using only one valve in one side of push-pull always halve the C voltage

and treat it as though it was only a single valve in last stage.

(Q. 3).—Will a pentode handle as much volume as an ordinary power valve?

(A.).—It will give a far greater output, but will not handle the same input. If both valves were put on test, each handling as much as possible, then the pentode would win, according to results from the speaker.

(Q. 4).—Would two pentodes work in push-pull?

(A.).—It is doubtful if your exponential horn would handle the output.

(Q. 5).—Where could a pentode be used in my set to increase the range to best advantage?

(A.).—A pentode could not be used to increase range in any way. The equivalent in R.F. work is, of course, the screen grid.

(Q. 6).—If used in the first stage audio, would it operate on, say, 70 volts, and would the milliamperage drop down to, say, "6M.A.'s"? I am compelled to operate from dry B batteries. According to the millamp. metre, I possess the two P.M.6 take, 11 M.A. at 135 V's, and two 256 P.M., 2 5-M.A.'s.

(A.).—If you are using dry batteries, my advice is to try a valve with high amplification factor, as I mentioned before.

million ohms is required, as well as a precise adjustment and silent operation.

Trickle Charges Voltage.

THE voltage of a trickle charger—or of any charger, for that matter—is not important so long as it is higher than the voltage of the battery being charged. Otherwise, of course, the battery would discharge itself back through the charger. To charge a six-volt battery about 10 volts at least are needed; but within reason, it may be any voltage above this without danger. The charging rate, of course, is more critical, and should be adjusted to suit the capacities of different batteries. A small 10 ampere battery, for example, should not be charged at more than 1 amp., while 100 amp. accumulators require a charging rate of about 10 amperes.

Watch Aerial Joints.

SCRATCHING sounds heard in the midst of radio reception during a storm should not always be attributed to static. Where the lead-in consists of more than one piece of wire, the joints should be periodically examined for mechanical and electrical weakness, and places where the lead-in is fastened to the antenna must not be overlooked, for when the wires are strained and vibrated in a heavy wind noises will be heard if the joints are not firm.

Tips and Jottings

Concerning Grid Leak.

THE radio enthusiast may well be pardoned for assuming that there is a law or edict compelling him to employ a 2 megohm grid leak for his detector. As a consequence, much detector efficiency is sacrificed, particularly on DX or the reception of weak signals. Nothing helps reception of very loud signals as well as very weak signals so much as the proper grid leak value, even if 2 megohms is a fair compromise. A resistance value of from several hundred ohms to many

Grid Bias with Push-Pull.

A CORRESPONDENT is apparently puzzled at having to use such abnormally high grid bias voltages in push-pull. He has stumbled on a fact that is puzzling many amateurs. When using two valves in push-pull arrangements, it is possible to bias the valves to the centre of the bend at the bottom portion of their characteristic curve. The technical explanation is very involved, but by doing so, an enormous output is obtainable, with no distortion. This point is rather critical, and should be adjusted with care. One advantage to be gained by this method is a large reduction of B battery consumption.

RADIO DIRECTORY

What to Buy and Where

AUCKLAND

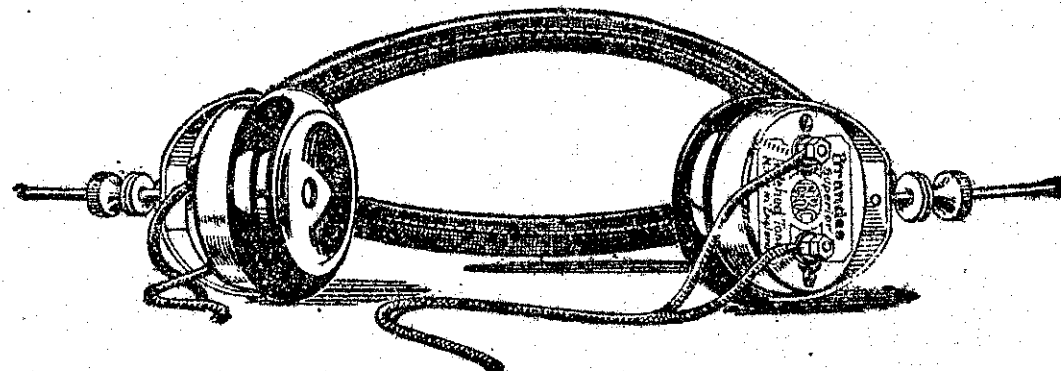
ALTONA & HAMMARLUND-ROBERTS SETS.	Johns, Ltd. Chancery Street, Auckland.
ATWATER-KENT RADIO ..	Frank Wiseman, Ltd. 170-172 Queen Street, Auckland.
BREMER-TULLY RADIO	Superadio, Ltd., 147 Queen Street, Auckland.
BURGESS RADIO BATTERIES,	All Radio Dealers.
FERRANTI RADIO COMPONENTS	A. D. Riley and Co., Ltd. Anzac Ave., Auckland, and all leading dealers.
GREBE RADIO	Howie's, Dilworth Building, Custom st., Auckland.
MULLARD VALVES	All Radio Dealers.
PREST-O-LITE. Car and Radio Battery Service	L. J. Purdie & Co., Ltd. 97 Dixon Street, Wellington.
RADIOLA RECEIVERS and Expert Radiola Service.	Farmers' Trading Co., Ltd., Hobson Street, Auckland.
RADIOTRONS AND MARCONI VALVES	All Radio Dealers.
T.C.C. CONDENSERS	A. D. Riley and Co., Ltd. Anzac Ave., Auckland, and all leading dealers.

COUNTRY TOWNS

ANCHORADIO, BREMER-TULLY, RADIOLA, BROWNING-DRAKE, AND ATWATER-KENT RADIO	Radio House, Hamilton. G. S. Anchor, Manager.
BROWNING-DRAKE SALES AND SERVICE	J. H. Sinclair, Otane, H.B.
CROSLEY ELECTRICAL AND BATTERY MODELS	The Forrest-Crosley Radio Co., Ltd. Cuba Street, Palmerston North.
GREBE, CROSLEY AND RADIOLA SERVICE	E. Dixon and Co., Ltd., Hawera.
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The Wonder of the Cosmic Ray Problem for Science

SOUND, wireless, heat, light, violet and X-rays are together merely vibrations or movements of the ether, the medium which surrounds us. They are by no means separate phenomena, but only different varieties of the same species as a biologist would say. Whereas, sound waves travel from their point of origin at the rate of from 16 to 15,000 per second. X-rays leave at the amazing rate of 25 million billion (18 O's). The penetrating power of these waves depends on their speed. A deep note will not travel so far as a shrill note of the same intensity. Likewise, a white light can be seen farther than a dark red one. For this same reason short wave signals can be heard at a greater distance than long waves; X-ray has greater penetrating power than violet ray; and finally the newly-discovered cosmic ray has a speed and penetrating power that can only be estimated by hypothesis.

The Power of the Cosmic Ray.

THIS ray, or series of oscillations (vibrations), will penetrate 190ft. of water, or about 16 feet of lead, before dying out. This is double the penetrating power of any other wave previously known.

The power of this ray before it has been toned down by the atmosphere can only be imagined. Incidentally it adds another terror to anyone contemplating a trip to the moon, or anywhere else in space. Probably it would shrivel them up before they left the earth's sphere of influence.

Its Origin.

ITS origin is a mystery. The earth was suspected, but it was found that the higher the altitude the stronger the ray. The sun was next put to the test. The ray was equally intense when the sun was overhead, sinking or set. The sun, then, has nothing to do with it, or at least no direct influence. Likewise, the planets and the Milky Way were tested but without avail. The mysterious super-ray holds its secret.

The Possibilities.

IT is interesting to speculate upon the possibilities of the ray. Popu-

lar rumour has it that someone may be examining us by means of this ray, in somewhat the same way as a photograph can be taken of a man in a pitch black room by means of the invisible infra-red ray, without the man being aware of the fact at all.

It is probable that the cosmic ray, or perhaps we should say the cause or creator of the ray, whatever, or whoever it is, is the most powerful force in existence.

The ray is undoubtedly only the outward and visible sign of something quite appalling in the realm of force.

THE ray, at its source, must be infinitely more powerful than light or heat rays on the hottest or most brilliantly-lit part of the earth's surface, but it is doubtful whether the influence on man would be the same.

If the method of its creation were discovered man would have a means of communication that would require so little power that anyone could carry a transmitter with world-wide range in his pocket. With more powerful outfits inter-planetary communication would be possible. The principles of its reception would be the same as wireless so that little adaptation would be necessary to convert the receiver of radio waves to the receiver of cosmic waves. If anything it would be more simple.

Whether cosmic rays are created by an intelligence or merely by natural causes is at present causing much discussion.

In some scientific circles it is thought that the cosmic ray is created by direct encounter between the nuclei of atoms and high-speed electrons, but there are many other equally feasible explanations.

The atom theory is a popular one and some go so far as to suggest that in the distant future all our power will be harnessed from the decomposed atom. It is a well-known fact that the power in a pinch of salt is sufficient to steam at full pressure a great liner like the Leviathan across the Atlantic. Were the secret of breaking up the atom discovered our civilisation would be revolutionised—but it has yet to be done.

Alarmists tell us that in some hundred years our coal supplies will be exhausted and our oil wells dried

Aids to Navigation

Steps Taken by Canada

FROM time to time references have been made to direction-finding radio beacons and their service to navigation, aerial and maritime. This is by no means a new service. Such beacons were used to great extent during the Great War, especially in the tracking down of submarines and the saving of shipping from this menace. For this purpose Canada had four such stations on the east coast during those trying times, and all four were responsible for the saving of many lives and much shipping.

Since then Canada has done much to improve and extend this important means of communications, and now such stations are dotted over each coast.

The plan has met with great success, and many a fine ship has been saved from the Atlantic graveyard between Sable Island and Halifax by getting her correct location from the shore stations. It was not until 1924 that a station of this type was installed on the west coast of Vancouver Island, a coast much dreaded by mariners. During the last year 3100 bearings were given to ships of all nationalities, including war craft.

The Vancouver station has a splendid record, the bearings being almost 100 per cent. correct. Hundreds of letters are received yearly from satisfied users. Stations of this type are usually manned by four men. Service is supplied free.

Graveyard of the Pacific.

SOME time ago two ships in-bound from the Pacific went ashore in a

up. What matter! by then, surely, we will be talking to Mars on cosmic rays and flying our aeroplanes from a grain of dust!

fog at Race Rocks, a lighthouse station near Victoria. It was stated that a silent zone existed as the fog-horn was not heard. After a great deal of investigation it was thought that perhaps there was a "silent zone," a serious menace to navigation.

The department decided to install a radio beacon. This apparatus is practically the same as an ordinary transmitter, but it is operated automatically and does not require the attention of any person other than to start it. As soon as the lighthouse-keeper starts the fog alarm apparatus he puts in a switch and the radio beacon starts transmitting the letter "J." During the transmission any ship properly equipped can get bearings on the Race Rocks. The plan has been admirably successful.

Other Measures.

ANOTHER step has been taken to ensure the safety of ships plying between Canada and the Pacific ports. Numerous short-wave stations keep in touch with ships until they drop anchor in their port of destination. This development of the short-wave has been attributed to the work of the amateur transmitters, who are numerous in Canada.

In addition to these the Canadian Government has established radiophone installations at several points along the coast. These are exclusively used in connection with life-saving stations. Land lines are not dependable, and then the wireless comes to the rescue. It is to the credit of those concerned that very few disasters have occurred on the Vancouver Island coast since the establishment of the various aids outlined. Vancouver Island can no longer be called the "Graveyard of the Pacific."

WIRELESS conversations from a Vickers Rolls-Royce air liner flying over London were clearly picked up at Cairo. The feat is the more remarkable in view of the power used on the aeroplane, which was only sufficient to light an ordinary electric lamp.

TELEVISION

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Special Mirrors, 12/6.

Two Specially Prepared Aluminium Discs, 31/-.

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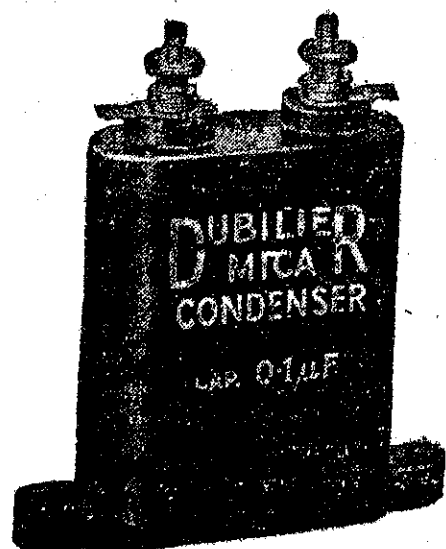
"Television" Magazines, 9d.

We are the pioneers in Television experiments in New Zealand, and can assure those contemplating doing likewise that it is a field for very interesting work.

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ACCURATE AND RELIABLE.

A. E. Strange

404 Worcester St.
CHRISTCHURCH

A COUPLE of Wellington listeners called on the writer the other day to answer certain questions regarding the privileges of taking out a listener's license. It was necessary to explain to them that a licensed listener can erect as many aeriols as he likes on the premises covered by his license and can use as many radio sets as he cares to. The members of his family may operate any of the sets, but he is held responsible for any infringement of the regulations relating to howling valves. If portion of his premises is sub-let the tenants are not entitled to operate any of his sets without taking out an additional license.

THE majority of listeners are not aware that if their loudspeaker, attached to a long cord, is passed into the premises of a neighbour the neighbour is required by the Government regulations to take out a listener's license. Failure to take out a license under these circumstances renders the neighbour liable to a substantial fine.

SOME Wellington listeners have observed during the recent spells of indifferent reception of the Australian stations that the Japanese, on the other hand, have come through loudly. This is a radio freak which scientists may some day explain.

THE Wellington radio trade is finding a steady improvement lately, and indications are not wanting that this Christmas will prove better than the last. One trader told the writer that the trans-Tasman return flight and the general election broadcasts acted as a tremendous stimulus to trade and he sold out of certain lines which he thought were sufficient for another four months.

A WELLINGTON listener asked "Switch" to look over his aerial and earth equipment in order to ascertain whether everything was installed "according to Hoyle." The aerial was quite satisfactory, but the earth wire was of 16 gauge, and only wound around a water pipe, instead of being soldered to the pipe. No wire finer

than 14 gauge should be connected to the earth. The earth wire cannot be too thick nor too short.

NOT infrequently some distant station has been clashing with 3YA Christchurch, and the heterodyne whistle has misled some into believing that a howling valve was responsible for the interference. A few months ago 2GB Sydney slipped down on the wavelengths and mingled with 3YA's wave, but the Sydney station was eventually restored to its correct wavelength. Just what station is the new offender it is difficult to say.

THE rebroadcasting by 2YA Wellington of oversea short-wave stations has made a decided hit among local broadcast listeners. Hundreds of listeners who have never heard the Russian short-wave station RFM. Khabarovsk, Siberia, were recently treated to an excellent rebroadcast of that station. Crystal set owners, in particular, were intrigued with listening to the 6000-miles distant foreigner.

ONE of New Zealand's most eminent medicos, who resides in Wellington, has lately been bitten by the radio bug, and has purchased a high-class receiving set and loud-speaker. His selection fell upon the late American model which requires no batteries at all, but is connected by wires and a plug to a hot-point socket.

A WELLINGTON radio man has received the following note from a young Chinese who is an ardent broadcast listener and who resides up-country:—"Dere Sur,—My radio is acting capably until I have taken one of the valves out to show it to a countryman of mine. By mishap I impacted it on the table and now the valve is unlightable. The radio set remains dumb, shall I kindly request your purchase for me a new valve, which is the same as my disabled valve.

Excuse please my riting, and I thank you now for your good heartedness for getting for me a new valve and I will send you the money when you rite how much."

A LITTLE while ago "Switch" yielded to the request of an Indian hawk to be permitted to hear his set. The Indian's eyes stared with amazement when band music from 2YA, Wellington, emitted from the loud-speaker double forte. The dusky party was half afraid to look inside the set, but he regarded the loud-speaker as innocuous and handled it bravely until he got his fingers across the speaker terminals. He received a smart shock, which so scared him that nothing could induce him to go within 10 feet of it afterwards. One wonders what the Indian told his compatriots in Tory Street, that night, about radio.

"SWITCH" entertained a young Chinese, who had been educated in New Zealand, with a couple of hours' broadcast listening. His greatest delight was listening to the jabber-jaw coming from the Japanese station JOHK. The Chinese retaliated on the following day by bringing his gramophone and two-score of Chinese records to entertain "Switch." Unwilling to offend the susceptibilities of the young Oriental, "Switch" submitted to the ordeal of listening to those forty Chinese records. There were wailing sopranos, howling tenors, guitars, dinner gongs, and one-stringed fiddles in galore; still, it was music—of a kind.

LISTENERS who were so thoroughly entertained by the interesting lecturettes on Shakespeare last year, by Mr. Allan Wilkie, the eminent Shakespearean actor, may have another opportunity of further lecturettes by that gentleman within a few months. "Switch" has received news from Mr. Wilkie that he will probably commence another tour of New Zealand with his Shakespearean Company about the end of January. Possibly Mr. Wilkie may be induced to face the microphone at each of the New Zealand stations on his "off nights"—Sundays, as previously.

MR. ALLAN WILKIE has long since established a world's record for the continuous production of Shakespearean plays, and New Zealand can share the honour with Australia for having made this possible by supporting his efforts to popularise the plays of the greatest playwright of all times. "Switch" is sanguine that Mr. Wilkie's cultural lecturettes will again be heard from the New Zealand stations early next year, when he will present some new aspects of Shakespeare's genius.

"SWITCH" was requested by a Wellington listener to hear the poorness of the reproduction of 2YA, Wellington, from the latter's set, only a few days ago. There was undoubtedly a nerve-racking blasting from the loudspeaker, and no manipulation of the dials and rheostats could cure it. The loudspeaker was overhauled and it proved to be in good order. A voltmeter and ammeter were touched across the "C" (biasing) battery, and the cause of the trouble was immediately manifest. The "C"

battery was dead. A substitute was installed, and perfect reproduction followed.

THE following question was put to "Switch" by a recent caller: "Should my aerial end close to my masts or is it better to so insert the insulators as to keep the aerial several feet away from the masts?" The best practice is to keep the aerial not closer than five or six feet away from the masts otherwise there is a certain amount of leakage to earth per medium of the masts. This is the reason why the lead-in wire should be kept well out from the side of the house until it enters the building.

THE £50 Columbia Gramophone Radio Competition conducted by the New Zealand broadcast stations proved quite a treat to Wellington listeners, who on all sides are acclaiming the gramophone concerts given in connection with the competition. One enthusiast remarked, "I've got a gramophone, but I must confess I couldn't afford to run the unlimited repertoire put on by the broadcast stations. The reproduction by radio, too, cannot be beaten."

MR. WALTER FULLER, of the well-known vaudeville firm, who has lately returned to resume his residence in Wellington, after a lengthy stay in London, brought back an English-built broadcast receiving set which he used at Home. Mr. Fuller, who is a most enthusiastic listener, informed "Switch" that although he could get only 2LO, London, in his London home owing to having to use an indifferent indoor aerial, it was a different matter when he took his set to a friend's place outside London. There it was attached to a good outdoor aerial and stations from Spain to Austria, Germany and France were brought in on the loudspeaker.

"CONSTANT D.X." (Karori) has dropped a line complaining that the announcer at 3YA, Christchurch, is sometimes addicted to speaking in a soft, confidential manner, and his voice is almost inaudible on such occasions. "Switch" has since checked up on 3YA and found that at times the announcer does not raise his voice sufficiently, but generally his delivery is forceful and clear. No announcer yet heard by "Switch" is a hundred per cent., but 3YA's announcer is quite up to the average as a rule.

A BROKEN aerial was shown to the writer last week which came to grief through being attached to a rope halyard. Wet weather caused the rope to contract, and the aerial carried away from one of the insulators. The best halyard is galvanised stranded wire, similar to that used for clothes lines. Care should be taken to avoid the wire halyard chafing against any other metal, otherwise it will soon cut through.

AN aerial run between two houses and not higher than them is at a disadvantage owing to the screening effect of the buildings. A listener in Newtown discovered that by removing his aerial from between two houses to a position 20 feet above both the volume from his crystal set increased about fivefold. He was advised to take this step, but had doubted its efficacy. Beginners are sometimes difficult to convince.

Reservation of Train Seats and Sleeping Berths

CONVENIENT RAILWAY SYSTEM

If you cannot attend personally to the reservation of your seat or sleeping berth, a request by 'phone, letter or messenger will ensure accommodation being held.

In such cases, the transaction should be confirmed in the usual way as early as convenient.

Communicate with the nearest Stationmaster, Central Booking Office, Passenger Agent or District Manager for full particulars.

Children's Sessions

AT 2YA.

MONDAY, DECEMBER 3—To-night Uncle Jeff will greet you with birthday wishes, puzzle you a little more, and perhaps read a little story. Some little cousins are coming from Hataitai with choruses and pianoforte solos and Aunt Gwen will be there with a bedtime story.

TUESDAY—Big Brother Jack and his famous Cock Robinson will sing their weekly greeting. Miss Rose Carte's little pupils, whom you all enjoy, are coming again, also Cousin Marjorie, who has some more lovely songs to sing.

THURSDAY—The songs, recitations and stories for to-night will be of Maoriland. That is something to look forward to, for, as we all know, songs and stories of Maoriland are very, very beautiful. Cousin Claude is coming, too.

FRIDAY—To-night all will be feeling sad for this is Uncle Ernest's last Friday evening at 2YA. He will send greetings to the little birthday folk and have a talk to you all. Then a big, big book in which will be names and addresses of all the members of his big Radio Family will be given to him. Then some little, and perhaps some big cousins will sing.

SATURDAY—Pupils of Mrs. Percy Woods have a delightful little programme for to-night. There will be birthday greetings too, and stories from Uncle Toby and Aunt Gwen.

SUNDAY—The children's song service will be conducted by Uncle Ernest, assisted by the Northland Methodist Sunday School Choir under Mrs. H. Sellens.

AT 3YA.

MONDAY, DECEMBER 3—Been to China? Well, don't bother. Just

visit it this evening, when Scatterjoy, over the air, will present China in all its rare beauty. Listen to the pom-poms, and the Chinese songs and talk. Hear tell of its gardens, the loveliest in all the world, its friendship walls, and other unusual features.

WEDNESDAY—Mother Hubbard and Uncle Peter with fresh songs, stories and jokes, and "The Three Old Maids of Lee" with their nice recitations and dialogues.

THURSDAY—Uncle Hal and our friends from the Sacred Heart Convent and Marist School will make this bedtime hour the merriest you have heard.

FRIDAY—Big Brother and Peterkin are in charge to-night, and the Fendalton Brownie Pack will make you sit up and listen to some good things. Songs by Cousins Wilfred and Isabel.

SATURDAY—Chuckle and Aunt Pat, and their young helpers—in lovely Christopher Robin songs and music. Cousin Miretta with some sweet songs, and George playing his mouth-organ for us.

SUNDAY—Uncle David conducting the song service, and the Tennyson Street Congregational Sunday School singing the hymns.

AT 4YA.

TUESDAY, DECEMBER 4—Nearly a year ago the MacAndrew Road School shared their annual singing festival with the family at 4YA. All good things are worth doing again, and they are on the air to-night. They have some good things to sing and say, as you will agree if you listen to them.

FRIDAY, DECEMBER 7—A concert party of children taught by Mr. Young will entertain from 4YA to-night. For twenty-seven years Mr. Young has been teaching children to sing, so he knows something about the business, and his party will certainly do him credit. Listen-in and judge for yourself.

Radio for Police Effective Use in Australia.

RADIO equipment for police is not a new development of the Victorian Police Department, but just recently it has been modernised and extended and is easily justifying itself.

Two fast patrol cars have been equipped with both transmitters and receivers and are staffed by expert radio operators. These operators are experienced policemen, so that the combination is a formidable one as far as the criminal is concerned.

THE police headquarters at Russell Street is equipped with a two kilowatt transmitter capable of a range of over five hundred miles. The City Council power supply is utilised but an auxiliary motor generator, capable of supplying four kilowatts, is kept as a standby.

The normal aerial is 70ft. long, but for working under difficult conditions 150 feet of buried cable is used.

The transmitters on the cars consist of one-valve short wave sets which work from 750 volts supplied by the car storage batteries. This equipment is capable of sending a code message for a distance of over fifty miles.

THE police patrol cars are continually on the move and are ready at a moment's notice to answer the call of other members of the police force. The average time to answer calls is five minutes. Since the employment of reliable operators a case of neglect or delay in answering a call has never occurred.

On receipt of a telephone message the police headquarters are able to give instructions to the patrol by wireless.

Following are a few of the many instances where success has awaited the prompt action of the police and patrol cars.

IN the early morning at St. Kilda, No. 2 Patrol, learning that four men in a stolen car had left on their way to Richmond, wirelessed No. 1 Patrol to keep a look-out for car No. — with four men, which left St.

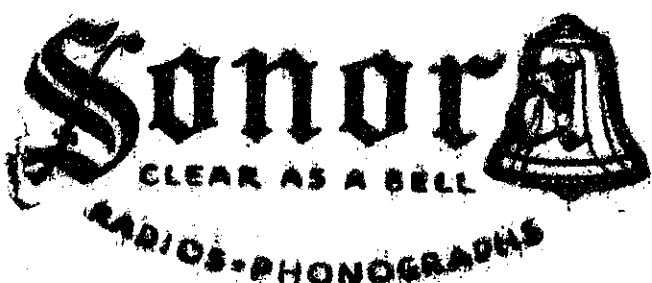
Kilda 20 minutes ago for Richmond, to which No. 1 Patrol replied: "Keeping watch." The latter patrol a few minutes later sent a message to No. 2 Patrol by wireless: "Four men arrested, car recovered."

POLICE headquarters sent a message to No. 2 Patrol at 2.30 a.m., at Prahran: "Six men creating disturbance in — Road, Caulfield." The patrol set off at high speed, and while travelling at over sixty miles an hour another message was received as follows: "Mrs. — reports that men have now broken a window of a house and stolen a car No. —." The patrol intercepted the men making away from the scene at speed, recovered the car, and arrested the offenders.

AT 2.10 on a certain morning Head Station sent a wireless message to No. 2 Patrol: "Malvern Police report two men broke into a garage and stole car No. —. One man arrested, but one escaped in car. The patrol hastened to and searched the district, located the car and gave chase, eventually capturing the car and arresting the thief."

Head Station was wirelessed by No. 1 Patrol and asked for the owner's name and address by wireless of car No. —, which they had been watching acting suspiciously in Richmond at about 12.30 a.m. They were informed two minutes later by Head Station: "Re car you were inquiring about. Owner has just reported same was stolen." No. 1 Patrol arrested the men and wirelessed back: "Car recovered. Men arrested. Advise owner."

AT 11.30 on another evening Head Station wirelessed all patrol cars the number and description of a stolen car. At about 4 a.m. No. 2 Patrol intercepted the stolen car with three men travelling at speed through Albert Park. After a stern chase at 60 miles an hour the offenders slowed to twenty miles an hour and three men jumped from the car which, left uncontrolled, smashed through a fence. The three men were arrested, and the proceeds of an hotel robbery were found in the car. The owner of the hotel was unaware that his premises had been broken into until advised by the police patrol.



Call and hear the latest model SONORA. Unequalled for quality of tone. Buy a SONORA and you will really enjoy Radio!

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A.B.C. POWER PACKS

Eliminate all Batteries from any type of radio receiver. ELECTRIFY, MODERNISE and IMPROVE your radio by installing this efficient A.B.C. POWER PACK, which operates from electric light socket, in place of troublesome batteries.

Descriptive Folder with full details of all Kuprox Models posted to any address.

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105 MANNERS STREET

WELLINGTON.

Which Station Was That?

MR. N. C. WINSTANLEY, Picton, heard a station working on about 35 metres last Sunday, November 18, closing down at about 9 p.m. Music and foreign speech was heard, with, apparently, a lady announcer. Static was bad; strength fair speaker.

Can anybody identify? I did not hear the station referred to, but suggest it may have been the first harmonic of RFM, which is often heard at quite good strength on 35 metres.

Mr. T. Pascoe, Auckland, inquires about a station on about 60 metres. Heard nearly every evening from 7.30 till 9.30 at good strength, clear and steady. He is certain it is not RFM or a Japanese. As this station is transmitting while 2YA is on the air, and is on the Wellington's stations 7th harmonic, it is impossible for me to hear it, living within two miles of 2YA. Perhaps a reader can oblige.

A new station is reported as operating at Toowoomba (Australia). The call is 4GR. On Friday from 8.45 p.m. till 9.30 p.m. this station transmits on 31.5 metres.

No Earth on Short-wave Work.

A short-wave writer in the English magazine, "Popular Wireless," says: "Naturally, I never use an earth at all nowadays for short-wave work. I find that the surest method of obviating hand-capacity troubles is to connect everything on the panel to L.T. negative, and to use only a short beat to the L.T. (A) battery, which should preferably stand on the table with the set. Once these few simple precautions, and others that are best learned by experience, have been taken, there will be no need to play with H.F. chokes, anti-capacity screens, extension handles, and all the gadgets which help to scare the average broadcast listener away from short waves."

The Dutch Stations.

MESSRS. PHILIPS, HOLLAND, are now operating the well-known short-wave station at Kootwijk. Holland, using the call PCLL. The Dutch State Telegraph Technical Department used to operate this station.

PCJJ, although scheduled to commence at 4 a.m. on Wednesday and Friday, has not gone on the air till 6 a.m. these mornings during the last two weeks.

General.

3LO, through 3ME, has been heard each evening this week since Tuesday

Round the World on Short Wave

Notes of special value to short-wave enthusiasts are contributed weekly to the "Radio Record" by Mr. F. W. Sellens, Northland, Wellington. Observations from others are welcomed.

from 8 p.m. our time. Strength has been R8-9.

A Norwegian whaling fleet left Hobart recently for the Antarctic. While in the frozen south, the chief wireless operator (Mr. Olsen) will be carrying out tests in conjunction with 7ZL, Hobart, and rebroadcasts from the station will probably be heard in New Zealand and Australia.

The short-wave transmitter, working on 31.5 metres, is on the mother ship, the N.T. Neilsen Alonso. Concerts will be broadcast twice a week. There are some excellent vocalists and instrumentalists among the Norwegians, and their singing of the old Viking choruses and other Norse songs, sent out over the air from the Antarctic regions, will be a unique achievement.

Saturday, November 17.

THERE was no sign of 5SW till 7.30 a.m. this morning. Both 2XAD and KDKA were quite weak till about 3.30, when strength was about R5, after this they went off slightly.

PCJJ were not readable 5 p.m. except for odd words. Just before signing off at 7 p.m. volume reached R8.

A Jap. was heard just after 7 p.m. on about 28.5 metres.

Later in the evening RFM was excellent, with musical items. There was slight static. Volume was better than it has been for months, since they were on 60 metres. On their first harmonic, 35 metres, they were R8.

Sunday, November 18.

AT 9 a.m., 2XAD were describing a football match. They were only just strong enough to find out what was being broadcast, not enough to follow properly. 2XAF was spoilt during the afternoon by a persistent howler, who was spoiling his own reception as well as others. If this person would reduce the regeneration it will clear up the signals so that they are readable, instead of a lot of mush and squeals, and, which is more to the point, allow others a chance of enjoying the music. KDKA was interfered with by a beam station just above, and other Morse.

RFM was again very good, but static was rather troublesome.

Monday, November 19.

3LO from 7 a.m. was R8. Musical items, news and election results, were heard.

At 9.30 p.m. RFM was loud and steady. Static again was bad.

Tuesday, November 20.

5.15 a.m., 5SW testing with 2XAD. Gramophone records and talk. The former was RT8, rapid fading spoilt intelligibility. The American was about R2. They both closed down at 6 a.m. 7LO, Nairobi, R4. Fading, static, and morse spoilt reception.

Big Ben at 7 a.m. was R7. The talk following could not be understood on account of rapid fading. At 11 p.m. ANE, Java, at R8, was calling "Hullo, Amsterdam and Kootwijk." Very clear and steady. All talk was in Dutch. Orchestral items followed. Another Dutch station was heard at R8, probably PCLL. The call was not heard. It appeared to be a duplex telephony test. Plenty of "Hullo" and "Ya" was heard from each station.

3LO was transmitting on 32 metres a programme of old-time songs and dances, calling 3LO, Melbourne, and 5CL, Adelaide. Greetings were sent to various places, including Kelburn, Wellington.

Wednesday, November 21.

AT 5.30 a.m., 7LO, Nairobi, though weak, was, for a wonder, free of morse interference and very little static.

PCJJ commenced at 6 a.m. with the Dutch National Anthem, followed by a long foreign announcement. Strength was R7-8 at first, decreasing.

5SW was tuned-in at 7.30 a.m., when orchestral music was heard at R5. Rapid fading was bad. From 8 p.m. 3LO were on at R7-8—not so strong as usual. Volume increased later.

Thursday, November 22.

5.45 a.m., 7LO, Nairobi, R2. Slight static. Not any morse interference.

The first few times this African station was heard, signals, though stronger, were spoilt by morse. Now the morse is not so troublesome; signals are much weaker.

PCLL was quite good at R5-6, with records. 6.15 a.m., on about 24.5 to 25 metres, our old friend "Allo, Su Japanese," but instead of it being that, it has resolved into "Ici Paris," pronounced "e c Paree," so it is probably FFW. St. Assise, on 25 metres. It was all talk, with "Allo, allo, ici Paris" at frequent intervals. Strength R7 when first heard, weaker later on.

5SW, when giving their call, etc., just before 7 a.m., were quite readable at R5, but were very poor on "going over" to London.

From 8 p.m. 3LO was very clear and steady at R9.

Friday, November 23.

AT 5.30 a.m., 5SW, at R7, and 2XAD at R2, were carrying out a duplex telephony test.

PCJJ commenced at 6 a.m., strength R8.

2ME was tuned-in about 6 a.m., when they were signing off after having carried out a test with PCLL. Strength R9—very clear and steady. The Dutch station was not heard.

2XG, Rocky Point, New York, on about 28.5 metres, was heard at 7 a.m. with his usual "Write down pinafre," etc. It is some months since I heard this station with their word tests.

3LO at R9 commenced at 8 p.m. A strong generator hum was noticed.

At 9.45 "Allo, allo, ici Paris" was heard at R8, very clear and steady. All French talk.

RFM, good strength, spoilt by static. ANE, R7-8, band music. Later were calling 2ME, Sydney.

2ME calling ANE, Java, R9.

5SW was late in starting. At 12.33 a.m. the announcer apologised for the delay. Organ recital from London, R8, very good.

Another Report.

Mr. J. D. O'Loughlin (Masterton) writes:—On Friday, November 16, at 7.25 p.m., 2XG, Rocky Point, New York, was heard for the first time for some months. He came in well through morse and static, at R7. He was on one of his usual word tests, giving a string of words preceded by a request to "write down." He then said, "This concludes list No. 301." He gave his call and then called JJB, ending up by saying, "Listen for the siren call." A loud wailing screech was heard for two minutes, then W2XG, in morse, and he closed down. This was on about 27.6 metres. Five minutes later he was heard starting up again on about 37 metres. He went through the same procedure and closed down within a few minutes. Modulation and volume were good, but static was bad.

On Saturday, November 17, at 12 p.m., the Jap. was coming in good. He was quite audible all over the house. JOAK was heard several times, so it was probably JHBB relaying them. He closed down at 12.45 p.m.

On Monday a station was heard in the evening, on 29 metres. His call sounded like "RFN, Moscow." Piano solos and operatic selections were heard.

Amateurs heard were 2AO, 3CM, 2BO, 2AK, 2AB, 2GA, 3AZ, 2GH, 1BI, 3CF, 1AJ, and OA, 2HC, 3AM, 6AG, 2CS, and 3CF.

A New Short Wave Transmitter

WE are advised that Messrs. Philips Glowlampworks are putting a new short wave low power transmitter on the air—call sign PBF5, wavelength 41.3 meters, power 30 watts telegraphy.

The first transmission from this station will be on November 24, 1928, from 4 a.m. till 7 a.m. Greenwich time, and again on November 27, 1928, at 8 p.m. till 12 p.m., Greenwich time.

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