

# THE RADIO RECORD

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

Price 3d.

VOL. I, NO. 20.

WELLINGTON, N.Z., FRIDAY, DECEMBER 2, 1927.

## 2YA Engages Brilliant Instrumentalists for Sunday Evenings

### A Great String Quartet Under Mr. George Ellwood

Listeners in general will be pleased to know that special arrangements are being made for the maintenance of concerts on Sunday evenings from 2YA of a high standard. Throughout the winter months listeners have specially enjoyed excellent concerts arranged by various bands and relayed from city halls. For the summer months a brilliant quartet of string instrumentalists has been secured, the personnel being Ava Symons (violin), Frieda Meier (violin), Frank Crowther (viola), George Ellwood (cello).

The four instrumentalists who have been engaged for 2YA stand at the top of their profession in Wellington, and in combination will provide a basis of items for the Sunday evening concerts that will give those functions a standard of their own.

For the past several months listeners have been made acquainted with the quality of two of these principals by the work of Mr. George Ellwood and Miss Ava Symons in the Symons-Ellwood-Short trio, which has regularly performed from 2YA and given items of outstanding merit. The career and ability of both Miss Ava Symons and Mr. George Ellwood were outlined in full in our issue of October 14, and their performances have more than justified early predictions.

The newcomers to the microphone are Mrs. Meier and Mr. Frank Crowther. Mrs. Meier has studied in New Zealand with Mr. Adolf Syenes, a distinguished Hungarian master, who was a pupil of Hubay, Professor of the Violin at Buda-Pesth Conservatorium. Well known in musical circles, and a popular figure on the concert platform, Mrs. Meier is recognised as one of Wellington's most brilliant instrumentalists, and has commanded the approbation of both Press and public. Of her work on the platform it has been written:—"She is a finished executant, who does not allow the evident possession of a susceptible temperament to unduly influence her when dealing with the works of the great composers for the violin, so that while her renderings are colourful and charming, they are reliably instructive. With perfect command of her bow in rapid arpeggio passages, she uses the 'dancing bow' with delicate success,

#### MR. AMERY SUCCESSFULLY BROADCAST FROM 2YA

At very short notice 2YA was able, on Monday, to put the civic reception from the Town Hall in Wellington "on the air." The speakers on this interesting and historic occasion were His Worship the Mayor, Mr. G. A. Troup, the Hon. A. D. McLeod, Sir C. Skerrett, Chief Justice, and, in reply, the Hon. L. C. S. Amery himself. Mr. Amery's speech lasted half an hour and was of great interest. 3YA successfully rebroadcast 2YA's effort.

Again on Tuesday, 2YA broadcast the state dinner given to Mr. Amery.



—S. P. Andrew, photo.

BRILLIANT STRING QUARTET FOR 2YA. BACK: AVA SYMONS, FRANK CROWTHER, FRIEDA MEIER, AND (FRONT) GEORGE ELLWOOD.

and the breadth and quality of her tone from the lower strings is unusual in a violiniste.

Mrs. Meier has played for the Harmonic Society and is a leader of the Society of Musicians' string quartet and the Wellington Orchestral Society and, as occasion requires, is soloist for the last-named society.

Mr. Frank Crowther, the remaining member of the quartet, received his early training in Wellington and Dunedin. Showing great promise, he travelled for two years with the old Pollard Opera Company when that organisation was at its zenith. During that time Mr. Crowther played in four different productions ranging from grand opera to pantomime, his all round musical ability enabling him to play violin, piano and viola as occasion demanded. He later became associated with vaudeville as musical director for the late P. R. Dix, and subsequently with John Fuller & Sons, with whom he is still associated.

Prior to his recent world tour, Mr. Crowther was for four years conductor of the Wellington Professional Orchestra, succeeding Mr. Bloy and Mr. Moschini in that position. On his recent tour Mr. Crowther made a special point of hearing the world's best orchestras, and to that end visited most of the famous opera houses. He heard several recitals given by the Lerner String Quartet, which is considered by the critics to be the greatest combination of this kind in the world to-day. He also attended several performances of the Handel Festival, Covent Garden Opera House, and the Queen's Hall concerts. Probably Mr. Crowther is best known throughout New Zealand as an accompanist, and was recently heard over the air as accompanist for the Port Nicholson Silver Band.

Under Mr. Ellwood's direction the new quartet may be counted upon securing the special good-will and appreciation of listeners.

# The Chit-Chat Club—

## Points from Papers Put "Over the Air."

(Set Down by "Telanother")

### PERTINENT POINTS ON:

"TURBULENT MOROCCO."

"THE FIRE BUG."

"SCHOOLCHILD HUMOURS."

"FLOWER LEGENDS."

"It's a wonder the Moors don't object," said Larton. "Why should they let Britain have it?"

"They don't. Tangier is an international zone, and has been so for years. We haven't got much change out of the Moors at any time, and they're just as bloodthirsty and just as fond of piracy as they were in the good old swashbuckling days of which we read as kids. The only difference is that, thanks to improved communications, they don't

### THE FIRE RAISERS.

"In some ethics of national life New Zealand may justly claim the credit of setting an example to the world, but the enormous and ever-increasing loss by fire in this Dominion does not redound to her credit."

CAPTAIN HUGO,  
Inspector of Fire Brigades.  
From 4YA.

"The address that appealed most to me last week," said Thribs, in rather pompous tones, "was that of Captain Hugo, Inspector of Fire Brigades, in which he told of the enormous losses caused by fire each year in New Zealand."

"Got some shares in an insurance company?" said Blinks.

"As a matter of fact, yes," said Thribs.

"I thought so," said Blinks with mock solemnity. "You can always reckon there's some cash in it when old Winton starts moralising."



MASTER DAVID CAMPBELL, whose sweet soprano voice has gained many prizes at local musical festivals. Master Campbell is a regular performer at IYA, and his selections are always appreciated by listeners.

—Tornquist, photo.

"But our position's really atrocious," affirmed Thribs. "Our fire loss comes to 17s. 7d. per head—the highest in the world, except that of the United States, where the German Jews are supposed to keep down the insurance companies' dividends through successful fires."

"We must have a damned lot of incendiaries here then," growled the oldest member.

"No, Captain Hugo doesn't think so. Not more than 5 per cent. are wilful fires. Fancy one and a quarter millions

### THE LIFE OF A CHILD.

"The child lives a real life, a life of his own, and to him for the moment 'make believe' is real."

MR. T. R. FLEMING,  
From 4YA.

going up in smoke here last year. It's awful to think of it."

"Half are due to careless women," said the oldest member. "Go off chatting to their neighbours when they should be home cooking the dinner. Leave the electric iron on—and away goes the house."

"Yes, a lot are caused that way all right," said Thribs.

"What's the solution, anyway," said Blinks. "As long as people are well covered with insurance I suppose they won't worry much."

"No, Captain Hugo thinks there's only one way, and that is through educational work in the schools. Catch them young and drill it into them, and when they grow up they will naturally be careful."

"Talking of getting them young," said Harrison. "I heard another address on the humour of school life, given by Mr. T. R. Fleming, ex-senior inspector of schools, from 4YA. He points out that the child lives in a world of his own, and Santa Claus and other illusionary beings are very real to him."

"H'm," said Blinks. "I think kids have a sense of humour of their own all right. Take the kids who were discussing a question raised by church dignitaries as to whether or not the 'personal Devil' was in existence. One kid asked another whether he believed in the Devil. 'Na,' he replied, 'it's just like Santa Claus, it's your father.'"

"Must have been Winton's kid," said Harrison.

"I heard that address," said Larton, "and I must say it was pretty trite. There was dashed little humour in it to my way of thinking. I think if they have addresses, they want to make sure either that they are of serious interest or that they are jolly bright. There's nothing quite so dull as a poor address 'over the air,' for the fact that

probably makes you more critical." "I agree with you," said Thribs. "I heard an address on 'Flower Legends From Greek History,' and I must say it didn't appeal to me."

"I thought it was excellent," said Blinks. "Perhaps it was too little materialistic for you, Winton."

"How the devil do you fellows think the broadcasting people can give what's wanted," said the oldest member irritably. "One of you wants one thing and one another, and it's my belief that if they give you 'absolute tripe,' you think you're in clover."

"What was the flowers' address about?" said Harrison.

"He dealt with various legends relating to flowers," said Blinks, "and showed the way in which certain flowers have come to be associated with joy or sorrow as the case may be. Since earliest times flowers have played an important part in the lives of people in every country in the world. The ancient Chinese used flowers to record the historic doings of other nations, and Egyptian monuments bear

### FLOWER LEGENDS.

"Since early history, flowers have played an important part in all lives of people in every country of the world. The language of flowers is almost as ancient and universal as that of speech."

MR. L. A. GRIFFITHS, F.R.H.S.  
From 1YA.

upon their surface a code of floral telegraphy which time will never efface. Down through the ages roses have come to be regarded as messengers of love, and anemones as meaning withered hopes. The lotus flower is held sacred by millions of the worshippers of Brahma, who believe that he was born amongst them. Flowers are very beautiful and very wonderful things, in a pretty mundane world, and it's well to be reminded at times that there are other things to think about than money-grubbing."

"And now," said Wishart, "to descend from the aesthetic to the ultra material, I might remind you fellows that it's well after six, and your good wives will be waiting."

Wishart's descent was the signal for a general hurried rising, and five minutes later, the bachelor member and the oldest member held the floor to themselves, and were, over a hot toddy, consoling themselves on their lack of home comforts.

A radio valve large enough to hold a tall man now operates in the transmitter of WJZ, New York. It is seven and one half feet high, weighs 100 pounds, and has a power of 100,000 watts.

### THE WARLIKE MOORS.

"In the middle ages, Morocco, in common with other portions of the North African littoral known as the Barbary Coast, was the scene of a flourishing and bloodthirsty system of piracy. . . . It is only a few years ago a Moroccan chief, Raisuli, startled the world by the daring of his exploits as a bandit."

IMPERIAL AFFAIRS ADDRESS.  
From 2YA.

will be centuries before they are properly civilised.

"They're a wonderful crowd when you think of it," said Blinks. "Think how the Riffs held the French at bay for years. Of course, the rough country is in their favour, but, even so, they're a hardy crowd, and don't seem to thrive unless they're cutting someone's throat."

"What the devil does Great Britain want to go poking her nose into Morocco for?" said the oldest member. "Haven't we got enough trouble with the foreign countries we're protecting already?"

"We've got to take an interest in it," asserted Blinks, "because of Tangier. Just opposite Gibraltar is Tangier and if a foreign Power at war with England had that place fortified they could blow poor old Gibraltar to smithereens."

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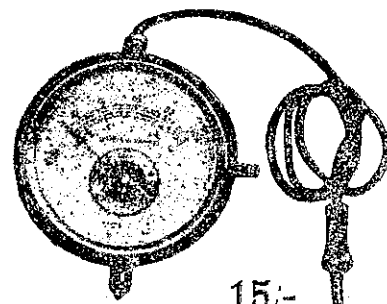
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# Our Mail Bag

## ANSWERS TO CORRESPONDENTS.

"T.R.H." (Ohakune Junction).—To ascertain kilocycles from wave-length, divide the wave-length into 300,000. To ascertain wave-length from kilocycles divide 300,000 by the kilocycles.

"G.C.H." (Masterton).—Thanks for information. The list will be published again shortly in a revised form. The Tampa station can be omitted for general reception. The station you picked up is probably a Jap. Your report is being investigated.

"P.C." (Okailan, Bay of Islands).—Communicate with Harringtons (N.Z.) Ltd., 42 Willis Street, Wellington, who are agents for the set you own. The "flickering" valve is not the first one we have heard of.

"R.F.T." (Waikanae).—Evidently you do not understand that all valve sets of the type to which you refer employ both A and B batteries simultaneously. The A battery is necessary to light the valves, and the B battery supplies the plate voltage.

"D.H." (Waimate).—It is the common experience of owners of powerful sets to hear the patter of rain on the aerial. This is attributed partly to the raindrops being charged with minute electricity. An insufficient number of insulators will increase the noise, as, during heavy rain, the insulators are completely drenched and a short circuit to earth is created. It is advisable to insert at least three insulators at each end of the aerial.

"C.C.B." (Portobello).—A Bradlev leak should serve your purpose. The 201A Radiotron should make a good detector.

### Complaints.

"Pluggie Bill" writes: Honoured sir,—I have a complaint to make about your programmes! I don't really know what there is to complain about, but I get so few opportunities of seeing my opinions in print that I simply must complain about something. Before I got my set I had no entertainment, but now that I spend 2s. 6d. a month I expect a lot. It's a lot of money (in 100 years it would total £150!). Now, about my complaints: I think you should arrange things better, that is, I mean—for instance—last night I tuned in to 1YA, 2YA, and 3YA in succession, and, do you know, that at each station a lady was singing! Now, couldn't you have something different at each station at the same time? Then, at 2YA, I listened in for fully a minute and didn't hear a sound! Couldn't the announcer keep up a running fire of remarks, etcetera, between the items? For instance, a few "ers," "ahems," and a couple of coughs would do. You see, when I have the 'phones on in bed I'm liable to fall asleep during the intervals. Then there's the race meeting broadcasting. Couldn't Mr. Allardyce get more excited, hit the announcer occasionally during the race, and then give his personal opinion of the connections of the horse that was last the first day and first the last day. He might also repeat all the "good things" he had heard of, and if you could arrange it perhaps we could ring him and get a few hobs on. I'd be prepared to pay a small charge, provided, of course, my horse won. Then I do think you should enlarge your editorial staff. From the contributions and suggestions you receive, it's very apparent that there's tons of talent going the way of the signals that don't get to Taranaki. (Personally, I think the fading up there is due to the wet weather; the signals go to earth via the raindrops.) Before concluding, I'd like to ask "Megohm" a couple of questions: Can I use the clothes line for an aerial on washing days if my wife uses insulated clothes pegs? What would happen if I joined my set to the electric iron point? I'm sorry I had to complain, but I feel better already.

### Summer Time Reception.

L. A. Whittan (Glen Oroua): After reading your very interesting article on the Bureau of Standards, I came across an article referring to a paper published by the bureau entitled "A Study of

Radio Signal Fading." In view of the complaints regarding fading, a few extracts may be interesting to your readers. It states: "The tests described in this paper indicate that the sources, or causes, of fading are intimately associated with the conditions of the 'Heavyside' surface (which is a conducting surface about 60 miles above the earth). Daytime transmission is largely carried on by means of waves moving along the ground, while night transmission, especially for great distances and at high frequencies, is by means of waves transmitted along the Heavyside layer. Waves at night are thus free from absorption encountered in the daytime, but are subject to great variations caused by irregularities of the ionised air at, or near, the Heavyside surface. On account of disturbances of the electrical condition of the atmosphere during mid-summer, radio reception during daylight hours may be occasionally interrupted. At times, during the summer months, the 'strays' may completely drown out the radio signals picked up by the set. The idea that the addition of sensitive amplifiers to the set will relieve the situation is erroneous. The amplifier amplifies the strays along with the incoming signals, so the amplified signal is often less intelligible than the signal received on a simple detector."

### Racing Broadcasts.

"Hawke's Bay": Why should anyone camouflage himself under the name of "Sport" when there is no sporting instinct in his make-up? He presumes to give his opinions on how sporting should be described. That is pure bluff. Men who know more about racing than he does praise highly the way in which the sporting announcer does his work. It is rather curious that the Broadcasting Company's "star" artist should be criticised in this way. But "Sport's" letter discloses that he does not know what he is talking about. (It would be "nuts" to have him at the microphone for a while if one wasn't anxious to hear a proper account of a race.) No, there is nothing sporting about "Sport" when he attacks under cover of anonymity. It savours too much of venting a personal grudge. Half the criticism in the newspapers of those who engage in broadcasting comes from people who have a personal grievance and desire to "get even" under cover of a non de plume. But no real sport would do it. Your correspondent makes certain suggestions which he says will enable the announcer to make the broadcast "interesting to others than those keenly interested in racing." Personally, I'm interested, but not very keenly interested, in races, so I'm one of those that "Sport" professes to be concerned about. I've always found the broadcasts interesting, and I'm supplied with as much information as I want. I do not want the announcer to fill in the afternoon with off-repetitions of horses, riders, positions at post, order of favouritism, colours, etc., "and keep on repeating," just for the sake of talking, as "Sport" suggests. I, and thousands of other listeners, are quite satisfied that the racing announcer tells us all we need to know, or that we want to know, and he tells it well. "Sport" need not worry himself about us.

### That Classical Stuff.

Achilles (Lower Hutt): Why, in the name of heaven, do the evening programmes consist wholly of "high-brow" stuff, which I think I can safely say is not understood or appreciated by more than 40 per cent. of listeners? I don't claim to speak for hundreds, as some correspondents do, but within my small circle of friends there are about thirteen or fourteen radio sets, and the number listening in somewhere about 50 or so, and, believe me, Sir, not one of them enjoy the evening sessions. The powers that be in broadcasting do not seem to realise that it is popular music that is wanted, something light, and if they don't know what that is, let them listen to the reception that artists get on Sunday nights at the Opera House. They will then get a fair idea of what is meant by popular music. Once or twice I've listened-in in the afternoon, and I can assure you, Mr. Editor, if I was asked to choose what I would

most care to hear, my choice would fall on the gramophone record, because until it reaches the microphone the item is more or less perfect—perfect recording, perfect singing, compared to some of the atrocious stuff we have to listen to sometimes! I sometimes think that wireless artists have an idea in their heads that because folks are listening to them thousands of miles away they must shout into the "micro" to make their voices carry, with the resultant blasting and "micro" rattle that no power tube or adjustable loudspeaker will eliminate. I guess that about completes my criticism of 2YA, if you can call it criticism more than condemnation, but I had an idea that the B.C.C. might see it. Someone made a suggestion the other day that they be given a few Scottish airs. I notice that they get a whole evening of it next week! So it appears that the company (Broadcasting) does read the "Record."

### Programmes Like London.

"Wellington Radio Enthusiast" writes: "You are heartily to be commended for the splendid programmes now being broadcast, which must surely fulfil the wishes of the large and varied body of radioists! Recently we have had a radio enthusiast from the Old Country staying with us, and at the conclusion of the programme the other evening we asked her how it compared with the concerts in England. She replied: 'That is just like an English concert—it made me think I was back in London.'"

### Proposed Anglican Station.

G. McB. Salt (Auckland Listeners' League).—I have been instructed by my executive to take exception to an article dealing with the broadcasting of religious services, which appeared in your journal of the 18th instant. It is stated that the Broadcasting Company will protest against the granting of a license to the Anglican Broadcasting Association, the reason given being that the purpose of the Act would be departed from, and that chaos would result. This, however, is a fallacious assumption, provided that the new station is placed out of town, as should have been the transmitting plant of 1YA. With a suitable location, and the wave-length of 231 metres allotted in the license already granted to the association, there will be no difficulty in separating 1YA and the new station, on even crystal sets. Further, the likelihood that "every sect in New Zealand would seek a license" is practically nil, and the "Record" is unable to point to an instance where such a position has arisen in cities where broadcasting stations for religious purposes have been erected. As my executive understands the position, the new station will broadcast programmes on week nights, and, if such is the case, it is incorrect to state "that very few people would benefit from such an arrangement." Alternative programmes would be available to local and Dominion listeners, and, surely, this should add greatly to the popularity of listening-in, and possibly obtain more revenue for the Broadcasting Company. The company has frequently denied that it desires a monopoly of broadcasting, but when a station of

high power, capable of competing with, and producing, programmes of a standard equal to, if not better than, programmes from its own stations, it protests against the granting of a license. This has happened before, and my executive would be glad to be assured that it is not the precedent of breaking the monopoly when the "Record" fears. In this case it is for the "Record" to publish some valid reasons against the operations of the Anglican Broadcasting Association. I am instructed, also, to inform you that the following resolutions were carried unanimously at the last meeting of the executive of the Auckland Listeners' League:—"That the executive deplores the fact that in two or three nights each week the programmes broadcast from 1YA are materially below the standard of a few months ago." "That this executive is of the opinion that the children's sessions at 1YA are being conducted on the wrong lines." In elaboration of these resolutions I may state that the programmes at 1YA lack variety, and suffer from a surfeit of vocal and orchestral music. On numerous occasions four or five artists provide the whole programme. The children's sessions are not giving satisfaction. Members of my executive state that their children have no desire to listen to them, while the comparatively few letters received by the Aunts and Uncles is a further indication of the unsuitability of the entertainment provided. No reflection is cast on the abilities of the child performers. In many cases their artistry is a sheer delight to the adult listener. Children, however, are unable to appreciate the rendering of classical musical items or recitations of extracts of the remarkable satire of Stephen Leacock.

## AUSTRALIAN STATIONS

### "A" AND "B" CLASS.

Following is a list of the "A" class Australian stations and the principal "B" class stations:—  
2FC—Farmer's Broadcasting Service, Sydney; wave-length, 442 metres; power, 5000 watts.  
2BL—Broadcasters, Ltd., Sydney; wave-length, 353 metres; power, 5000 watts.  
2GB—Theosophical Broadcasting Service, Sydney; wave-length, 316 metres; power, 3000 watts.  
2UE—Radio House, 617 George St., Sydney; wave-length, 293 metres; power, 250 watts.  
2UW—Sandel Radio, Ltd., Sydney; wave-length, 267 metres; power, 500 watts.  
3LO—Broadcasting Company of Australia, Ltd., Melbourne; wave-length, 371 metres; power, 5000 watts.  
3AR—Associated Radio Co., Ltd., Melbourne; wave-length, 484 metres; power, 5000 watts.  
4QG—Queensland Radio Service, Brisbane; wave-length, 385 metres; power, 5000 watts.  
5CL—Central Broadcasters' Ltd., Adelaide; wave-length, 395 metres; power, 5000 watts.  
6WT—Westralian Farmers, Ltd., Perth; wave-length 1250 metres; power, 5000 watts.

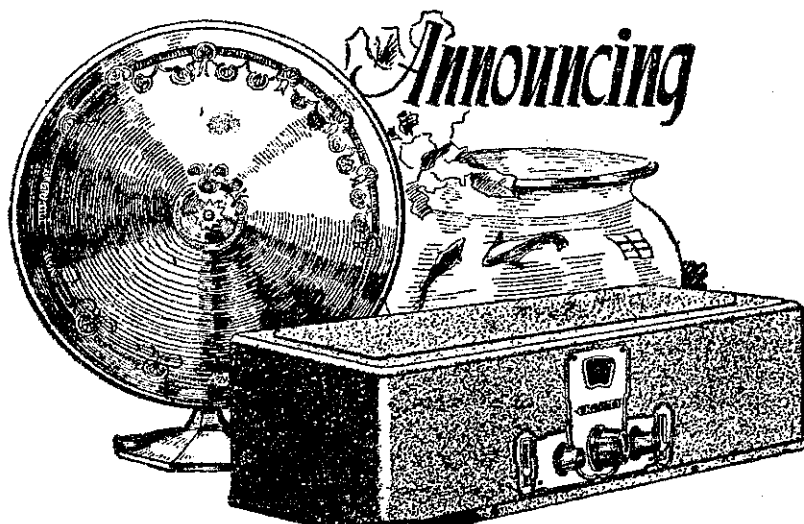
7ZL—Tasmanian Broadcasters, Ltd., Hobart; wave-length, 616 metres; 3000 watts.  
3DB—The 3DB Broadcasting Co. Pty., Ltd., Capitol House, Melbourne; wave-length, 255 metres; power, 500 watts.  
3UJ—O. J. Nilsen and Co., Melbourne; wave-length, 319 metres; power, 100 watts.  
4GR—Cold Radio Electric Service, Toowoomba, Queensland; wave-length, 294 metres; power, 100 watts.  
5KA—Sport Radio Broadcasting Station, Adelaide; wave-length, 250 metres; power, 1000 watts.  
5DN—5DN Pty., Ltd., Adelaide; wave-length, 313 metres; 500 watts.

## INDIAN STATIONS

We heard a great deal about the Indian Broadcasting Company's super-power broadcasting stations at Calcutta and Bombay. We were led to believe they were giant-voiced transmitters. It now transpires, according to the company's own official organ, that the stations at Bombay and Calcutta are of only 3000 watts power. According to the "Indian Radio Times," Indian standard time is 6 hours 9 minutes behind New Zealand time. This means that when it is 8 o'clock in the evening in India it is nine minutes past 2 in the morning in New Zealand. 7CA, Calcutta (370.4 metres) commences its evening programmes generally at 7.45 p.m. (Indian time) on week days, and at 6.30 p.m. on Sundays the church services commence, followed by a musical programme. The Bombay Broadcast station, 7BY (377.1 metres), on week days commences the evening programmes at 6.30 o'clock (Indian time), and there is an interval from 8 p.m. till 9 p.m., when the concert is renewed. On Sundays the church services commence at 6.30 p.m., and are followed by an organ recital. There is again an interval from 8 p.m. till 9 p.m., after which the evening concert proceeds.

## RADIO AND LIGHTNING

Following several inquiries as to the possible effects of lightning upon radio installations, the following will be of interest:—During a recent thunderstorm in Middlesbrough (England) four houses were struck by lightning and badly damaged. When the matter was reported to the Middlesbrough housing committee it was stated that the houses were situated in an area thick with wireless aerials, and were about the only four not equipped. The lightning experts at the Bureau of Standards at Washington say:—"Radio antennas are not to be regarded as effective protection against lightning, but, on the other hand, their limited extent prevents them from becoming a menace. They need not be considered as potential inviters of lightning strokes, being in a class with other metal objects normally found about buildings, such as metal gutters, downspouts, and wire clothes-lines." A good lightning arrester makes the radio lead-in safer than these reputedly harmless building accessories. It should be needless to say, of course, that the electrical nature of a radio set is no more attractive to lightning than that of an electric light or a flatiron.



## The BANDBOX

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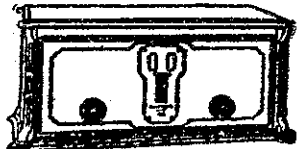
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CHRISTCHURCH.

Petersen's is just opposite.

# THE NEW ZEALAND Radio Record

PUBLISHED WEEKLY.

Printed Tuesdays to permit of effective distribution before the week-end, with full copyrighted programmes for the succeeding week. Nominal date of publication Friday.

## LITERARY MATTER.

All literary matter and contributions must be addressed to the Editor.  
If the return of M.S. is desired, enclose I.d. stamp.

## SUBSCRIPTION RATES.

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Advertisements requiring setting should be in hand not later than Friday of each week to ensure publication in succeeding issue. Stereos and blocks, providing space has been arranged beforehand, can be accepted up to midnight Monday. Contract advertisements not changed will be repeated.

No responsibility is accepted for blocks, stereos, etc., remaining unclaimed after last use, beyond a period of three months.

A. J. HEIGHWAY,  
Managing Editor,  
"The N.Z. Radio Record,"

P.O. Box 1032.  
WELLINGTON.

WELLINGTON, DECEMBER 2, 1927.

40,000 LICENSES BY JANUARY 1.

Continuation of the present rate of enrolment of licensed listeners will mean that the 40,000 mark will be reached before the birth of the New Year. This attainment will be highly gratifying to all interested, and particularly to listeners themselves, because it connotes two things of moment—first, a steadily growing appreciation of the service rendered by the present stations, and secondly, the means through growing revenue, for a progressive improvement in the entertainment and service available to listeners. On the opening of 2YA in July last, licensed listeners numbered about 22,000, and the expectation was held in responsible quarters that the extra service capable of being given by the high powered station provided would give such a stimulus that 40,000 might be expected by the end of March next. That the rate of enrolment has exceeded expectations is definitely gratifying, and the company is entitled to take the outcome as practical appreciation on the part of the public of its efforts to entertain and serve. Criticisms of the programmes there have been—first that they were not good enough, then that they are too good. Diversity of view must always be expected on so essentially a matter of taste as the quality of entertainment provided. We are very far from saying that the programme service is perfect—it probably never will be that—or that it is free from the possibility of improvement. There will always be room for improvement. We know that is recognised by the management and that plans are in prospect for a steady betterment of even the present good service in a number of directions—not forgetting the ever-present demand for "popular" music. In the building of any organisation or service, two main essentials stand out—men and money. In both fields the company is now better equipped than ever, and with the recognition that the service of the public is exacting in its requirement of initiative and enterprise, and a steady determination to meet those demands, the company, we believe, may count upon the continued appreciation of the public. The public is entitled to ask a high standard of service as means expand, and that service in itself will be the best guarantee for further expansion. Good as the 40,000 mark is, it by no means represents the country's capacity. Dominion homes total over 260,000, and a fifty per cent. mark of 130,000 sets is, in our opinion, a reasonable possibility of the next five years, for the radio era is but just opening. The Government is entitled to a measure of praise for the satisfactory basis upon which radio has developed in New Zealand. The agreement made originally, and particularly the legislation in respect of royalties and patents have together permitted the development of the business upon a basis more harmonious and satisfactory than has been the case in Australia. This was made patent to our readers by the extracts from the Royal Commission on wireless, which we published last week, and with a steady maintenance of the present policy, regular and satisfactory growth may be expected.

## BREMER-TULLY

Six and Eight-Valve Receivers.

The Best and Most Sensitive Set Money can Buy.

GILFILLAN FIVES AND SIXES.

A reasonably priced set of good quality.

The largest and best assortment of Radio requirements in Otago.

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OCTAGON

DUNEDIN.

## Ocean Deep Tone!

Arrange for a demonstration, and marvel at the wonderful depth of tone of the SONORA.  
It will surprise you.

RADIO  RADIO  
F. J. Pinny Ltd. 58 Willis Street  
WELLINGTON.

## SPORTING

## NEXT WEEK'S FIXTURES

December 9.—N.Z. Athletic Championships.—3YA Announcer, Mr. Allardyce.  
December 10.—N.Z. Athletic Championships.—3YA Announcer, Mr. J. K. Moloney.  
December 10.—Cycling Championships (evening).—3YA Announcer, Mr. J. K. Moloney.  
December 10.—Wellington Trotting Club (Hutt Park).—Announcer, Mr. Allardyce.

## TALKS ON ATHLETICS.

Mr. J. K. Moloney, the well-known Christchurch solicitor, whose talks on Rugby were so popular during the winter, is to speak on athletics on Thursday.

This will be on the eve of the first day of the New Zealand Championship meeting at Christchurch. Special interest attaches to this occasion owing to the fact that the Australasian championships will be held in Wellington at Christmas-time, and that the Olympic Games will take place next year, when, perchance, if New Zealand produces any Australasian champions, the Dominion will be represented at the Olympic Games.

On the Friday evening Mr. Moloney will face the microphone again to give a review of the first day's events and the prospects for the second, or final day.

## MR. L. C. M. S. AMERY

## TO SPEAK FROM 2YA STUDIO

Mr. L. C. M. S. Amery, Secretary of State for Dominion Affairs, is to speak from 2YA studio on the evening of Thursday, December 15, at 7.30. There was considerable disappointment that Mr. Amery could not broadcast through 2YA on his journey south, hence advantage is to be taken of the opportunity on his return visit. Wednesday's speech will last for a quarter of an hour.

## 2YA HEARD IN IOWA

## RECORD LONG-DISTANCE RECEPTION

The latest mail from America and Canada brings reports of the far range of the New Zealand stations. The change to the shorter days in the Northern Hemisphere is no doubt greatly responsible for the improved reception. The reports show that an increasing number of people in the Eastern States of America and in Canada are sitting up till the early hours of the morning in order to listen-in to New Zealand.

The record long distance report to date comes from Iowa, where Mr. F. W. Work, of Tiffin, reports having heard 2YA, and specially mentions the singing of Miss Nora Greene. He remarks on the reception by his seven-valve set: "Sometimes the programme came in so loud on the speaker that I could easily be heard all over a large nine-roomed house, and then would completely fade away."

But, while the reception of 2YA in Iowa, one of the 'Cent-States of America, is a wonderful tribute to the power of this station, a more remarkable achievement is the hearing of 3YA in North Dakota, only a few hundred miles short of 2YA's record. Mr. M. H. Kirkby, of Kramer, North Dakota, reports that on October 25 he heard 3YA very clearly. One item he mentions for the purpose of proof was "Take in the Sun, Hang Out the Moon," played by Derry's Military Band.

Another remarkable reception of 2YA is conveyed in a report from Saskatchewan, in Canada, just across the border from North Dakota. Here a man at Bangor, with a two tube home-made set, listened-in to 2YA.

Reports of the reception of 2YA come frequently from California, and two other reports come from Alaska, 8000 miles away.

One correspondent in San Pedro, California, comments thus on his reception of 2YA: "Last Saturday we had a DX party. A number of radio fans from Hollywood were present, and they sure got a kick from listening to your station and enjoyed it very much. Some of them were movie stars." Another correspondent seems to have as yet a hazy idea of geography or a high opinion of the scope of operations of the Radio Broadcasting Company. He says: "Last year I had the very good fortune to receive a programme from your Brisbane station."

A Canadian radio writer, in the course of an article in the "British Columbia Colonist," Vancouver, remarks:—"I have listened to 2YA several times, and have had no difficulty in following his programmes. Occasionally his signals come in with astonishing volume and clarity. Once I listened for over an hour, during which time only once did he fade out so far that I lost all but his carrier."

"Those of his programmes that I have heard were excellent and gave the impression of well-organised and professionally managed chamber concerts. They are characterised by pleasing variety and talent of a high order. His broadcasts always conclude with the National Anthem, a custom which, I find, is common to all Australian and New Zealand broadcasters—those at least that I have listened to—and one that might well be emulated by our Canadian stations."

## Education By Radio

INITIAL TEST BY DEPARTMENT.

A radio experiment of national importance is to be made per medium of 2YA on Tuesday, December 13. At the request of the Education Department, the Broadcasting Company of New Zealand, Limited, has agreed to broadcast on that date a test educational programme for schools.

Arrangements have been made by the Department with radio experts to co-operate with the inspectors in making a test of the reception at schools, in the following places:—Auckland, Te Kuiti, Stratford, Taihape, Dannevirke, Rai Valley, Nelson, Akaroa, Dunedin, Alexandra, New Plymouth, Tauranga, Wanganui, Gisborne, Reikorangi, Denniston, Fairlie, Timaru, Oamaru, Otatau, Whangarei, Rotorua, Palmerston North, Napier, Masterton, Westport, Hokitika, Christchurch, Balclutha, Invercargill. The test, it will be noted, virtually covers the Dominion from North Cape to the Bluff.

The tentative programme is as follows:—

Mr. Douglas Tayler, "School Music," assisted by a children's choir.

Director of Education, Mr. T. B. Strong, a talk to pupils.

Mr. Longworth, short talk on school games.

Mr. Bird, literature lesson.

Mr. Douglas Tayler, interpretation of gramophone record or some instruction in melody forming, using a piano or violin.

## SHORT-WAVE WORK

In my notes of last week the station shown as PCJJ should have read PCJL. The former station is off the air for about six weeks as from the end of October for reconstruction. In a recent Australian radio magazine I see that the short-wave station of 6WF has gone up to 104.5 metres, and transmits on Monday, Tuesday, Thursday, Saturday, and Sunday.

On Saturday afternoon, November 19, 2XAD, one of the short-wave stations of WGY, were relaying from the Hotel Astor, New York, the speeches in connection with the 37th year of political science. Mr. Walter G. Leighton, of London, and Mr. Lamont, were two of the speakers, the latter's subject being "International Finance and Trade."

This station was quite good speaker strength, and very steady; they closed down at 4.57 p.m., New Zealand time. After this orchestral items from the Western Hall, Pittsburgh, through KDKA, were enjoyed till 5.50 p.m.

2AT, of Wellington, was also heard during the afternoon on Saturday evening; 3AU, Rangiora; 7HL, Hobart; 2AC, New South Wales; RFN, Russia; and two other New South Wales stations, whose complete calls could not be understood.

Sunday afternoon found the air full of short-waves. 4AE, Gore; 4AM, Palmerston 3AU, Rangiora, 3AP, Ashburton, and 2AG, —, were all testing. KDKA, on 20 metres, was not as strong as usual. 2XAF were relaying orchestral music from the Rainbow Room, De Luxe Hotel, until 5.30 p.m.

6AG, Perth, was heard on Monday morning about 7.20 a.m., being only just audible. During the evening 7HL, Hobart, was testing, putting on some gramophone selections; 3AJ, Rangiora, was acknowledging reports from Australian and New Zealand listeners; there was a long list of them. 2HM, New South Wales, was heard giving various bugle calls, which came through well.

On Tuesday morning ANE, Java, was transmitting musical items till 7.30 a.m. No announcement was made while I was listening. In the evening 2HIV, New South Wales, was calling 3OG, Victoria; his volume was good, but modulation poor. 7HL and RFN were also heard at good strength and clear.

3AJ and 3AU, of Rangiora, were both good during Wednesday evening; 2MU, New South Wales, and two other stations in the same district, whose complete calls could not be understood, were heard.

On Thursday morning station ANE, of the Radio Laboratory, Bandoeng, Java, Dutch East Indies, was heard at very good strength and modulation, giving musical items. The announcer called Mr. —, Perth, Western Australia, also somebody in Holland.

During the evening PCJL, the Dutch Telegraphic Radio Laboratory's station, The Hague, also Kooturgh, Holland, was heard at splendid strength, but modulation poor and the wave unsteady. They asked for reports to be sent quickly on modulation and strength, giving the two addresses above mentioned.

BRFN, 3AJ, 2SE, New South Wales, and 2R (?) were also heard. The call of the latter station was spoilt by morse.

ANE was transmitting for reception in Europe on Friday morning, as he said in an announcement, asking for reports to be sent to "Radio Laboratory, Bandoeng, Java, Dutch East Indies. Volume was very good. During the evening I only heard 2HM, New South Wales, and RFN, a piano solo being heard from the latter station early in their programme very well.

ANE was on the air again on Saturday morning. He acknowledged a report, and said that other reports were welcome. Musical items were interspersed with short talks, sometimes calling Holland.

A number of fresh Australian stations have been added to the list during the past week. There would have been more, but was unable to get the calls of several, either through weakness, poor modulation, or morse interference.

## ANE, Java.

C.M. (Wellington).—I notice in last week's "Record" that Mr. Sellens and others were not too sure of the identity of a station heard on about 31 metres. Mr. Sellens is correct in his conjecture that it is ANE, at Java. This morning, while listening to a very fine programme, he broke in with morse as follows:—"PCG, de ANE: We hebben danken u wel voor rapport; we danken u wel voor ur rapport. Gaen nu sluiten Komen zondag. 1840 GMT terug please wil daar eenige bekendheid aen geven tks ANE sluit tks—PCG de ANE." He then announced in voice: "Here R.S.A. Radio Laboratorium, De Bando, Java, Dutch East Indies; wave-length 31 point 86 metres." Another selection was played, and the station closed without further announcement. After the word "zondag" I missed a group of figures. The group began with "2," so am inclined to think it is a date followed by the GMT time. This station was very loud and clear on Thursday last, playing popular fox-trots, "Roll 'em, Girls," and "I Want to be Happy," coming over in great style. He called Holland, South Africa, and Dutch West Indies, and also called to a "Mr. Cookson" in Perth, Western Australia. He may probably have meant Mr. Coxon, better known as 6AG.

## MR. GERALD MARCUSE

Mr. F. W. Sellens, Northland, has received advice from a friend of Mr. Gerald Marcuse that the well-known English short-wave enthusiast is still carrying on his experimental short-wave transmissions, and will continue doing so until April next. The wave-lengths he will be using will be 32.5 metres, with a possibility of dropping to 28 metres later. The times of transmission are Tuesdays and Sunday mornings at 6, and Sunday evenings at 18 to 20, Greenwich mean time. These times correspond with 6.30 p.m., New Zealand summer time on Tuesdays and Sundays, and 6.30 to 8.30 a.m. Monday mornings.

Would listeners report to Mr. Sellens?

## The CAMERA Coy.

OCTAGON, DUNEDIN.

The House For Satisfaction.

Have You Heard

### PAGE RADIO?

This powerful Six-Valve Receiver is the machine you are looking for.  
For distance, selectivity and tone, it is unexcelled.

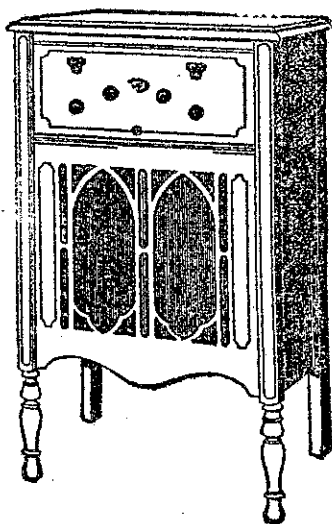
## Prices from £16



# AT LAST!

## A World-Leader in Radio Receivers that is ALL BRITISH

# The "Raleigh"



### THE HASTINGS One of the Royal Series

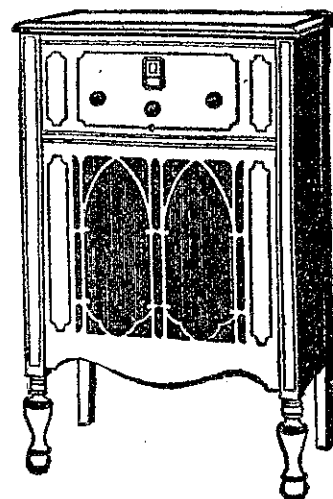
Where the convenience and attractive appearance of the console cabinet are desired, in combination with outstanding performance and value, the "Royal Series" presents the HASTINGS.

Manufactured in Toronto, Canada, by the largest Radio Manufacturers in the British Empire.

### Canada's Wonder Industry

FROM a small assembling plant employing a few dozen operators, to a huge factory with hundreds of employees, completely manufacturing a comprehensive line of sets, speakers, and power devices—from a production of a few complete sets per day, to a daily output exceeding five hundred units—from a purely local market, to a world-wide chain of agencies, including control of one of the pioneer radio manufacturers of the United States; such is the astounding four year's growth of this remarkable young Canadian company.

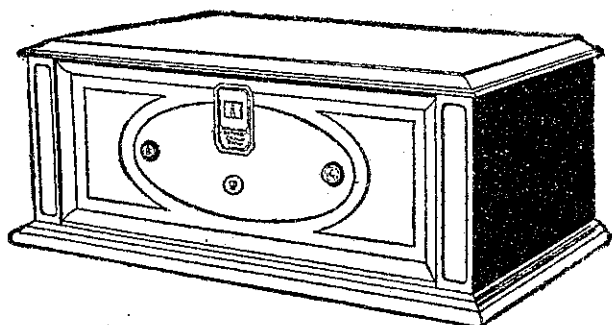
Managed by Britishers—financed by British capital—drawing on British resources of inventive genius, labour and material—RALEIGH Radio is an outstanding example of what British enterprise can accomplish even in a highly competitive industry. Handicapped at the beginning by limited resources, limited purchasing power, and a limited market, but ever keeping as its guiding star the ideal of radio satisfaction for RALEIGH owners, it has won definite leadership in its own and many foreign fields—has demonstrated again the ability of British industry to achieve outstanding success in the most competitive markets.



### THE WINDSOR One of the Royal Series

For those who wish to combine the attractions of unusual tone with the ornamental features and convenience of a beautiful console cabinet, the Windsor will find particular favour.

To the mechanical attainments of the six-tube Windsor, are added dignified console beauty—a welcome addition to the most attractive home surroundings—and a new self-contained acoustical system.



### THE BALMORAL One of the Royal Series

In every community there are those who never compromise with cost in the satisfaction of their desires. For them the seven-tube Balmoral has been built. Unique in the mechanical and electrical design—in power, tone and selectivity—the Balmoral furnishes a fine example of the quality made possible by D.C. resources.

## The ROYAL SERIES

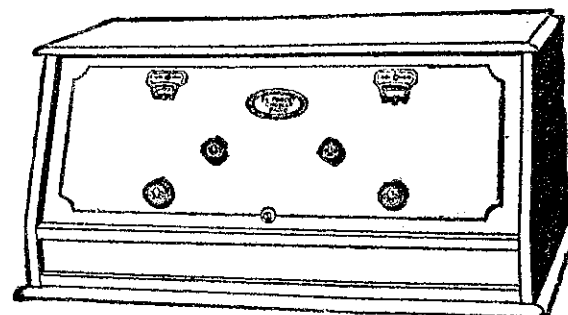
*Altogether Superior to any other Wireless You've Ever Heard or Seen*

The enjoyment you may have had from Wireless entertainment is a mere shadow compared with the flawless results the all-British Raleigh "Royal Series" will give you.

And if you are one of those who have waited for an instrument giving absolutely perfect reception with absolutely simple "tuning-in" before buying a set, then the "Royal Series" offers just what you require. Golden Resonance of tone—classic beauty—value unequalled—simpler than ever to operate—free from interference from unwanted stations—amazing in range and selectivity—in every way the "Royal Series" represents the greatest advance of the day in Radio Receivers.

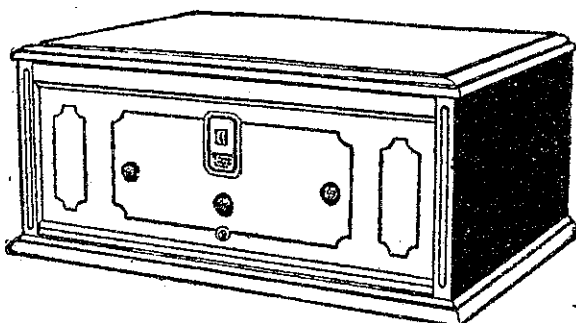
Subject this marvellous all-British Receiver to the minutest examination. It will instantly appeal to you as being extraordinarily fine and desirable.

RALEIGH RECEIVERS are in the quality class, but owing to 20 per cent. preference in duty on account of being a British product, they are sold at prices competing favourably with cheap American Receivers.



### THE CONWAY One of the Royal Series

Supreme in its class the Conway is the greatest value in a five-tube set ever put within the reach of those who want exceptional performance at a modest price. The value exemplifies the savings made possible by applying the principles of standardisation to quality products.



### THE WARWICK One of the Royal Series

A genuine Stradivarius violin costs £8000 or more because of its exquisite tone, which has never been equalled by any other. In radio, fine tone quality has been hitherto restricted to very expensive sets. Now, in the Warwick, unusual tonal superiority has been attained at a moderate price.



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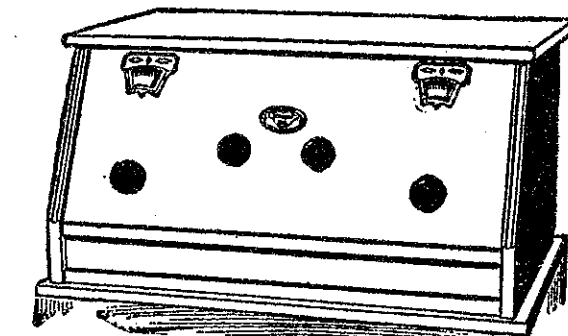
There will be a Raleigh Dealer in every part of New Zealand. Full list will be published later. Some territory is still open for representation, and applications are invited from Dealers, both Wholesale and Retail.

Communicate with

THE RALEIGH REPRESENTATIVES:

P.O. BOX 1432.

AUCKLAND.



### The SUPER-TRIRDYN One of the Royal Series

A three-tube set superior in performance to many five-tube sets, the Super-Trirdyn continues to prove its popularity wherever a compact model, with low upkeep cost, is desired.

The 1927 model contains for the first time the Wheatstone Bridge principle of balance—giving added power, selectivity, and new ease of control.

# From the Woman's Point of View.

By VERITY.

## TO-DAY AND TO-MORROW

### Our First Woman Architect.

Alison Sleigh, A.R.I.B.A., was born in Dunedin, but more properly belongs to Christchurch, where she went to school. A clever girl and determined withal, from early youth she concentrated on a career, and that career architecture, sticking to her guns with tenacity and enthusiasm, and facing and overcoming the many difficulties that beset the path of the pioneer. After leaving school she entered the office of Mr. Hirst-Seager, the well-known Christchurch architect, and on his departure for England worked for a time with Mr. Cecil Wood, another well-known member of the profession. On the advice of Mr. Hirst-Seager, she subsequently went Home, where she received a sound grounding in her arduous work and studied to some purpose, finally winning distinction for herself and her country, where she is the first (and only) woman to achieve the distinction represented by the foregoing imposing array of letters. Miss Sleigh is now a fully qualified architect, holding the highest honours which the British association can confer, and has of late been following her profession in London, and also widening her knowledge by travel abroad. The daughter of Mr. and Mrs. S. K. Sleigh, very many people will rejoice in her success, particularly in Christchurch and Dunedin, Mr. Sleigh being manager for the Union Steam Ship Company in the latter town, and Mrs. Sleigh noted in the more intellectual set for artistic appreciation and achievement. Mrs. Sleigh is at present in England, but is leaving in January with her brilliant daughter, who, it is hoped, will practise her profession in the Dominion.

### From Head to Foot.

The vogue of the wide-brimmed hat will be as brief as a summer afternoon. Its days are already numbered, for there are distant murmurings of the return to favour of the close-fitting model. A forecast of coming modes for next autumn has filtered through. Velours and panne velvet will take pride of place in next season's creations. A toque of velours is trimmed with beige osprey tufts; a panne velvet affair is embroidered in gold and silver thread, while another helmet-shaped hat has its brim swathed through gold rings set high upon the front of the crown. For sports wear there is velours again, cross-stitched with silk and trimmed with corded ribbon.

Something new in males is effected in multi-coloured brocade, trimmed with large shaded roses of exquisite colours and texture, covering almost entirely the front of the foot.

### Velvet and Fur.

A sheer delight to the eye and to the touch is a new evening cloak of green chiffon-velvet, lined with silver tissue. The large sleeves form a graceful cape effect and are decorated with shirring to elbow length. Soft smoke-grey fox fur borders the sleeves and forms the heavy collar.

## REQUIESCAT

The death of Miss Emily Lockie came as a shock to her many friends, who had been rejoicing at her apparent recovery from a recent severe illness. After a life filled to the brim with kind thoughts and gentle deeds, on Friday night she passed over, as she slept, to that beyond in which she trusted. The sick, the maimed, the blind, those who suffer or are sad, have lost a friend in Miss Lockie, whom Wellington claims as its own, most of her life having been spent here. True and generous champion of the "cause that lacks assistance," the tale of her generosity cannot be told, for not even to those most near and dear did she disclose the breadth of her charities. Unsparing of her purse and her personality, and of unspoiled nature, she was greatly affectionate remembrance by loved, and will be held in young and old, rich and poor alike. What better epitaph could be wished for her?

### They Say—

That the Isle of Wight has had many governors and captains, but none so active as Princess Beatrice, who is regarded as one of the people and is personally known to many.

As an illustration of her busy life in the island, the Princess, during a week-end, opened a church bazaar, inspected V.A.D.'s, attended an autumn show of fruit and vegetables, presided at the meeting of the governors of the East Coves Hospital, of which she was one of the founders, and presented colours to 1st Carisbrooke (Princess Beatrice's Own) Boy Scouts. Truly a strenuous week-end!

That Sylvia Thompson's new book, "The Battle of the Horizons" is expected to cause as great a stir as "The Hounds of Spring," the book which brought her fame. Sylvia Thompson is not only the youngest of English feminine best sellers, but quite the prettiest young writer of the day. She has a very new baby, Rosemary, who inherits the beautiful aquamarine eyes of her mother. Her very talented artist husband, Peter Laving, has been spending the wet and weary summer in the country, where he had to take to wood-cuts and etchings, rather than risk contracting chronic rheumatism, while capturing the spirit of rural England.

### Reflections.

A German woman, boating on a lake, pushed her fiancée overboard in a storm when it became evident the boat could not carry them both. The Court held her action as being justified. Might we diffidently suggest that courting in Germany seems fraught with danger?

There will be an international swimming race across the Channel for women next year. The authorities have received a suggestion for establishing a toilet station on the line of route, where the services of Father Neptune might be engaged for forking out lip-sticks, etc., from Davy Jones's locker.

Miss Houghton-Rodgers, during a South American motor tour, mended 87 punctures in a week. She says that the worst things about the roads out there are the giant thorns, three to five inches long, which lie buried everywhere in the sand. We understand this point impressed itself upon her so often that it became tiresome.

Mrs. Graville Streatfield said at the Hertford Rural Community Council Drama Conference in London: "I have had fat old women of 70 wanting to do Greek dancing." Lacking in the terpsichorean art perhaps, but naturally favoured with the ability to convey the essential atmosphere of Greece.

A London dentist has installed a loudspeaker in his waiting room. It is said that after a long wireless talk the patients cheerfully face the other boring business.

## The Letters of Annabel Lee

My Dear Elisabeth,

Of the making of magazines there is no end, but you really must get a copy of "Tui's Annual," that original journal that brings with it an atmosphere of the out-of-doors, and tells a tale of skies that are clear and hearts that are kind. Far indeed from frivol and frivolity are these simple, enthralling chronicles of dwellers of the countryside that lies round and about the noisy towns. Somewhat beyond the ken of thee and me, this daily "doing out the duty" of those who, by their incessant toil, help to bring wealth to our Dominion; and the more interesting on that account. Written and illustrated by themselves, these men and women of the country have cast their illusions, and see life seriously and see it whole, making no bones about it; but are on the spot when the kye come hame and the piggie-wiggies homeward waddle, their story of the day's work and the day's play being told with a zest that carries conviction. Some of the episodes are hilariously funny, being aided and abetted by the frolicsome "Potter" drawings, and the "ower true tales" carry the stamp of sincerity—there is nothing greater, in a magazine or out of it—and of sheer, ordinary, unconscious pluck and resourcefulness and "acquiescence in the inevitable" that we like to think are especially British characteristics. You will read with interest of girls who renounced town interest and independence for the long trail, the tussock and the rata, the ti-tree and the cow! And if cooking intrigues your Martha-ish fancy—as perforce it must with the prospect of hordes of hungry visitors to the ranch during Mr. Sidey's long and lovely summer days—there are a hundred perfectly good

recipes for the hot season, tried out by top-notch housekeepers, and unexampled for toothsome and economy.

How clever are the young! I went one night to an invitation piano recital given by Miss Hazel Hardwicke. The programme was an ambitious one for this maiden of few years, who, nevertheless, tackled it with admirable efficiency and technique. I liked the pianiste best in the shorter and less arduous items, notably the Schumann selections, which made fewer demands on that emotional imagination that cannot yet be expected to be allied with the undoubted skill and accomplishment of this young artist. As was to be expected from one so distinguished among our younger musicians, in the Mendelssohn Concerto Mr. Fraser Mackenzie lent efficient help, playing beautifully on the second piano in response to a last-minute call for help (Mr. Ray Hill having been called to camp). Mrs. Dorothy Evans is to be congratulated on her skillful training of clever youth; and the pleasant party was rounded off by some songs, notably those of Mr. Ray Kemp, his voice and smile immediately putting him en rapport with his audience, who were captivated by a song of the negro spiritual variety entitled "Water Boy," very artistically and charmingly sung.

The Commercial Travellers' Club, in considerable numbers and unfamiliar garb, patrolled the streets last Wednesday, their good intent being to help the old great cause of kindness, collect loot for the sick and the suffering, as is their generous way. They did their darndest, these happy warriors, who have fought many a good fight in the past, and never fail their friends. On this occasion a Mock Trial was held at

various street corners, into which the unwary wayfarer was run by a bobby bursting with enthusiasm and embonpoint, and cheerfully released on promising a nice fat little cheque; the judge who presided in full regalia displaying such dignity and discernment that one fain would have raised him to the Judicial Bench "for keeps." So once again this club scores, proving by its organisational powers and individual generosity that it is true to its native land and one with its kind, as Tennyson said once upon a time, or something like it.

For the moment I am soured—'tis the only word—in a turgid tale of the Napoleonic era. I never tire of the great little Corsican, with his will so superhuman, his personality so magnetic, his achievement that enthralled the dullest imagination. My recent delving on the subject is pure fiction, but rather absorbing, being a good deal concerned with languid, lovely, non-moral Josephine, the fascinating creole who captured his heart. Other amours there were of course—many of them, as all the world knows—but in this more or less veracious novel it is suggested that for Napoleon the subtle and slippery Madame de Beauharnais was the "one and only." His crafty and quarrelsome brothers and sisters and bossy mother are presented in very human fashion as making quite a lot of trouble for the empress, as is the way of relations the world over. The clever lady who, under the pen name of E. Barrington, is the author of "The Thunderer," lives in British Columbia, and has other romances to her credit, one, that particularly enthralled, being the story of Lord Nelson and his Emma. You should add her books to your list.—Your

ANNABEL LEE.



MISS CLARA BOWDEN, OF 3YA.

Possessor of a fine contralto voice, and a popular singer at 3YA, Miss Bowden will be on the air again on Monday, December 5.

—Steffano Webb, photo.

### A Novel Competition.

When it comes to being a candidate in a novel competition that is "in the offing," at Studio 3LO, Melbourne, the old-fashioned girl will indeed have the best of it, and stand a better chance of carrying off a valuable prize than her up-to-date sister. This is the explanation of it all. Convinced that somewhere in Victoria there are beautiful heads of hair that have not yet made the acquaintance of the tonsorial artist, a competition is being arranged to persuade the owners of these luxuriant tresses to permit them to be photographed and classified, when a prize will be awarded for the most beautiful "crown of glory." The fortunate prize winner will then rejoice with Haydn, that she listened to her mother's counsel to "bind her hair," and did not join in the general stampede to the nearest shingling parlour.

### Notes By His Other Half.

Sir Gerald du Maurier was lent a copy of the edition de luxe of Colonel Lawrence's book on Arabia. Thick in the margin of every page were pencil notes made and signed by one, T. E. Shaw. Not knowing the identity of this man, Sir Gerald telephoned to his friend, and was surprised to hear that it was Lawrence himself, for Private Shaw is the name by which he was known in the Air Force. Did not Bernard Shaw send him a copy of one of his works, inscribed, "From Public Shaw to Private Shaw?"

### Christmas Plum Pudding.

1½lb. breadcrumbs, 1lb. stoned raisins, 1lb. sultanas, 1lb. beef suet or ½lb. shreddo, 1lb. sugar, 2oz. sweet almonds, pinch salt, ½lb. glace cherries, rind and juice of 1 lemon, rind and juice of 1 orange, ½ teaspoonful mixed spice, 1lb. currants, ½lb. mixed candied peel, 7 eggs, ½ pint brandy, milk if necessary. Method: Clean currants and sultanas,

stone raisins, chop candied peel, blanch almonds, shred and chop suet, and mix all dry ingredients in a basin. Add eggs, grated lemon and orange rind, the strained lemon and orange juice, and the brandy. Place in greased basin, cover with a greased paper, and steam for 5 hours.—Miss Marion Christian.

### Christmas Pudding.

Take ½lb. finely chopped suet, 4oz. breadcrumbs, 6oz. sifted flour, 6oz. currants, 2oz. cherries, and 2oz. chopped almonds, 4oz. brown sugar, grated rind and juice of one lemon, half a nutmeg, half a teaspoonful spice. Beat three eggs with a tablespoonful of brandy, add to the dried ingredients, and mix with a little milk. Press into a well-greased mould and boil for at least eight hours. Remember, the longer you cook it the darker it will be. If a steamer or large saucepan containing water is placed on the top plate with element turned to high, immediately it boils plunge in the pudding; boil up again, then turn to low, and cook the required time. It can be boiled for three hours the first day, and then again for another two, and give it at least two hours the day it is to be eaten.—Mrs. Sinclair, 2YA.

That the young authoress is thinking of writing a play which will be her very first. Strange to say, she finds it much easier to tackle the intricacies of feminine psychology than the comparatively simple make-up of mere man. She thinks women writers who want to study male character ought not to marry those hearty, golfing, city men, rather than artists, who, after all, are mercifully endowed with a touch of feminine sensibility, and, therefore, from her point of view, so much easier to understand.

That the Indian summer that England was so thankful to enjoy this year brought out a startlingly incognito in the dull respectability of Chancery Lane, just at a moment when there was no other traffic to distract the attention. He was splendidly arrayed in a suit of bright blue, a white Panama hat turned up at one side, with a black band, and a rough brown frieze overcoat on his arm. Speculations as to his identity have been many, but the supposition that he had strayed from the Antipodes is fairly general.



MISS OLIVE BRAISHER, OF 3YA.

Miss Braisher, whose home town is Kaiapoi, is a pupil of Miss Lucy Cowan. She will be heard in two recitations and a musical monologue on Wednesday evening, December 7.

—Steffano Webb, photo.

### All Gold.

There is a good Jewish story told in certain circles about a Gentile who invited four friends to his golden wedding, a Welshman, a Scot, an Irishman, and a Hebrew.

The Welshman brought as a present a packet of gold-tipped cigarettes, the Scot brought a half-crown fountain pen, with a "gold" nib, the Irishman brought a gold-fish in a bowl.

The Jew brought his friend, Mr. Goldberg!

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# Some Features of Next Week's Programmes

## 1YA FEATURES

Miss Winifred Crozier, a clever young elocutionist and a notable prize winner at the recent musical festival in Auckland, will contribute to Tuesday's concert at 1YA. A parody on Shakespeare's "Hamlet" will be among her numbers.

Miss Edna Peace, a popular contralto singer at 1YA, and a prize winner at the recent musical competitions, will contribute, among others, "Ave Maria" and "Will He Come?" on Tuesday evening.

A well-known Auckland violinist, Mr. Martin Richardson, will be playing on Tuesday evening.

A droll humorist, Mr. J. A. Sharp, will contribute to Tuesday evening's programme at 1YA.

Mr. Stan. Pritchard, whose cultured baritone voice delights listeners-in to 1YA, will be heard again on Tuesday, his numbers including the dramatic "Invictus."

Ingill's popular Hawaiian Instrumentalists will be heard again on Tuesday playing some of their captivating tunes.

The programme for Wednesday evening will be given by the Auckland Artillery Band, assisted by Miss Laura Walker, soprano, and Mr. J. Bree, baritone. The band, which needs no introduction to listeners, will include among their numbers several descriptive pieces and overtures, including the "Abyssinian Expedition," by Pridham, and "If I Were King," by Adams. This band is one of the best broadcasting combinations put on the air from 1YA, the balance and technique being well nigh perfect. Mr. Bree's items include "The Wind on the Heath," by Lohr, and "The Ringers," by the same composer.

## Programme of the Symons-Elwood-Short Trio

Trios by Beethoven, Gade, and Jadasohn, and a Double Sonata by Handel will be played this week. The first movement of the well-known Beethoven Trio in D Major is of a very rousing nature. A figure of intense vitality is immediately contrasted with a melody of great sweetness at the opening. The popular "Noveletten" trio by Gade was recently played. This week another trio by this composer (1817-1890), the greatest of Danish musicians, is on the programme. An intimate friend of Mendelssohn and Schumann, he became in some sense their disciple. His work shows a refined sense of symmetry, harmonious colouring, and delicate senti-

ment. It is characterised by clear-cut rhythm and frank melodiousness.

The Trio in F by Jadasohn (1831-1902) has the same freedom from complexity as the Gade, and speaks its message in a popular tone. Both works possess a decided charm and make an immediate appeal through their tunefulness and sparkle.

The Double Sonata by Handel is one of five written for two violins and piano. Mr. Ellwood will play the second violin part on the 'cello. These works have the typical Handelian vitality and grandeur, and should attract many lovers of good music.

Miss Ava Symons will play the lovely slow movement from the Mendelssohn Concerto. It is a real song with-

out words, and has won its way into countless hearts by its pure melody.

Mr. George Ellwood will play as 'cello solos the Sicilienne by the modern French composer, G. Faure. Its melody is of great charm, and the accompaniment with its insistent upward flow impels it onward with a delightfully wistful grace. The middle section has a contrasting melody given for the piano.

Mr. Gordon Short's numbers will be an arrangement by Brahms of a charming Gavotte from an opera by Gluck. It is a melody of old-world charm, delicately embellished by Brahms. The "Intermezzo" from Brahms's last piano-forte work has a haunting rhythmic lilt.

ever-popular Miss Nellie Lowe will sing, as also will the equally popular Mr. W. Bradshaw; and entertainment of a different nature will come from Mr. Jack Oxley and his zither banjo.

Miss Wilfred Russell, L.A.B., L.T.C.L., will be one of the singers on Thursday evening. She is taking the place of Miss Belle Renaut, who is absent on a holiday. Miss Russell's fine contralto voice blends beautifully with those of the other members of the quartet—Miss Hamerton and Messrs. Sumner and Williams.

Two items from the "Country Girl" will be sung by the quartet on Thursday evening.

Miss Frances Hamerton, one of the vocal quartet, gained her L.A.B. in 1921. In 1920 she had the honour of winning the Male Voice Choir scholarship of 63 guineas. Miss Hamerton studied singing and accompanying in Melbourne. She is a successful teacher of singing in Christchurch.

Miss Naari Hooper, L.T.C.L., a highly-talented elocutionist, a pupil of Mr. Farquhar Young, the well-known teacher, will be heard again at 3YA on Thursday. Her items will be of a humorous nature.

Les Marston's Band will play from the studio on Friday evening. Interspersed between periods of dance music will be a number of excellent vocal items.

Mr. W. J. Richards, a frequent and very popular singer at 3YA, is a baritone of fine quality. He is a gold medalist at Christchurch Competitions. Mr. Richards will be heard again on Friday.

A visitor to Christchurch, Mrs. Nottingham, the possessor of a beautiful soprano voice, is to sing on Friday evening.

(Continued on Page 15.)

## NOTES FROM 3YA

Derry's Military Band has another light and varied programme for listeners-in to 3YA on Monday evening. The assisting vocal artists are all of a high standard, too.

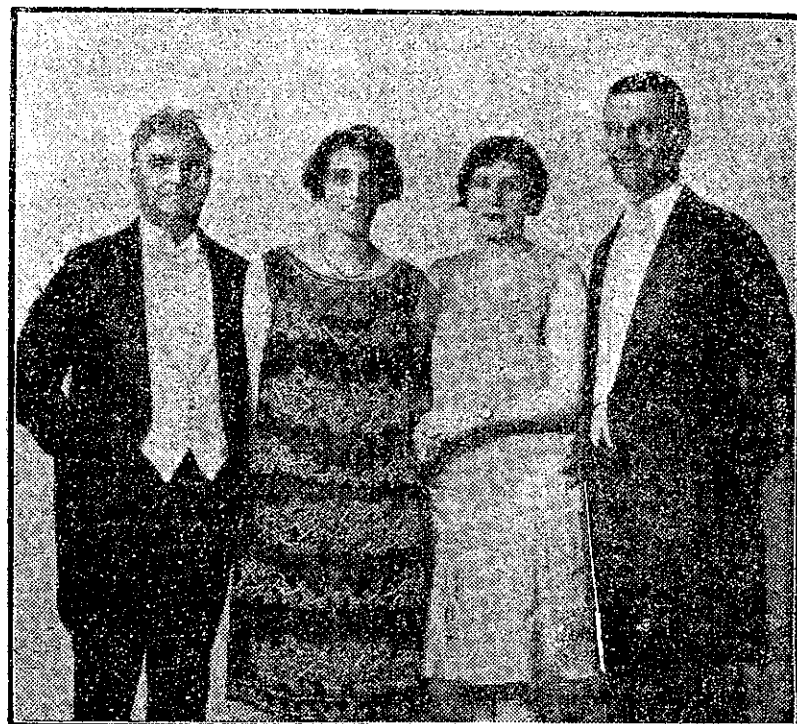
New to the microphone at 3YA will be Mr. Campbell Brown, elocutionist, who will be heard in two items, one of them Scotch, in which Mr. Brown is particularly good.

One of the songs which Mr. F. R. Hawker, one of the most popular soloists at 3YA, will sing on Monday evening, will be "Simon the Cellarer."

A popular soprano, Miss Eulice Catton, a pupil of Madame Otlee, will be singing again at 3YA on Monday evening.

A well-diversified programme has been arranged for Wednesday evening. The

## THE ORPHEUS QUARTET



From left: Mr. Arthur Coe (tenor), Mrs. Alice Harris (soprano), Miss Lily Mackie (contralto), Mr. Len Barnes (baritone).

—S. P. Andrew, photo.

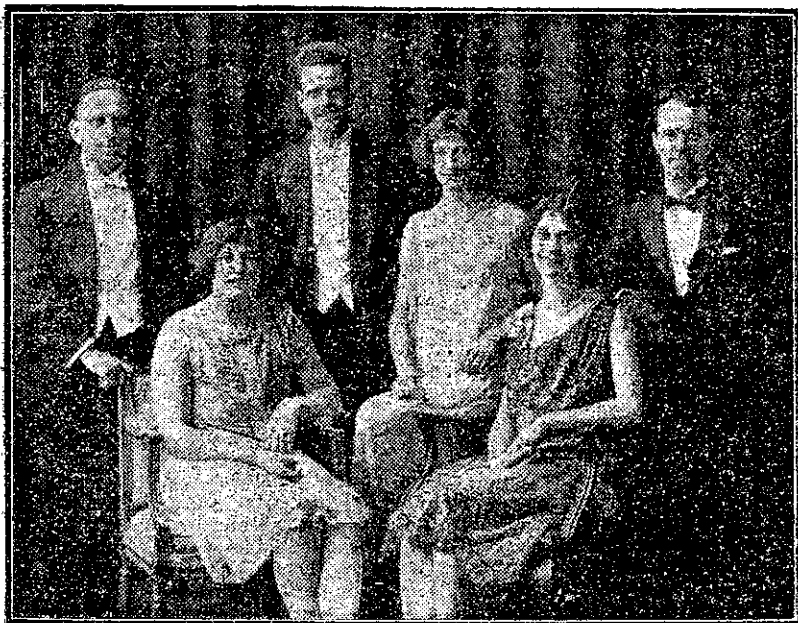
Mr. Len Barnes and his talented associates, who are to provide the vocal portion of Saturday evening's programme, will give a trio of melodious quartets. "Awake Aeolian Lyre," by Dandy, is a very old number. Its alluring strains are suggestive of sparkling streams, laughing flowers, verdant vales, and the myriad beauties with which this old world is so bountifully adorned. "The Pedlar" is an old English song, and "Juanita" is so well known as to need no comment.

Mrs. Harris and Mr. Len Barnes will sing "The Dancing Honeymoon," from "Battling Butler." This is a clever

fox-trot number, said to have been a favourite with the Prince of Wales.

"Flow On, Thou Shining River," will be sung by Messrs. Coe and Barnes, and listeners will recognise it as another old number well worthy of repetition because of its beauty. Mr. Len Barnes will sing the duet, "Country Lad," from "Tom Jones," a great number descriptive of the wishes of the Somerset lad—a horse, a gun, a girl. Mr. Coe sings "Beloved, It is Morn," Miss Mackie "Just a Wearyin' For You," and Mrs. Harris "Sink, Red Sun." Tune in to a delightful evening.

## MISS GWEN SHEPHERD'S CONCERT PARTY



Back: Mr. R. S. Allwright, Mr. Claude Moss, Mr. McKeown; front: Miss Alma Clegg, Mrs. Fred Collins, and Miss Gwen Shepherd.

—S. P. Andrew, photo.

Miss Gwen Shepherd's concert party, whose last "At Home" at 2YA was greatly appreciated by many delighted listeners, is to "stage" another entertaining programme on the 9th instant in conjunction with the Symons-Elwood-Short Trio. Miss Gwen Shepherd herself will give Anne Boleyn's appeal to Henry VIII. This is an authentic letter written by the ill-fated queen while she was in prison. This pathetic epistle has been adapted by Miss Shepherd for elocutionary purposes, and it has proved one of her greatest successes in costume. Her humorous items will include the story of a bulldog.

Miss Alma Clegg's rich mezzo-soprano voice will again be heard, and Mrs. Fred Collins, who sang at Miss Shepherd's first drawing-room evening, and whose beautiful contralto voice was much appreciated, will also sing.

Mr. R. S. Allwright's splendid baritone voice will be heard to advantage in "The Devout Lover," and, in more humorous vein, "Wimmin, O Wimmin!"

Mr. Claude Moss, champion vocalist of the Wellington Competitions of 1922, is a well-known and popular concert artist. One of the most important of his recent engagements is as soloist in "A Tale of Old Japan," to be presented by the New Plymouth Choral Society. His contributions on Friday evening will be heard in "The Arrow and the Song" and two of Alfred Hill's latest Maori songs, of which he is a notable exponent.

Mr. William McKeown's pleasing tenor voice will find adequate scope in Herman Lohr's "Italian Boat Song." In his own inimitable way, he is a raconteur of outstanding ability. He will also impart an element of humour to the evening's entertainment.

## JOTTINGS FROM 2YA

Mr. A. Stanley Warwick has chosen some very fine numbers for his programme on Monday, December 3. He will give a very humorous piece, "The Sad Story of a Motor Fan," to be followed by a fine little piece, "The Old-Timer." In the latter part of the evening he will present that very dramatic number by "Banjo" Patterson, "Rio Grande's Last Race." Mr. Warwick has received many requests for information as to where certain pieces that he has given may be obtained. He is always willing to answer the inquiries of anyone writing to him.

The Lyric Quartet will be heard again on Thursday, December 8. The first quartet number will be that well-known and beautiful Norwegian folk song, "The Thuringian Volksleid," arranged by Franz Abt. This will be followed by two dear old nursery rhymes, set to music: "Doctor Foster, Who Went to Gloucester," and "Humpty Dumpty." These numbers are a novelty, for they have a piano accompaniment, and contain imitations of several well-known Handel numbers. Mr. Howe will sing the melodious "Passing By," while Harry Phipps will be heard in "The Secret." Mr. Brown's deep bass voice should come through well in the old song of London's "Big Ben." The rollicking song "Old Barty" is always a popular number when sung by Will Goudie, and the duet "Love and War" is also sure to please.

On Sunday evening, December 11, the Renshaw Quartet will present a programme of which sacred songs and solos for oratorio will form the chief part.

Miss Nora Greene will sing "O Rest in the Lord," while Mr. William Renshaw will give "If With All Your Hearts." These two talented artists made a special study of oratorio in England, and this will be the first occasion on which they have broadcast that type of music from 2YA.

Mrs. Amy Dunn's sweet soprano voice will be heard in "Come Unto Him," from Handel's "Messiah," and Mr. T. C. Wood will be sure to please with his rendering of "The Holy City." The concluding items will be that beautiful quartet, "Cast Thy Burden Upon the Lord," also from "Elijah."

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# Full Programmes for Next

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## NEWS AND NOTES

(By "Switch.")

Cheap radio parts with poor electrical qualities and sloppy workmanship which add resistance and cause leaks in the circuit, are responsible for many home-built sets being failures. It is a gross blunder to buy cheap radio parts and expect to build a set which will be a success. Very small currents are handled in radio, and leakages and resistance play havoc with reception.

If a receiving set is of the two valve type using a stage of audio frequency amplification, the transformer could have a high ratio such as 6-1. This will give greater amplification than one with a lower ratio, and any extra distortion will be so slight as not to be noticeable. However, if two stages of audio frequency amplification are used transformers having lower ratios must be used, otherwise serious distortion will result. The low ratio transformer should always be used in the second stage.

The night range of an ordinary broadcast station is infinitely greater than the daylight range. Do not expect to tune in the Australian stations with good results in broad daylight. Even after darkness has set in New Zealand it is twilight in Australia, and the strength of the Australian stations will not reach its maximum until late at night in the Dominion.

Broadcast station 8LO, Melbourne, is about to conduct a competition which is rather novel, for the prize will go to the woman who is adjudged to have the best unbobbed or unshingled hair. Long hair is now seen so seldom that it is not expected that the judges will have a difficult task. One is prompted to ask whether these freak competitions increase the popularity of broadcast listening, or are they a sheer waste of money?

The electromagnetic energy emitted from a broadcast station aerial radiates in every direction, and goes on into space with diminishing strength, but nevertheless continuing for ever at the astonishing speed of 186,000 miles per second.

The plate voltages ordinarily used in receiving sets are 16½ to 45 volts on the detector valve, 90 volts on the amplifier valves, and 135 volts and up on the power valves.

It is of utmost importance that the existing valve in the radio power unit be replaced by the same type of valve. The substitution of another type may lead to serious trouble.

Germany is soon to have a still more powerful station than Langenberg. The new station at Zeesen will have 35 kw. power on a wave-length of 1250 metres. The modulation will be carried out in Berlin.

Afghanistan does not intend to get left behind India in the matter of broadcasting. A French firm has been given the contract for a broadcasting station in Kabul.

Mr. Ray Allsop, chief engineer of Station 2BL, Sydney, picked up the Italian broadcaster IMI Milan one night recently. The Italian was playing Neapolitan airs, and 2BL rebroadcast him for about 15 minutes for the entertainment of listeners. He came through fairly well. Mr. Allsop met IMI quite accidentally while roaming the ether; he has no idea who his new friend is.

The elimination of interference from tramways, electric railways and neighbouring electric motors, is a very difficult problem, and one that cannot always be solved. In many cases we can only minimise such interference by erecting a short aerial at right angles to the source of disturbance, by completely shielding the receiver, using a loose-coupled aerial tuning system and avoiding as far as possible the use of iron core components, such as I.F. transformers.

An interesting feature of broadcasting is the blasting in connection with the City Railway, Sydney. The workers who are carrying out the excavations prepare 15 or 20 charges, and about 6.30 in the evening these are touched off one after another. Station 2FC happens to be conveniently situated, and frequently a microphone is hung out to pick up the sound, which is broadcast for the general radio audience. The effect of the succession of explosions over the air to listeners hundreds of miles away is quite startling.

Karlgraph wireless transmission of photographs will probably be an established service this summer between Berlin and Vienna. Already 100 pictures have been sent by this system to Rio de Janeiro, Rome and other cities with noteworthy clearness.

Most selective must radio receiving sets be in the city of New York. There are no fewer than seventeen broadcast stations operating in that city. Of course, they are not all on the air simultaneously, but even with the allotment of time schedules there are quite a bunch of them stirring the ether at the same time.

## Sunday, December 4th

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

- 3 p.m.: Afternoon session—Selected Studio items.  
4.30: Close down.  
6.55: Relay of church service from St. Matthew's Cathedral. Preacher, Rev. Canon Grant-Cowen; organist and choral director, Mr. W. Phillpott.  
8.30: Relay of municipal band concert from Town Hall. Bandmaster, Mr. Christopher Smith.  
9.30: Close down.

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

- 6 p.m.: Children's service, conducted by Rev. E. Weeks.  
7 p.m.: Relay of evening service from Church of Christ. Preacher, Pastor W. G. Carpenter; organist, Miss Phyllis Ladbroke; choirmaster, Mr. Will Mason.  
8.15: Studio concert by the Apollo Quartet, assisted by Mr. Brusey, organist. Quartet—Apollo Quartet, "God is a Spirit" (Sterndale-Bennett). Baritone solo—Mr. S. E. Rodger, "It Is Enough" (Mendelssohn). Organ solo—Mr. H. Brusey, "Suite Gothique" (Boellmann). Quartet—Apollo Quartet, "The Chapel" (Kreutzer). Tenor solo—Mr. Samuel Duncan, "If With All Your Hearts" (Mendelssohn). Vocal duet—Messrs. Dellow and Robbins, "Excelsior" (Balfe). Baritone solo—Mr. Roy Dellow, "Asleep in the Deep" (Petrie). Organ solos—Mr. H. Brusey, (a) "Spring Song" (Mendelssohn); (b) "Wedding March" (Mendelssohn). Tenor solo—Mr. E. W. Robbins, "King Ever Glorious" (Stainer). Vocal duet—Messrs. Duncan and Rodger, "So Thou Lifest Thy Divine Petition" (Stainer). Quartet—Apollo Quartet, "The Long Day Closes." Close down.

### 3YA CHRISTCHURCH (306 METRES)—SUNDAY, DECEMBER 4.

- 5.45 p.m.: Children's song service from the Studio, by Uncle Sam.  
7.0: Relay of evening service from Shirley Methodist Church; Sunday school anniversary. Preacher, Rev. R. Raine; organist, Mr. J. Salkeld; conductor, Mr. W. D. Marks. Children's songs, duets, hymns, and choral items. After conclusion of service, Mr. Marston Bate and his advanced pupils will give the following programme from the Studio: Prelude: Septet for 'cellos—Mr. Marston Bate, Miss Esme Parish, Mr. Logan Menzies, Mr. C. Ell, Miss B. Shearsby, Mr. F. Toun, Miss E. Beck, "William Tell" (Puccini). Sextet for 'cellos—Mr. Marston Bate, Miss Parish, Mr. Menzies, Miss Shearsby, Mr. Toun, Miss E. Beck, "15-Bar Prelude" (Chopin). Quintet for 'cellos—Mr. Bate, Miss Parish, Mr. Menzies, Miss Shearsby, Mr. Toun, "Adapetto" from opera "L'Arlesienne" (Bizet). Trio for 'cellos—Mr. Bate, Mr. Menzies, Miss Shearsby, "Tempo di Minuetto" from "Sonata" (Beethoven). Close down.

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

- 5.45 to 6.30 p.m.: Children's song service, by Big Brother Bill.  
6.45: Relay of evening service from First Church of Otago. Preacher, Rev. Dr. E. N. Merrington; organist, Dr. V. E. Galway.  
8.30: Relay from St. Kilda (weather permitting) of concert by the St. Kilda Band. Conductor, Mr. J. Dixon. Hymn, (a) "Son of My Soul," (b) "Jesu, Lover of My Soul." March, "The Twentieth Century." Selection, "The Parsifal" (Wagner). Trombone solo, with band accompaniment—Mr. T. Stalker, "The Trumpeter" (Dix). Overture—"Raymond" (Thomas). Cornet solo, with band accompaniment—Mr. George Christie, "In a Monastery Garden" (Ketelby). Fantasia—"Rustic Scenes" (Rimmer). March—"March of the Fearless." 9.20: God Save the King.

## Monday, December 5th

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

SILENT DAY.

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

- 3 p.m.: Afternoon session—Selected Studio items.  
3.0: Chimes of the General Post Office clock, Wellington.  
3.1: Selected gramophone items.

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- 3.30: Lecturette—Representative of Kirkcaldie and Stains, Ltd., "Fashions."  
3.45: Available sports results.  
3.45: Relay of Manuel Hyman's Exhibition Band from the Adelphi Cabaret.  
4.15: Selected gramophone items.  
5.0: Close down.  
6.0: Children's hour—Aunt Jo. Chorus, Buckle Street Convent School, "Lullaby Land" (Prival). Recitation, cousin, "Grand Lady." Aunt Jo, birthday greetings. Monologue, cousin, "Old Chap" (Harris). Duet, cousins, "The Second Minuet" (Besley). Recitation, cousin, "Public Conversations." Song, cousin, "Our Farm" (Monk'on). Aunt Jo, story time. Chorus, Buckle Street Convent School, "The Fairy Tales of Ireland" (Coates).  
7.0: News session, market reports, and sports results.  
7.40: Lecturette—Mr. G. G. Stewart, editor, "Railway Magazine," "Modern Railway Conveniences."  
8.0: Chimes of the General Post Office clock, Wellington.  
8.1: Overture—Selections from "The Valkyrie" (Wagner).  
8.5: Quartet—Melodie Four, "Thuringian Volksleid" (Abt).  
8.9: Flute solo—Mr. L. W. Rothwell, "Dainty Dance" (Lenmore).  
8.15: Tenor solo—Mr. C. A. Williams, "Pale Moon" (Logan).  
8.19: Bass solo—Mr. W. Marshall, "A Thousand Leagues Under the Sea" (Petrie).  
8.24: Instrumental trio—Symons-Ellwood-Short Trio, "First Movement, Trio in D Major" (Beethoven).  
8.34: Quartet—Melodie Four, "Doan Ye Cry, Ma Honey" (Noll).  
8.38: Baritone solo—Mr. R. S. Allwright, "Tom o' Devon" (Russell).  
8.43: Violin solo—Miss Ava Symons, "Prelude and Allegro" (Pugnani-Kreisler).  
8.50: Vocal duet—Messrs. Williams and Marshall, "Tenor and Baritone" (Wilston).  
8.55: Recital—Mr. A. Stanley Warwick, (a) "Sad Story of a Motor-car" (anon.); (b) "The Old-Timer" (Paterson).  
9.3: Weather forecast.  
9.4: Organ recital—Mr. H. Temple White, (a) "Spring Song" (Holling); (b) "Berceuse" (Kinder); (c) "Gavotte de Mignon" (Thomas).  
9.19: Quartet—Melodie Four, "Please, Won't You Be My H'm?" (Dore).  
9.24: Instrumental trio—Symons-Ellwood-Short Trio, "Trio in G, No. 1" (Haydn).  
9.35: Recital—Mr. A. Stanley Warwick, "Rio Grande's Last Race" (Patterson).  
9.42: Tenor solo—Mr. F. Bryant, "O, Lovely Night" (Ronald).  
9.47: Flute solos—Mr. L. W. Rothwell, (a) "Idylle" (Krantz); (b) "Salut d'Amour" (Elgar).  
9.55: Quartet—Melodie Four, "Watchman, What of the Night?" (Sargent).  
10.0: Close down.

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

- 3 p.m.: Afternoon session—Selected Studio items.  
4.30: Close down.  
6.0: Children's hour—Uncle Jack.  
7.0: Close down.  
7.15: News and reports.  
7.30: Talk—Mr. E. J. Bell, on "Books."  
7.45: Close down.  
8.0: Studio concert by Derry's Military Band, under the direction of Mr. E. C. Derry, assisted by 3YA artists. Chimes. Relay of Orchestral selections from Strand Picture Theatre Orchestra, under the direction of Mr. Harry Ellwood.  
8.10: March—The Band, "Colonel Bogey" (Alford).  
8.15: Soprano solo—Miss Eurice Catton, "Black Roses" (Sibelius).  
8.19: Serenade—The Band, "Serenade Militaire" (Morelli).  
8.25: Baritone solo—Mr. F. R. Hawker, "Simon the Cellarer" (Hatton).  
8.32: American sketch—The Band, "Down South" (Myddleton).  
8.42: Contralto solo—Miss Claire Bowden, "My Ships" (Barratt).  
8.45: Symphony—The Band, "First Movement, Unfinished Symphony" (Schubert).  
8.56: Humorous sketch—Mr. Campbell Brown, "The Adventures of Catherine Parr" (M.S.).  
9.0: Relay of orchestral selections from Strand Theatre.  
9.10: Characteristic piece—The Band, "The Uhlands Call" (Eilenberg).  
9.16: Soprano solo—Miss Eurice Catton, "April Morn" (Batters).  
9.19: Highland patrol—The Band, "The Wee MacGregor" (Amers).  
9.24: Baritone solo—Mr. F. R. Hawker, "Harlequin" (Sanderson).  
9.27: Selection—The Band, "The Gondoliers" (Sullivan).  
9.43: Contralto solos—Miss Clara Bowden, (a) "Creation's Hymn" (Beethoven); (b) "Request" (Frany).  
9.47: Waltz—The Band, "Sobras Les Olas" (Rosas).  
9.55: A bit of real Scottish—Mr. Campbell Brown, "The Bairnies Cuddie Doon" (M.S.).  
9.59: Fox-trot—The Band, "The Song of the Wanderer" (Moret).  
10.9: God Save the King.

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

SILENT DAY.

## Tuesday, December 6th

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

- 3 p.m.: Afternoon session—Selected Studio items.  
4.0: Literary selection by Mr. Culford Bell.  
4.30: Close down.  
6.0: Children's hour.  
7.0: Close down.  
7.15: News and reports.  
7.45: Close down.  
8.0: Chimes.  
Baritone solos—Mr. Stan. Pritchard, selected.  
8.9: Instrumental—Ingall's Hawaiian Instrumentalists, (a) "Invercargill March"; (b) "Moonlight and Roses."  
8.14: Humour—Mr. J. A. Sharp, "Humour."  
8.21: Relay of orchestral overture from Majestic Theatre Orchestra, under the direction of Mr. J. Whiteford-Waugh.  
8.31: Monologue—Miss Winifred Crosher, "My Will."  
8.35: Contralto solos—Miss Edna Peace, (a) "Ave Maria" (Kahn); (b) "Home Love" (Richardson).  
8.43: Violin solos—Mr. Martin Richardson, (a) "Spring Song" (Mendelssohn); (b) "Hindoo Chant" (Kreisler).  
8.51: Soprano solo—Miss Doris Bayne, "Carmina" (Wison).  
8.56: Relay of orchestral interlude from Majestic Theatre.  
9.6: Weather forecast.  
9.8: Baritone solo—Mr. S. Pritchard, selected.  
9.13: Humour—Mr. J. A. Sharp, humour again.  
9.18: Instrumental—Ingall's Hawaiian Instrumentalists, (a) "Haerera"; (b) "Kalima Waltz"; (c) "Tell Me With Smiles."  
9.28: Contralto solo—Miss E. Peace, "Will He Come?" (Sullivan).  
9.32: Elocutionary—Miss W. Crosher, (a) "Parody on Shakespeare's 'Hamlet'"; (b) "Love's a Merchant" (Carew).  
9.40: Relay of musical entr'acte from Strand Theatre.  
9.48: Soprano solos—Miss D. Bayne, (a) "The Perfect Prayer" (Day); (b) "Love's a Merchant" (Carew).

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# Week - All Stations - to Dec. 11

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9.56: Violin solo—Mr. M. Richardson, "First Mazurka" (Henry).  
10.0: A thought.  
10.2: God Save the King.

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

3 p.m.: Afternoon session—Selected Studio items.  
Chimes of the General Post Office clock, Wellington.  
3.1: Selected gramophone items.  
3.30: Lecturette—Mrs. Sinclair, "Electric Cooking."  
3.45: Selected gramophone items.  
4.15: Lecturette—Dr. L. A. Line, "First Aid."  
4.30: Relay of Manuel Hyman's Exhibition Band from the Adelphi Cabaret.  
5.0: Close down.  
6.0: Children's hour—Another trip on the radio express, with Mr. Stewart and Uncle Jasper. Away to Russell, deep-sea fishing. Items on the journey. Chorus, Mdm. Mueller's pupils, "Over the Waves" (Glover). Song, cousin, "Sing, Joyous Bird" (Finden). Piano-forte, cousin, selected. Song, cousin, selected. Chorus, Mdm. Mueller's pupils, "Music on the Waves" (Glover). Uncle Jasper sends birthday greetings and reads stories en route.  
7.0: News session, market reports, and sports results.  
7.40: Lecturette—Mr. E. A. Bradshaw, "Carburetion and Carburettor Adjustment."

8.0: Chimes of the General Post Office clock, Wellington.  
8.1: Overture—"Prelude in C Sharp Minor" (Rachmaninoff).  
8.5: Vocal and concerted items provided by the members of the Wellington Harmonic Society.  
Madrigal—Harmonic Society, "Sister, Awake" (Bateson).  
8.9: Vocal duet—Messrs. E. W. Robbins and C. W. Shannon, "The Battle Eve" (Bonheur).  
8.14: Part-song—Harmonic Society, "Here a Pretty Baby Lies" (Gordon).  
8.18: Instrumental trio—Symons-Ellwood-Short Trio, "First and Second Movements, Double Sonata" (Handel).  
8.28: Folk song—Harmonic Society, "Laird of Cockpen" (Robertson).  
8.33: Contralto solo—Miss J. Sutherland, "Yonder" (Oliver).  
8.37: The Harmonic Quartet—In vocal numbers.  
8.41: Cello solo—Mr. Geo. Ellwood, "Sicilienne" (Faure).  
8.47: Tenor solo—Mr. Frank Bryant, "I Heard You Singing" (Coates).  
8.51: Choral Dance—Harmonic Society, "Pan" (Boughton).  
8.56: Weather forecast.  
8.57: Lecturette—Mr. A. J. Dry, "Whales: Species, Habits, etc."  
9.12: Part-song—Harmonic Society, "We Have Fed Our Sea" (Grainger).  
9.16: Instrumental trio—Symons-Ellwood-Short Trio, "Third Movement, Double Sonata" (Handel).  
9.26: Part-song—Harmonic Society, "Irish Tune" (Grainger).  
9.28: Soprano solo—Miss M. Goodwill, "Dream o' Day Jill" from "Tom Jones" (German).  
9.32: Cello solo—Mr. Geo. Ellwood, "Chanson Louis XIII and Pavane" (Couperin-Kreisler).  
9.37: Male part-song—Harmonic Society, "Every Rustling Tree" (Kuhlan).  
9.39: Baritone solo—Mr. R. R. Orr, "The Lute Player" (Peel).  
9.42: Part-song—Harmonic Society, "Marry Me, Mary Veen" (Lyon).  
9.45: Choral Fantasia—Harmonic Society, "Faust" (Gounod, arr. Challoner).  
10.0: Close down.

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

SILENT NIGHT.

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

3 p.m.: Afternoon session—Selected Studio items.  
Town Hall chimes.  
3.1: His Master's Voice recital.  
3.16: Address on "Interior Decoration," by Miss M. Puechegud.  
3.31: Studio music.  
4.0: Book reviews, by Mr. H. Greenwood, of the Athenaeum.  
4.15: His Master's Voice recital.  
4.30: Close down.  
6.0: Children's hour—Big Brother Bill leaves 4YA in the wonder car at 6 o'clock exactly. All aboard for a trip under the sea. See the forests of seaweed and the queer and lovely things that live there. An exciting adventure with an octopus. We'll sing "The Happy Ditty" on the way, read the letters, and dip into the birthday basket. Big Sister Nell will play the piano. Little Sister Olive will sing "Nursery Rhymes." Sister Maureen will play the cornet—and she plays well, too; and her sister Nada will play the piano; whilst Sister Bessie will recite "The Sixpence"; and Princess Silverwings has a story to be told of "The Fairy Lilies." The 4YA wonder car holds everybody who wants to go.  
7.0: Town Hall chimes.  
7.1: News session.  
8.0: Town Hall chimes.  
8.1: Studio concert by the "Twinklers" and assisting artists.  
Opening chorus—Lettie de Clifford and the "Twinklers," "Twinkling the Blues Away."  
8.4: Recitals—Miss Sheila Neilson, (a) "The Storming Party"; (b) "The Four Players."  
8.10: Baritone solos—Mr. Reg. Richards, (a) selected; (b) "Blue Skies."  
8.16: Vocal solos—Miss Rona Wood, (a) "Big Lady Moon"; (b) "I Wonder If Ever the Rose."  
8.22: Cello solo—Mr. Malcolm Robilliard, selected.  
8.26: Recital—Miss Nancy Low, selected.  
8.32: Contralto solos—Miss Winnie McPeak, selected.  
8.38: Recital—Miss Roberta Williams, selected.  
8.42: Vocal duet—Misses Rona Wood and Berta Borcham, "The Two Dolls."  
8.46: Address—Pastor W. D. More will give a humorous address.  
9.1: Vocal solos—Mr. J. B. McPherson, selected.  
9.7: Recitals—Miss Anita Winkel, (a) "Next Week"; (b) "Little Yaller Dog."

9.15: Clarinet solos—Rev. G. E. Moreton, (a) "Spring Song" (Mendelssohn); (b) "Beneath Thy Window" (Le Thiere).  
9.22: Vocal solos—Miss M. Dalcs, (a) "My Prayer" (Squire); (b) "Little Song of Friendship" (Pettritt).  
9.28: Cello solo—Mr. Malcolm Robilliard, selected.  
9.34: Contralto solos—Miss Winnie McPeak, selected.  
9.40: Recital—Miss Sheila Neilson, selected.  
9.45: Baritone solos—Mr. Reg. Richards, selected.  
9.52: Finale—The "Twinklers."  
10.0: God Save the King.

## Wednesday, December 7th

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

3 p.m.: Afternoon session—Selected Studio items.  
4.0: A literary selection, by Mr. Culford Bell.  
4.30: Close down.  
6.0: Children's hour.  
7.0: Close down.  
7.15: Talk on "Physical Culture," by Mr. Norman Kerr.  
7.30: News and reports.  
7.45: Close down.  
8.0: Chimes. March—Auckland Artillery Band, under the direction of Mr. E. Tregilgas, "Simplicity" (Ord Hume).  
Overture—"If I Were King" (Adams).  
8.25: Baritone—Mr. J. Bree, "Wind on the Heath" (Lohr).  
8.29: Selection—The Band, "Der Freischutz" (Weber).  
Suite—The Band, "Scenes in Maoriland" (Potatau).  
8.54: Soprano solo—Miss L. Walker, "Mother, You Know the Story" from "Cavalleria Rusticana" (Mascagni).  
8.58: Cornet duo—Messrs. Davis and Shepley, "Ida and Dot" (Losey).  
9.4: Weather forecast.  
9.6: Descriptive selection—The Band, "Abyssinian Expedition" (Pridham).  
9.11: Talk—Mr. R. G. Sellar, "The Mutiny of the Bounty."  
9.21: Baritone solos—Mr. J. Bree, (a) "The Ringers" (Lohr); (b) "I Had I But Known" (Nicholls).  
9.29: Selection—The Band, "Maid of the Mountains" (Frazer-Simpson).  
9.37: Soprano solos—Miss Laura Walker, (a) "Devotion" (Schumann); (b) "Happy Song" (Del Riego).  
9.45: Selection—The Band, excerpts from "The Gondoliers" (Sullivan).  
9.55: March—The Band, "The Mad Major" (Alford).  
10.0: A thought.  
10.2: God Save the King.

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

SILENT DAY.

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

3 p.m.: Afternoon session—Selected Studio items.  
4.30: Close down.  
6.0: Children's hour—Uncle Peter and Mother Hubbard.  
7.0: Close down.  
7.15: Addington stock market report.  
7.30: News.  
7.45: Close down.  
8.0: Chimes. Relay of orchestral selections from Grand Picture Theatre Orchestra, under the direction of Mrs. Black.  
8.15: Tenor solo—Mr. W. Bradshaw, "For You Alone" (Geel).  
8.19: Recital and musical monologue—Miss Olive Braisher, (a) "Matilda" from "Cautionary Tales" (Belloc); (b) "Having It Out" (M.S.).  
8.26: Contralto solos—Miss Nellie Lowe, (a) "Angus MacDonald" (Roedel); (b) "Hushen" (Needham).  
8.33: Zither banjo solos—Mr. Jack Oxley, (a) "The More We Are Together" (Connolly); (b) "Ukulele Dream Girl" (Low).  
8.40: Tenor solo—Mr. W. Bradshaw, "Drink to Me Only With Thine Eyes" (Old English).  
8.48: Recital—Miss Olive Braisher, "At the Seaside" (M.S.).  
8.52: Contralto solo—Miss Nellie Lowe, "O, Lovely Night" (Ronald).  
8.56: Zither banjo solos—Mr. Jack Oxley, (a) "Sunflower Dance" (Ossman); (b) "Schaeffer's Barn Dance" (Schaeffer).  
9.10: Relay from Christchurch Orchestral Society's concert.  
9.55: Tenor solo—Mr. W. Bradshaw, "Tom Bowling" (Dibdin).  
10.0: God Save the King.

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

SILENT DAY.

## Thursday, December 8th

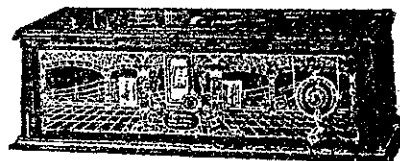
### 1YA AUCKLAND (333 METRES)—THURSDAY, DECEMBER 8.

3 p.m.: Afternoon session—Selected Studio items.  
4.0: Literary selection, by Mr. Culford Bell.  
4.30: Close down.  
6.0: Children's hour.  
7.0: Close down.  
7.15: News and reports and book review.  
7.45: Close down.  
8.0: Chimes. Relay of orchestral overture from Rialto Theatre Orchestra, under the direction of Mr. Henry C. Engel.  
8.11: Contralto solo—Miss Jessie Smith, "To a Miniature" (Brahe).  
8.15: Variety—The Asquiths, "Thirty Minutes' Drawing-room Entertainment."  
8.45: Relay of orchestral interlude from Rialto Theatre.  
8.52: Contralto solos—Miss J. Smith, (a) "At Dawning" (Cadman); (b) "Thinking of You" (Eastman).  
9.0: Weather forecast.  
9.2: Instrumental—Walter Smith's Click-Clack Radio Band, latest numbers and novelty items.  
10.0: A thought.  
10.1: Close down.

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

3 p.m.: Afternoon session—Selected Studio items.  
Chimes of the General Post Office clock, Wellington.

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In publicly welcoming Senator Macdonald to New York last month, while making no mention of Fascism, Mayor Walker spoke with enthusiasm of "the splendid law and order, the high order of administration" of Rome. He concluded by telling the dignified visitor that the Romans had learned to call him Jimmy, and that while he did not want to "indulge in any familiarity, what we feel like doing is to take you by the arm and say, 'Bill, you're welcome!'" The Senator and his wife smiled broadly.

A large immediate market for the new type of plug-in electrically operated radio sets now exists in strictly farming territories of the United States, according to Robert W. Porter, vice-president of the Splitdorf Radio Corporation. Mr. Porter says close to 250,000 farm homes constitute the present market, but that the important aspect of the situation is that by 1938, according to estimates, 3,000,000 United States farms will have been electrified. This future market, Mr. Porter explains, is based on published results of a survey by the Rural Electric Service Committee of the National Electric Light Association.



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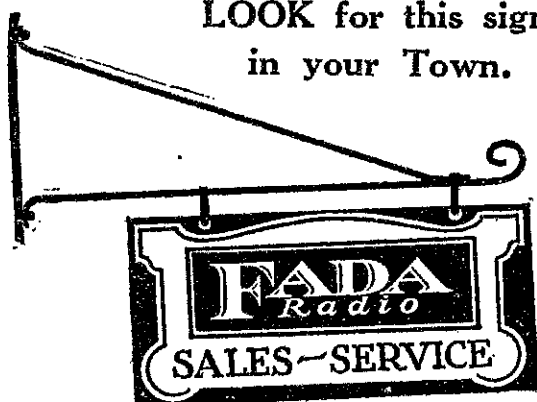
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# Programmes Continued

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- 3.1: Selected gramophone items.  
 3.30: Lecturette—Representative of Kirkcaldie and Stains, Ltd., "Fashions."  
 3.45: Selected gramophone items.  
 4.15: Relay of Manuel Hyman's Exhibition Band from the Adelphi Cabaret.  
 5.0: Close down.  
 6.0: Children's hour—Uncle Sandy. Chorus, Newtown Convent, "Sweet and Low" (Barnby). Recitation, cousin, "Phyllis Makes a Pudding." Song, cousin, "Santa Claus" (Elliott). Pianoforte solo, cousin, "Ocean Spray" (Louka). Chorus, Newtown Convent, "My Bonny Cuckoo" (Robinson). Uncle Sandy and birthday greetings. Pianoforte duet, cousins, "Il Corricolo" (Calcott). Duet, cousins, "Two Dolls." Recitation, Cousin Patty, "Red-time." Uncle Sandy, story time. Chorus, Newtown Convent, "Twilight Lullaby" (Southworth).  
 7.0: News session, market reports, and sports results.  
 7.40: Lecturette—Mr. W. King, D.E.B.A., "Esperanto" (Lesson No. 19).  
 8.0: Chimes of the General Post Office clock, Wellington.  
 8.1: March—Wellington Municipal Tramways Band, "Militaria" (Brahms).  
 8.5: Tenor solo—Mr. Geo. Howe, "Passing By" (Purcell).  
 8.9: Overture—Wellington Municipal Band, "Bohemian Girl" (Balfe).  
 8.16: Quartet—Lyric Quartet, "Thuringian Volksleid" (Abt).  
 8.19: Cornet duet—Messrs. Goodall and Kay, "Forest Warblers" (Rimmer).  
 8.25: Bass solo—Mr. W. Binet Brown, "Big Ben" (Pontet).  
 8.29: Selection—Wellington Municipal Tramways Band, "Un Ballo in Maschera" (Verdi).  
 8.33: Mezzo-soprano solos—Madame Winnie Fraser, (a) "Dedication" (Franz); (b) "The Nights" (Murray).  
 8.38: Quartet—Lyric Quartet, (a) "Doctor Foster" (Hughes); (b) "Humpty Dumpty" (Hughes).  
 8.44: Euphonium solo—Mr. Les. Claydon, "Jenny Jones" (Rimmer).  
 8.50: Tenor solo—Mr. Harry Phlips, "The Secret" (Scott).  
 8.54: Humoresque—Wellington Municipal Tramways Band, "Ding, Dong, Bell" (Trenchard).  
 9.0: Weather forecast.  
 9.1: Lecturette—Mr. Arch. Sando, "The Romance of the Press."  
 9.16: Tone poem—Wellington Municipal Tramways Band, "Labour and Love" (Fletcher).  
 9.21: Duet—Messrs. Howe and W. Binet Brown, "Love and War" (Cook).  
 9.25: Suite—Wellington Municipal Tramways Band, (a) "Rustic Holiday"; (b) "In the Cornfields"; (c) "A Camper Through the Meadows"; (d) "By the Old Church" (Wright and Round).  
 9.53: Mezzo-soprano solo—Madame Winnie Fraser, "None but the Weary Heart" (Tschalkowsky), with violin obligato by Miss Ava Symons.  
 9.57: Baritone solos—Mr. Will Goudie, (a) "Old Barty" (Grant); (b) "Out of the Darkness" (d'Hardelot).  
 9.44: Waltz—Wellington Municipal Tramways Band, "Rosen" (Eilenberg).  
 9.50: Quartet—Lyric Quartet, (a) "They Kissed" (Hawley); (b) "We Laid Our Little One Away" (Oakley).  
 9.57: March—Wellington Municipal Tramways Band, "Punchinello."  
 10.0: Close down.

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

- 3 p.m.: Afternoon session—Selected Studio items.  
 4.30: Close down.  
 6.0: Children's hour—Chuckie and Chook, assisted by scholars from West Christchurch School.  
 7.0: Close down.  
 7.15: News and reports.  
 7.30: Talk by Mr. J. K. Moloney on "Athletics."  
 7.45: Close down.  
 8.0: Chimes. Relay of orchestral selections from Everybody's Theatre Orchestra, under the direction of Mr. Albert Ridgwood.  
 8.15: Contralto solo—Miss Mildred Russell, L.A.B., L.T.C.L., "My Dear Soul" (Sanderson).  
 8.49: Tenor solos—Mr. Russell Sumner, (a) "My Gentle Child" (Del Riego); (b) "O, Mistress Mine" (Saint Saens).  
 8.26: Pianoforte solo—Miss Aileen Warren, "Polka de la Reine" (Raff).  
 8.31: Soprano solo—Miss Frances Hamerton, L.A.B., "The Enchanted Forest" (Phillips).  
 8.35: Vocal quartet—Misses Hamerton, Russell, and Messrs. Sumner and Williams, "When the Birds Begin to Sing" from "The Country Girl" (Moncton).  
 8.40: Instrumental trios—Christchurch Broadcasting Trio, (a) "Nocturne" (Widor); (b) "Petite Trio" (Coerne).  
 8.49: Recital—Miss Naare Hooper, L.T.C.L., (a) "A Fallen Star" (Chevalier); (b) "Them Penny Readings" (Sayers).  
 8.55: Bass solo—Mr. T. D. Williams, "A Chip of the Old Block" (Squire).  
 9.0: Relay of orchestral selections from Everybody's Theatre.  
 9.15: Contralto solo—Miss Mildred Russell, "Under the Deodar" (Moncton).  
 9.19: Pianoforte solo—Miss Aileen Warren, "Berceuse" (Grieg).  
 9.23: Soprano solos—Miss Frances Hamerton, (a) "La Cloche" (Saint Saens); (b) selected.  
 9.30: Bass solos—Mr. T. D. Williams, (a) "Song of Flight" (Elgar); (b) "I Fear No Fear" (Pinsuti).  
 9.38: Instrumental trios—Christchurch Broadcasting Trio, (a) "Meditation on a Prelude" (Bach-Gounod); (b) "Vivace" (Brahms).  
 9.43: More humour—Miss Naare Hooper, "Mrs. Arris Gets Beached" (Poulney).  
 9.47: Vocal quartet—Miss Hamerton and Russell and Messrs. Sumner and Williams, "The Rajah of Bhong" from "The Country Girl" (Moncton).  
 10.0: God Save the King.

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

- 7 p.m.: Town Hall chimes.  
 7.1: News session.  
 7.30: Request gramophone items.  
 8.0: Town Hall chimes.  
 Recital of chamber music by the Chamber Music Club.  
 8.1: Quintet—"Radetsky March" (Strauss).  
 8.4: Quartet—"Andante Cantabile, Op. 18, No. 5" (Beethoven).  
 8.13: Trio—"Polonaise in E Major" (Trouselle).  
 8.17: Quartet—"Intermezzo Minuet" (Bachmann).  
 8.21: Trio—Selections from opera, "Don Juan" (Mozart).  
 8.32: Cello solo—Selected.  
 8.37: Trio—"Op. 11, Theme and Variations" (Beethoven).  
 8.45: Address by Dr. E. N. Merrington, "The Influence of the League of Nations in International Affairs and on the States Outside the League."  
 9.0: Quintet—"Hungarian Dance, No. 5" (Brahms).  
 9.4: Duo for violin and piano, "Sonata in C Minor" (Handel).  
 9.9: Quartet—"Menuetto" from "Op. 18, No. 5" (Beethoven).  
 9.16: Trio—"Op. 15, No. 3, Allegro" (Mozart).  
 9.24: Quartet—"Minuet" (Haydn).  
 9.29: Flute solos—(a) "Saut d'Armour" (Elgar); (b) "At the Well" (Kohler).  
 9.37: Quartet—"Scherzo, Op. 18, No. 2" (Beethoven).  
 8.43: Quartet, with piano—"Airs Tyroliens" (Gautier).  
 9.48: Pianoforte solo—Selected.  
 9.53: Quartet—"Allegro" from "Quartet in G" (Mozart).  
 10.0: Close down.

When boring holes in wood or bakelite, splitting on the under side can be avoided if the piece being drilled is clamped or kept firmly pressed against the top of the bench or another thick piece of plank. In effect, the bench surface or the plank is one with the panel being drilled, and there is very little tendency for chips in the under side around the hole to break away.

Quebec City, which has been called a "dead spot" in Radioland, has just been brought to life by the opening of the new broadcasting station CNRQ. It is the eleventh in the chain of broadcasting stations established by the Canadian National railways. It takes the 310.7 metre wave. In all its broadcasts this station will be connected by telegraph or telephone wire with the studios of the Montreal or Ottawa studios, and on special occasion with CNRT at Toronto. Not only are the Canadian railway lines taking active part in broadcasting, but de luxe trains carry receivers.

The programme of dance music and entertainment broadcast by Station WOR, New York, was interrupted recently and the announcer read a letter from a little girl who had appealed to that station to help her find her father, who has been missing from home almost two weeks. The letter was as follows:—"My daddy is missing. Left here September 17. We don't know where he is. Mother is sick. I'm home from school sick. My little sisters and brothers want daddy, too. He is 34 years old, 6 feet tall, and has grey eyes. He weighs 169 pounds. Please find him for us. We are so lonesome. We all love him and want him to come home to us."



MADAME LICHFIELD.

A popular Christchurch singer and amateur actress, Madame Lichfield is heard from 3YA. She has taken important roles in operas staged by the Christchurch Amateur Operatic Society. In church work she is a prominent soloist.

— Stefano Webb, photo.

That the League of Nations should possess two wireless stations for disseminating news of international interest is the considered opinion of experts consulted at the present session. It was agreed that the establishment of a powerful station with a world-wide range was impossible on the ground of expense, but if the additional expense was not very great the transmissions of information and debates by wireless might be contemplated. In that case the wireless station should have a range covering the whole of Europe. It was also agreed that a relatively powerful short-wave transmitter would give the required results, as regards communication with non-European countries.

The New York "Radio Retailing" says:—"The service man is often called upon to do a bit of soldering in a home without electricity. His electric soldering iron is then utterly useless. When there is such soldering to be done, and no consistent source of heat is available, the use of a few tablets of the drug Utopin, obtainable for a few cents from any druggist, will solve this problem. One of the tablets is placed in a teaspoon, started with a match and placed under the wire to be soldered. A very intense flame results and lasts for two or three minutes. Soldering may thus be done without the use of an iron of any kind."

A station which is a consistent performer on the 30 metre wave band is 6AG, owned and operated by Mr. W. E. Coxon, chief engineer of Westralian Farmers', Perth. Mr. Coxon's transmitter must be remarkably efficient, for, although it uses a power of only 100 watts, a number of listeners in New Zealand have little difficulty in tuning him in on the loudspeaker. Recently, though, Mr. Coxon must have got a bit tired of the comparatively local transmissions he was putting over and decided to try for something really big. His success was instantaneous, and the English amateur, Mr. Partidge, received 6AG at sufficient strength to enable him to retransmit the broadcast along a telephone line so that an Australian, temporarily exiled in Great Britain, could hear his fellow-countryman's voice and musical programme.

## Friday, December 9th

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

- 3 p.m.: Afternoon session—Selected Studio items.  
 4.0: Literary selection, by Mr. Culford Bell.  
 4.30: Close down.  
 6.0: Children's hour.  
 7.0: Close down.  
 7.15: Talk on "Motoring," by Mr. Geo. Campbell.  
 7.30: News and reports.  
 7.45: Close down.  
 8.0: Chimes. Relay of orchestral overture from Strand Theatre Orchestra, under the direction of Eve Bentley.  
 8.11: Soprano solo—Miss S. Stacpoole, (a) "By the Blue River" (Coningsby-Clarke); (b) "The Birth of Morn" (Leoni).  
 8.17: Cornet solo—Mr. Fred. Bowes, "Pepit Paolka" (Huntmann).  
 8.22: Contralto solos—Miss Phyllis Gribben, (a) "Open Thy Blue Eyes" (Mandarin) (Bantock); (b) "Lullaby." Duet, cousins, "Sincerity".  
 8.30: Violin solos—Mr. Paul Bretnall, (a) "Hymn to the Sun" (Korsakoff); (b) "Serenata" (Toselli).  
 8.37: Soprano solo—Miss S. Stacpoole, "Homage" (Del Riego).  
 8.41: Relay of orchestral interlude from Strand Theatre.  
 8.46: Cornet solos—Mr. F. Bowes, (a) "Nirvana" (Adams); (b) "Killarney" (Balfe).  
 8.54: Contralto solo—Miss P. Gribben, "The Lament of Isis" (Bantock).  
 8.58: Violin solo—Mr. P. Bretnall, "Romance" (Svenson).  
 9.2: Weather forecast.  
 9.4: Organ recital—Mr. Arthur E. Wilson and assisting artist, organ recital and vocal selections.  
 10.0: A thought.  
 10.2: God Save the King.

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

- 3 p.m.: Afternoon session—Selected Studio items.  
 Chimes of the General Post Office clock, Wellington.  
 3.1: Selected gramophone items.  
 3.30: Lecturette—Miss Marion Christman, "Gas Cooking."  
 3.45: Relay of Manuel Hyman's Exhibition Band from the Adelphi Cabaret. Selected gramophone items.  
 5.0: Close down.  
 6.0: Children's hour—Uncle Ernest and pupils of Wellington Technical College. Chorus, Technical College, (a) "A Farewell" (Liddle); (b) "Anvil Chorus." Part-songs, Technical College, (a) "The China Mandarin" (Bantock); (b) "Lullaby." Wuet, cousins, "Sincerity" (Clark). Chorus, Technical College, (a) "Funiculi Funicula"; (b) "Who is Sylvia?" (Schubert). Part-song, Technical College, "Rainbow" (Wassell). Duet, cousins, "Cradle Song" (Schubert). Solo, cousin, "I am a Spirit" (Shaw). Pianoforte solo, cousin, "To the Spring" (Grieg). Recitation, cousin, "Mama and the Boy" (anon.). "The Chinese Dinner" (anon.). Uncle Ernest, story time.  
 7.0: News session, market reports, and sports results.  
 7.40: Lecturette—Mr. D. G. Paris, "Athletics."  
 8.0: Chimes of the General Post Office clock, Wellington.  
 8.1: Overture—"Second to None March" (Ord Hume).  
 8.5: Drawing-room entertainment by Miss Gwen Shepherd and party. Sextet—The company, "Southern Wedding Morn" (Whidden).  
 8.12: Baritone solo—Mr. Claude Moss, "The Arrow and the Song" (Balfe).  
 8.16: Contralto solo—Mrs. Fred. Collins, "Garden of Sleep" (De Lara).  
 8.19: Instrumental trio—Symons-Ellwood-Short Trio, "First and Second Movements, Trio in F" (Gade).  
 8.29: Recital—Miss Gwen Shepherd, "Anne Boleyn's Appeal to Henry VIII."  
 8.34: Tenor solo—Mr. Wm. McKeon, "Italian Boat Song" (Lohr).  
 8.37: Pianoforte solos—Mr. Gordon Short, (a) "Gavotte" (Gluck-Brahms); (b) "Intermezzo, Op. 119" (Brahms).  
 8.43: Soprano solo—Miss Alma Clegg, "The Star" (Rogers).  
 8.46: Humour—Mr. Wm. McKeon, "Three Proposals" (anon.).  
 8.50: Baritone solo—Mr. R. S. Allwright, "The Devout Lover" (Whyte).  
 8.56: Weather forecast.  
 8.57: Lecturette—Editor-Announcer, "Foreign Affairs."  
 9.12: Soprano solo—Miss Alma Clegg, "Here, Rest Your Wings" (Hyam).  
 9.16: Instrumental trio—Symons-Ellwood-Short Trio, "Third and Fourth Movements, Trio in F" (Gade).  
 9.26: Baritone solo—Mr. R. S. Allwright, "Wimmin, O Wimmin" (Phillips).  
 9.29: Recital—Miss Gwen Shepherd, "The Buldog" (anon.).  
 9.32: Pianoforte solo—Mr. Gordon Short, "Rendezvous" (Godowsky).  
 9.36: Contralto solos—Mrs. Fred. Collins, (a) "Four by the Clock" (Mallinson); (b) "From the Land of the Sky Blue Water" (Cadman).  
 9.43: Humour—Mr. Wm. McKeon, "Digger."  
 9.50: Baritone solo—Mr. Claude Moss, "Two Maori Songs" (Hill).  
 9.56: Sextet—The party, "Good Night" (Scott Gatty).  
 10.0: Close down.

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

- Relay description of New Zealand Amateur Athletic Association's championship meeting at Lancaster Park.  
 6.0: Children's hour—Big Brother and scholars from Addington School.  
 7.0: Close down.  
 7.15: News and reports.  
 7.30: Review of athletic championships' meeting by Mr. J. K. Moloney.  
 7.45: Close down.  
 8.0: Chimes. Relay of orchestral selections from Crystal Palace Theatre Orchestra, under the direction of Mr. A. J. Bunz.  
 8.15: Baritone solos—Mr. W. J. Richards, (a) "The Fisherman of England" from "The Rebel Maid" (Phillips); (b) "Uncle Rome" (Russell).  
 8.21: Contralto solos—Mrs. M. Nottingham, (a) "Sapphic Ode" (Brahms); (b) "Little Fleet of Cloudboats" (Finden).  
 8.28: Twenty minutes of jazz—Les. Marston's Dance Orchestra, (a) "Meadow Lark" (M.S.); (b) "My Cutie's Due" (M.S.); (c) "I've Got the Girl" (M.S.); (d) saxophone solo, Les. Marston; (e) "Sweet Yvete, Waltz" (M.S.).  
 8.48: Tenor solos—Mr. T. G. Rogers, (a) "Like Stars Above" (Squire); (b) "Believe Me If All Those Endearing Young Charms" (Moore).  
 8.56: Recital—Mr. Alec. Johnson, "His Pipe" (Taylor).  
 9.0: Relay of orchestral selections from Crystal Palace Theatre.  
 9.15: Baritone solo—Mr. W. J. Richards, "The Blue Dragoons" (Russell).  
 9.19: Contralto solo—Mrs. M. Nottingham, "A Summer Night" (Thomas).  
 9.23: Twenty minutes of jazz—Les. Marston's Orchestra, (a) "In a Japanese Garden" (M.S.); (b) "Golden Gate" (M.S.); (c) "Breezing Along With the Breeze" (M.S.); (d) "Somewhere" waltz; (e) "Blue Skies" (M.S.).  
 9.43: Tenor solo—Mr. T. G. Rogers, "Alice, Where Art Thou?" (Ascher).  
 9.46: Recital—Mr. Alec. Johnson, "Rubenstein Plays the Piano" (anon.).  
 9.53: Dance music—Les. Marston's Orchestra, (a) "Mama's Gone Young, Papa's Gone Old" (M.S.); (b) "The Winding Trail" (M.S.); (c) "On the Riviera" (M.S.); (d) "Hard to Get Gertie" (M.S.); (e) "Honolulu Moon" waltz (M.S.).  
 10.12: God Save the King.

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

- 3 p.m.: Town Hall chimes.  
 3.1: His Master's Voice recital.  
 3.15: Afternoon tea music from the Savoy.  
 3.30: Studio music.  
 4.0: Music from the Savoy.  
 4.15: His Master's Voice recital.  
 4.30: Close down.  
 6.0: Children's hour—All aboard the 4YA wonder car at 6 p.m. Another trip under the sea. Do you know anything about the Orca, the swiftest thing in the water? And we'll see how the Mother Whale fights for her baby. The letter-bag and birthday basket goes along with us; as well as the Happy Ditty being sung, our Sisters from Archerfield School will sing on the way. Princess Silverwings has another story for the Chickerridgies of the family. All aboard at 6 p.m. Archerfield Choir, (a) national song with discant, "Early One Morning"; (b) "My Johnny Was a Shoemaker" (English folk song); (c) "Three-part, unaccompanied, 'Though Thy Courage be but Careless' (Weekes). Recitation, "Lord Lundy" (Belloc). Sister D. Clark. Christmas songs, (a) "Lullaby" (Boughton); (b)

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# Programmes Continued

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- "Twelve Days of Christmas" (arr. Austin). Recitation, Sister J. McLennan, "The Highwayman." Choir, two-part canon, "Now is the Month of Maying" (Morley). Unison, "The Traction Engine" (Marchant). Four-part, unaccompanied, "Song of the Ship-Builders" (Holst).
- 7.0: Town Hall chimes.  
7.1: News session.  
8.0: Town Hall chimes. Special programme of dance music by the Kapai Dance Band.  
8.1: One-steps—The Kapai Dance Band, (a) "Ivy Covered Shack"; (b) "Mary Lou."  
8.8: Cornet solo—Mr. R. Shannon, selected.  
8.12: Waltzes—The Kapai Dance Band, (a) "It All Depends on You"; (b) "To-night You Belong to Me."  
8.19: Violin solo—Mr. D. Dagg, selected.  
8.23: Soprano solos—Miss Rita Holmes, selected.  
8.29: Irish quadrilles—The Kapai Dance Band.  
8.40: Banjo solo—Mr. G. Mitchell, selected.  
8.45: Fox-trots—Kapai Dance Band, (a) "Ukulele Dream Girl"; (b) "Blue Skies."  
8.52: Saxophone solos—Mr. M. Horn.  
8.57: Waltz—The Kapai Dance Band, "Old-time Melodies."  
9.10: Cornet solo—Mr. R. Shannon, selected.  
9.14: Soprano solos—Miss Rita Holmes, selected.  
9.20: Waltz—Kapai Dance Band, "Destiny."  
9.25: Violin solo—Mr. D. Dagg, selected.  
9.30: Fox-trots—Kapai Dance Band, (a) "He's the Last Word"; (b) "Ain't She Sweet?"  
9.37: Saxophone solo—Mr. M. Horn, selected.  
9.42: Fox-trots—Kapai Dance Band, (a) "I Wonder How I Look When I'm Asleep"; (b) and (c) selected.  
10.0: Close down.

## Saturday December 10th

1YA AUCKLAND (333 METRES)—SATURDAY, DECEMBER 10.

- 3 p.m.: Afternoon session—Selected Studio items.  
4.0: Literary selection, by Mr. Culford Bell.  
4.30: Close down.  
6.0: The children's hour.  
7.0: Close down.  
7.15: News and sports results.  
7.45: Close down.  
8.0: Chimes. Relay of Municipal Band concert from Town Hall. Band-master, Mr. Christopher Smith.  
9.30: Relay of dance music from Click-Clack Cabaret, under the conductorship of Mr. Walter Smith.  
11.0: A thought.  
11.1: God Save the King.

2YA WELLINGTON (420 METRES)—SATURDAY, DECEMBER 10.

- 11.45 a.m. Relay of Wellington Trotting Club's summer meeting from Hutt Park. Races interspersed with selected items from Studio.  
5.15: Close down.  
6.0: Children's hour—Auntie Dot and members of the Junior Red Cross. Pianoforte duet, cousins, "In the Arena" (Englemann). Recitation, cousin, "The Minister Comes to Tea." Auntie Dot sends birthday greetings. Song, cousin, "Fairings" (Enoch). Recitation, cousin, "Don't." Pianoforte solo, cousin, "Goblins" (Lincoln). Monologue, cousin, selected. Recitation, cousin, selected. Auntie Dot, story time.  
7.0: News session, market reports.  
7.15: Sports results.  
8.0: Chimes of the General Post Office clock, Wellington.  
8.1: Overture—"El Abanico" (Jerolozes).  
8.4: Quartet—Orpheus Quartet, "Awake, Aeolian Lyre" (Danby).  
8.8: Humour—Miss Violet Wilson, "Wrong Numbers" (anon.).  
8.14: Tenor solo—Mr. Arthur Coe, "Beloved, It Is Morn" (Aylwood).  
8.18: Duet—Mrs. Alice Harris and Mr. Len. Barnes, "The Dancing Honey-moon" (Brahms).  
8.21: Instrumental trio—Symons-Ellwood-Short Trio, "Second and Third Movements" (Jadassohn).  
8.31: Contralto solo—Miss Lily Mackie, "Just a-Wearying For You" (Bond).  
8.35: Steel guitars—Berthold and Bent, (a) "Let Us Waltz As We Say Good-bye"; (b) "O Sole Mio" (Di Capua).  
8.40: Quartet—Orpheus Quartet, "The Pedler" (Wilson).  
8.42: Pianoforte and cello duet—Messrs. Ellwood and Short, "Sonata for Piano and Cello" (Handel).  
8.46: Vocal duet—Mr. Arthur Coe and Mr. Len. Barnes, "Flow On, Thou Shining River" (Stevenson).  
8.49: Soprano solo—Mrs. Alice Harris, "Sink, Red Sun" (Del Riego).  
8.52: Humour—Miss Violet Wilson, (a) "There's a Fair on the Green" (Dean); (b) "A Talk on Fur" (Wm. Caine).  
8.56: Baritone solo—Mr. Len. Barnes, "West Country Lad" (German).  
8.59: Quartet—Orpheus Quartet, "Juanita".  
9.2: Weather forecast.  
9.3: Relay of Manuel Hyman's Exhibition Band from the Adelphi Cabaret.  
9.12: Steel guitars—Berthold and Bent, (a) "Perfect Day" (Jacobs Bond); (b) "Hilo March."  
9.21: Relay of Manuel Hyman's Exhibition Band from the Adelphi Cabaret.  
11.0: Close down.

3YA CHRISTCHURCH (306 METRES)—SATURDAY, DECEMBER 10.

- 3 p.m. Relay description of New Zealand Amateur Athletic Championships from Lancaster Park.  
6.0: Children's hour—Uncle Sam and Aunt May.  
7.0: Close down.  
7.15: News and reports.  
7.30: Sports results.  
7.45: Close down.  
8 to 10: Relay at intervals of description of cycling events at English Park by Mr. J. K. Moloney.  
8.0: Chimes. Relay of orchestral selections from Liberty Theatre Orchestra, under the direction of Mr. Ernest Jamieson.  
8.15: Tenor solo—Mr. Arthur J. Allan, "Sally In Our Alley" (Dibdin).  
8.19: Pianoforte duets, with vocal chorus—Misses Muriel Johns and Dorothy and Edna Johnson, (a) "Just An Ivy Covered Shack" (Rupp); (b) "There's Everything Nice About You" (M.S.).  
8.26: Instrumental trio—Christchurch Broadcasting Trio, "Moderato and Allegretto" from "Trio in G" (Gurlitt).  
8.31: Recital—Mr. H. Instone, "How Ikey Moses Won the War" (own composition).  
8.35: A little bit of Scottish—Mr. Jock Lockhart to own accompaniment, "Songs With Patter" (M.S.).  
8.40: Instrumental trios—Christchurch Broadcasting Trio, (a) "Rosamund Ballet Music" (Schubert); (b) "Nocturne" (Rubner); (c) "Waltz from 'The Nut-cracker Suite'" (Tschalkowski).  
8.53: Trio vocal medley—The Joyous Trio (Misses Muriel Johns and Dorothy and Edna Johnson), "Medley of Hawaiian Melodies" (M.S.).  
9.0: Relay of orchestral selections from Liberty Theatre.  
9.15: Tenor solo—Mr. Arthur J. Allan, "The Pilgrim of Love" (Bishop).  
9.19: Another bit of Scottish—Mr. Jock Lockhart, accompanied by himself, Scottish songs, medleys, and patter (M.S.).  
9.24: Instrumental trios—Christchurch Broadcasting Trio, (a) "Cavatina" (Raff); (b) "Souvenir de Sorrento" (Severne); (c) "Country Dance" (Gade).  
9.36: A few moments of humour—Mr. H. Instone, (a) "Skipper Bill" (original M.S.); (b) "The Duck Farm" (pantomime dame's speech), (original).  
9.44: Relay of dance music from Dixieland Cabaret (by kind permission of Mr. J. Dickson). Music supplied by Les. Marston's Orchestra.  
9.51: Vocal medley—The Joyous Trio, medley of popular numbers (M.S.).  
10.0: Vocal duets of happy songs with ukulele—Misses Edna and Dorothy Johnson, (a) "Rosie O'Ryan" (Corbett); (b) "Blue Skies" (Berlin).  
10.30: God Save the King.

## KFON, LONG BEACH

### A GREAT LITTLE STATION

OFTEN HEARD IN NEW ZEALAND.

Probably the most wonderful American station heard in New Zealand quite regularly is KFON, Long Beach, California. This great little station employs a power of only 500 watts, and yet it is heard by many scores of New Zealanders when dusk sets in and until 8.30 nightly.

The exact wave-length of KFON is 241.8 metres. The director of the station, in a letter to one New Zealand correspondent, expressed the opinion that the great distance-reaching ability of the station was to some extent due to the relatively short wave-length. The proprietors of KFON are Nichols and Warriner, Inc. The announcer is Mr. Hal G. Nichols. KFON is on the air every day from 9.30 a.m. till midnight, Pacific coast time. The station was founded in March, 1924. Whatever may be the contributing factors to this station's distant reaching it is manifest that it eclipses Pacific Coast stations several times more powerful than itself.



MR. ROBERT CLARKE, OF 3YA.

A violinist of the first class, Mr. Clarke is frequently heard from 3YA.

—Steffano Webb, photo.

Of the total number of exhibitors at the recent Chicago radio show, 40 per cent. displayed table type receivers and 37.8 per cent. consoles. A further examination of the consoles showed that 12.6 per cent. had built-in cone speakers and 61.5 per cent. were equipped with long air column horn loud-speakers.

While seeing London this summer (if you plan going home) be sure to also enjoy a bit of listening. It will be easy, for they have recently installed booths with penny-in-the-slot radio. Drop your penny in the slot, pick up the headphones, and listen to 2LO, London.

A United States Associated Press message from Berezov, Tobolsk Province, Siberia, states: "Operators of the local wireless station report that while watching the aurora borealis they heard melodic sounds. The sounds rose and fell in consonance with the fluctuations of the aurora."

Often, in the past year or so of swimming contests, music has been used to sustain the human fish in their trials of endurance. The German champion, Otto Kaemmerich, recently acquired a swimming cap equipped with headphones, which was tested successfully in the North Sea on a programme from Hamburg, over a hundred miles away.

That radio waves will penetrate 500 feet or more of rocks strata was indicated in tests by the United States Bureau of Mines in a mine at Caribou, Col., it was announced on October 14 by the Department of Commerce. At a depth of 220 feet Dr. A. S. Eve, of McGill University, Montreal, clearly heard a musical contest broadcast at Denver, 50 miles distant. Reception from Denver at 550 feet depth was "mushy," but disturbed conditions were believed responsible, he said. Dr. Eve is conducting a study for the Bureau of Mines of the possibilities in various methods of geophysical prospecting for location of underground mineral deposits.

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4YA DUNEDIN (463 METRES)—SATURDAY, DECEMBER 10.

- 7.15 p.m.: News session.  
8.0: Studio concert.  
9.10: Dance music from the Savoy.  
10.0: Close down.

## Sunday, December 11th

1YA AUCKLAND (333 METRES)—SUNDAY, DECEMBER 11.

- 3 p.m.: Afternoon session—Selected Studio items.  
4.30: Close down.  
6.55: Relay of church service from St. David's Presbyterian Church. Preacher, Rev. D. C. Herron; organist, Mr. E. C. Craston.  
8.30: Relay of organ recital from Town Hall. Organist, Mr. Maughan Barnett.  
9.30: A thought.  
9.31: Close down.

2YA WELLINGTON (420 METRES)—SUNDAY, DECEMBER 11.

- 6 p.m.: Children's session, conducted by Rev. E. Weeks.  
7.0: Relay of evening service from St. Gerard's Redemptorist Church, Hawke Street, Wellington. Order of service:—  
Organ—Mr. Henry Mount, "Hymn to St. Cecilia" (Gounod).  
The Rosary with choral responses.  
Antiphon—"Alma Redemptoris" (Richardson).  
Sermon.  
Motets—"Worthy is the Lamb" (Handel), "O Holy Mother," "Magnificat" (Rossi).  
Organ—Mr. Henry Mount, "Offertoire" (Hartwell).  
The Benediction service will consist of the following Motets: "O Salutaris Hostia" (Perosi), "Tota Pulchra Es Maria" (Smith), "Tantum Ergo" (Murray), "Divine Praises" (Rev. F. O'Meeghan), "Adoremus and Laudate Dominum" (Allegr).  
Organ—Mr. Henry Mount, "Marche Triumphale" (Lemmens).  
Organist, Mr. Henry Mount; choral director, Mr. Frank J. Oakes.  
8.15: Quartet—The Wm. Renshaw Quartet, "God is a Spirit" (Sterndale-Bennett).  
Bass solo—Mr. Thomas C. Wood, "Holy City" (Adams).  
Soprano solo—Mrs. Amy Dunn, "Come Unto Him" (Handel).  
Instrumental quartets—The Ellwood String Quartet, (a) "First Movement" from "B Flat, Maori Quartet" (Hill); (b) "Haka" from "B Flat, Maori Quartet" (Hill).  
Tenor solo—Mr. William Renshaw, "If With All Your Hearts" (Mendelssohn).  
Contralto solo—Miss Nora Greene, "O Rest in the Lord" (Mendelssohn).  
Instrumental Quartets—The Ellwood String Quartet, "First Movement" from "G Major Quartet" (Mozart); (b) "Minuetto" (Boccherini).  
Vocal duet—Miss Nora Greene and Mr. Wm. Renshaw, "O, Lovely Peace" from "Judas Maccabeus" (Handel).  
Bass solo—Mr. Thomas C. Wood, "Out of the Deep I Call" (Martin).  
Soprano solo—Mrs. Amy Dunn, "Jerusalem" (Mendelssohn).  
Instrumental quartet—The Ellwood String Quartet, "Andante Cantabile" from "D Major Quartet" (Tschalkowski).  
Tenor solo—Mr. Wm. Renshaw, "An Evening Song" (Blumenthal).  
Contralto solo—Miss Nora Greene, "My Prayer" (Squire).  
Quartet—The Wm. Renshaw Quartet, "Cast Thy Burden" (Mendelssohn).

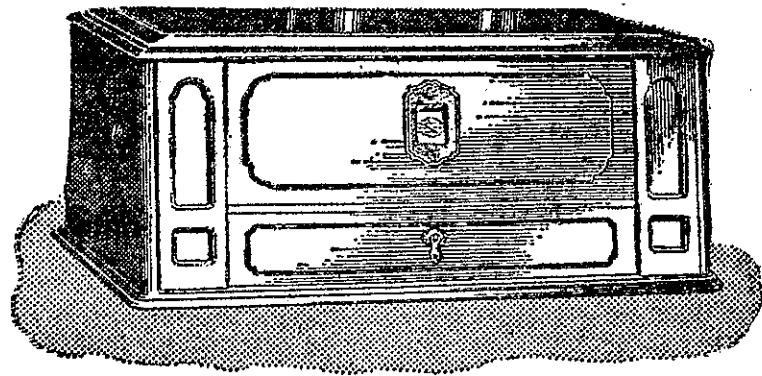
3YA CHRISTCHURCH (306 METRES)—SUNDAY, DECEMBER 11.

- 5.45: Children's song service, under Uncle Sam, assisted by scholars from the Papanui Presbyterian Sunday School.  
7.0: Relay of evening service from Salvation Army Headquarters, Victoria Square. Choruses and hymns, etc., will be sung by 130 voices. The Boys' Band will accompany the congregational singing and the orchestra will accompany the singing of the younger people.  
Brigadier Bladen in charge of service. Mr. J. Taylor, Y.P.S.M., conductor of music.  
After service, at 3YA the Christchurch Broadcasting Trio will give the following items:—  
Instrumental trio—Christchurch Broadcasting Trio, "Allegro Vivace" from "D Major Trio" (Beethoven).  
Violin solo—Miss Irene Morris, "Romance" from "Second Concerto" (Wieniawski).  
Instrumental trios—Christchurch Broadcasting Trio, (a) "Allegro"; (b) "Andante"; (c) "Tempo di Marcia" (Bohm).  
Pianoforte solo—Miss Aileen Warren, "Serenade" (Schubert-Liszt).  
Close down.

4YA DUNEDIN (463 METRES)—SUNDAY, DECEMBER 11.

- 5.45 p.m.: Children's song service, conducted by Big Brother Bill.  
7.0: Relay of "Messiah" service from the Methodist Central Mission. Preacher, Rev. W. Walker; organist, Mr. Chas. A. Martin.  
8.0: Relay from St. Kilda (weather permitting) of concert by the St. Kilda Band, under the direction of Mr. J. Dixon.  
Close down.

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# Mainly about Construction

BY "MEGOHM"

## CHARGING ACCUMULATORS WITH DANIELL CELLS

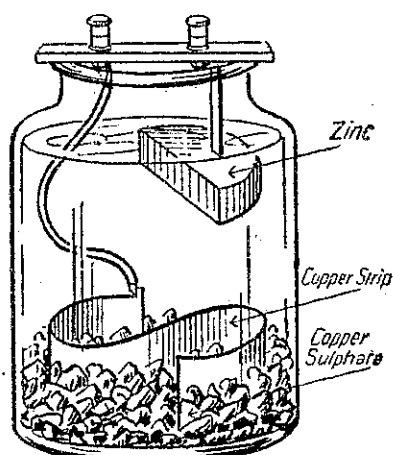
### ALTERNATIVE TYPE OF CELL DISPENSES WITH POROUS POT

It has been proved by experience that the method of charging small accumulators from a trickle-charge supplied by Daniell cells is quite a practicable proposition for listeners in country districts. The mistake must not be made of expecting such an outfit to work without any supervision whatever, but it is clear that if a certain amount of supervision is given, and any wrong tendencies corrected, that good service may be obtained at low cost.

An Auckland reader writes to say that he was using this method successfully for over three years some time ago. He also sends a journal containing a description of the form of Daniell cell used by him for the purpose. In view of the difficulty already foreseen in procuring porous pots in New Zealand, this form of cell is welcome.

Leclanche cells of sac type have been mentioned as being suitable for this work, but "Megohm" feels cer-

tain from past experience that the Daniells will easily out-distance any Leclanche type for constant service. The gravity cell is not new to the writer, and the endorsement of its use for the purpose by an English publication is reassuring.



#### FILLING THE CELLS.

When the plates are in position the jars are to be half-filled with either a solution of sulphate of zinc or a weak solution of sulphuric acid (not more than one part acid to four of water). Next, about a pound of copper sulphate crystals is dropped in, when the liquid should just rise above the zinc; if not, a little more solution can be added. More copper sulphate has to be added every two or three weeks as required, but the solution need not be renewed for months. When the copper sulphate is added it will be necessary to first draw off a depth of an inch or two of the upper liquid by means of 18 inches of thin rubber (or glass) tube used as a siphon. The end of this siphon must draw off the top of the liquid only, and not be allowed to go near the copper sulphate lower down. After the new crystals are added, water is put in to the usual height.

#### CELLS TO BE KEPT IN CIRCUIT.

The cells should always be kept in circuit, as shown in the original diagram. If they are cut out of circuit the copper sulphate solution will rise above the zinc and coat it with copper. In case of not using much current for a time, perhaps while away on a holiday, the copper sulphate may be allowed to run down and, if not replenished, the cells may be cut out of

the circuit for a fortnight, or even three weeks. Upon replenishing with copper sulphate, the cells will be back to normal in about a quarter of an hour.

Users are recommended to pour a thin film of machine oil on the surface of the liquid, to prevent both "creeping" of the solution and evaporation. The same number of cells will be required for each voltage as already specified for the original type of cell.

It is an essential to the working of these cells that they should not be shaken about, so that they should be kept in an accessible place in a suitable box to exclude dust.

#### SMALL ACCUMULATORS ESSENTIAL.

A correspondent points out that these cells are not to be looked upon as being for charging run-down accumulators, but only for replenishing what is taken out. Of course, this is meant to imply that large current is not available for charging accumulators on any big scale. It is just as well for constructors to bear this in mind, and remember that the device is really a trickle-charger, working slowly, to replace during the night and the early part of next day the evening's consumption of current. Small accumulators are specified, and it must be understood that anybody wishing to work with accumulators of large capacity will not find it very satisfactory to do so, and if they are determined to try, must do so at their own risk. Small accumulators are the correct thing for any system of trickle-charging.

The gravity cell has a very low internal resistance of about half an ohm.

## B ELIMINATOR CONSTRUCTION

### REGARDING CONDENSERS

One or two queries have been sent in regard to the use of the ordinary Mansbridge type condensers in the B eliminator, asking as to their ability to stand up to the fairly high voltage in use. It is nearly twelve months since the original eliminator was constructed, and at the time eight Dubilier fixed condensers of two microfarads each were included in the circuit. It was quite expected that one or two of these might soon break down, but they have been in daily use for several hours ever since, and not one has yet given out. A small experimental eliminator has just been put together, and, strange to say, one of four new condensers included broke down almost at once. From this it must be understood that the condensers will stand up to the work well, but there is the chance of one giving out, but once the weak one is thus discovered there is chance of little further trouble. The writer will investigate the chances of repairing this class of condenser. Both the Dubilier and T.C.C. condensers have been used and found reliable, and they are comparatively cheap at 8s and 7s. each. The Sangamo two microfarad, which the writer has not yet tested, are made in two grades, A and B, the former guaranteed for continuous operation at 250 volts a.c. or 400 volts d.c., and the latter at 500 a.c. and 1000 volts d.c. These sell at 11s. 3d. and 13s. 6d. each respectively. Many constructors will probably prefer to use the less expensive condensers and risk a break. Condensers can be tested roughly before installing by putting the 250 volt house current across them with a lamp in series.

Several correspondents have inquired as to the possibility of making these fixed condensers, but it has already been stated that the factory-made article is so efficient and compact that to buy the materials in

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## TO BROWNING-DRAKE CONSTRUCTORS

### A FEW HINTS BY THE WAY

Many constructors have built the four-valve Browning-Drake described in these columns, and those who read this page regularly will have noticed that some constructors have had immediate success, whilst others have been confronted with trouble. Those who have kept near to the specifications have not, as a rule, experienced much trouble, whilst those who have altered some details and left out others entirely, particularly fixed condensers, have found results somewhat disappointing. However, the remedy is simple—merely to go through the description and see that every detail is properly carried out. Whether American or English valves are used is not the question, so long as the equivalent type is selected. It is in the matter of primary turns, tickler turns, and high-tension voltages that there is room for much experiment, and no constructor should give up tinkering and altering until he is getting reproduction equal to the best he has heard, at least, for the four-valver is capable of it. And whatever volume the owner demands should be accompanied by mellow, pleasant tone, with an entire absence of jarring, distortion or harshness when main New Zealand or Australian stations are tuned in under favourable conditions, of course excluding interference from outside sources.

#### Soldering Sometimes the Trouble.

One point "Megohm" is not too sure about is the soldering. He has just heard of a set in which scarcely one of the joints was soldered in such a way as to be efficient. Many of the joints were practically only held together by resin, which is a fine insulator. No wonder results were disappointing. It is a good plan for those who are not too sure of their soldering to cut out as many joints as possible by running from rheostats a separate wire to each valve, and a separate return from each valve to the battery terminal. In place of running one wire and branching off with soldered joints, this cuts out a good number of possible weak spots. All such a battery wires, which must have a good insulating covering, can be run alongside as much as possible and bound with twine to form one cable with wires branching out to their respective valves. This method helps to earth stray high-frequency currents which are detrimental to good tone when present on the audio side. A well soldered joint will not show any crevices round the edges of the solder, and the solder will appear to form a well-curved and thicker portion of the wire or surface to which it is attached. Having to place the iron on a gas stove to heat it causes many amateurs to manage "just one more joint" before re-heating, and that joint will probably be a "dud," because, although the iron melts the solder, it is not hot enough to cause proper incorporation with the metal the solder is intended to join. The electric soldering iron is conducive to good work, because there is no anxiety about the heating part of the business.

#### Clean the Valve Legs.

The occasional cleaning of valve legs with glasspaper is a wise precaution, and sometimes their fit and consequently reception can be improved by opening the legs if of the split variety. Noisy or erratic reception can easily be caused by a badly-fitting valve-leg, giving poor contact.

#### The Neutralising Condenser.

It was pointed out in the original article that the neutraliser was to have very small capacity, and this was obtained in many cases by purchasing a midget condenser and removing all plates but two, leaving one fixed and one moving plate. Anybody who replaces old solid-wound coils with the space-wound ones as specified will have little luck with the neutralising condenser formerly used, as the neutraliser must be much reduced in capacity to match the greatly reduced self-capacity of the coils.

"Megohm's" own neutralising condenser is a home-made one with two diminutive aluminium plates each about three-quarters of a square inch area, and at correct neutralisation these are only overlapping at 10 degrees on the scale, 50 degrees being full in. It was not considered necessary to describe this, as the midgets can be utilised and save the making. Most of the bought neutralising condensers appear to have too great a capacity for this circuit.

#### General Remarks.

It must be remembered that the aim of a receiving set is to reproduce as exactly as possible the broadcast sent out from the transmitting station, and no constructor should let things rest until the very best tone, coupled with good volume, is obtained from his set. "Megohm" wishes every constructor of the Browning-Drake to achieve this end, and has on that account replied by post to a good many queries in order to give the individual particulars required, although personal correspondence is not intended to be a feature of this column. A number of constructors have reported getting very fine tone and volume, but there must be many who have not yet done so, but careful observation and trial of different condenser values and other details as pointed out will bring due reward.

There is probably some difficulty experienced in the matter of testing various condenser values on the audio side, owing to the expense of providing the necessary set of fixed condensers of different capacities, and also the difficulty of obtaining the grading required. To get over this difficulty "Megohm" will next week describe his system of making fixed condensers, of which a full set can be made for testing purposes at small cost. Any constructor providing himself with such a set will soon learn all about the influence of condensers upon tone, and will have a ready means of providing and testing for correct values for any purpose.

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## RADIO CONSTRUCTORS.

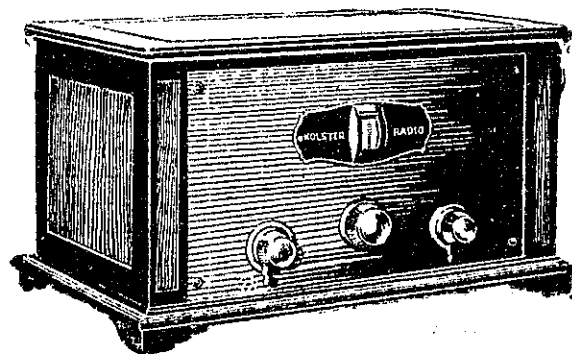
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Having come down to details in the exploration into the realms of purchasing and operating multi-valve receiving equipments, the question of loud-speakers and valves has been dealt with in the two last issues. This week it is proposed to deal with batteries and power supply generally.

New Zealand is particularly fortunate in having such a network of power supply mains available right throughout those portions of the Dominion where there are comparatively settled areas. As a consequence, equipments for eliminating batteries and taking power from the supply mains will become increasingly popular as the prices become somewhat less with the intense research which is being focused on this problem at the present time, and as the buying public are educated up to the fact that outfits requiring double or even treble the initial outlay pay in the long run against continual renewal of perishable types of batteries.

It should be realised at once that circumstances alter cases altogether, and that although the "socket power" or "battery eliminators" have now reached a stage where rapid obsolescence of design need not be reckoned as an important factor to be considered against purchasing, there are cases where dry cells, and especially accumulators, are a better proposition.

#### THE ALTERNATIVES.

Where electric power is not available, of course, there is no alternative, and a dry B battery must be used. A dry A battery will probably be preferred, too, providing dull emitter valves are in operation, but if a changing station is within more or less easy reach a cheaper proposition is to purchase a heavy capacity battery, i.e., one that will run the set for a good long time, and have it changed when necessary. The size of the battery used depends on the means of transportation available. In the country a set-owner will invariably have a car and his troubles are small ones, but probably the proportion of set owners who are also car owners in the cities or towns is less, and many will be faced with the necessity of using nature's own provision for locomotion, and under these circumstances the set owners' troubles will be weighty ones, and the last hundred yards is usually the worst. Service stations are now making provision for calling for, and returning batteries at regular intervals for a nominal fee and battery charging consequently becomes a item in the year's cost of running a set, which is much more inconsequent than would be imagined.

# Notes for Beginners:

By M. I. R. E.

## Batteries and Power Supply Explained

### FACILITIES FOR CHARGING.

The means for charging the A battery is the main deciding factor when purchasing and if the battery has to be carried any distance for charging, then one of the 60 ampere-hour capacity is the largest size worthy of consideration and it should be of a size and shape which won't dangle against the legs too much. Most types of radio batteries are shaped accordingly these days and are supplied with carrying handles. The fact shouldn't be overlooked that it is a wise provision to tie the brown paper round the battery when carrying it, because electrolyte spray creeps over the container and the effect of sulphuric acid or caustic potash on clothes is better demonstrated than described, but if the trousers or skirt, according to the sex of the carrier, are good ones, then the demonstration will be a costly one.

### THE TRANSPORT FACTOR.

In view of the fact that the 60 ampere-hour battery usually costs much the same as a 20 or 40 ampere-hour type, palpably the 60 is a good proposition. Where transport is available, of course, 80 or 100 ampere-hour types should be obtained. These will cost relatively more to charge, but will run out less in the long run, and there will be much less bother. These recommendations are given presuming a set of three valves upwards is in use, and that the valves are consuming the usual quarter-ampere each, and are a type of valve in most common use in New Zealand to-day.

The recommendations alter where valves are in use which have very economical filaments, and only consume .06 to .1 of an ampere. Under these circumstances a 40-ampere hour battery is the biggest size which should be purchased, and is quite sufficient. It is not good practice to go beyond 40 unless five valves, or more, are in use, because the battery should have more or less frequent charges to prevent its deteriorating. Where a 3-valve set using .06 ampere type valves is in operation the total consumption is only  $3 \times .06$ , or .18 ampere, and it would thus take, theoretically, two and a half months

to run it down, running the set three hours per day. The battery should be given a charge every month at least, no matter what has been taken out of it, and this charge should be at least normal rate, or, preferably, slightly less. When leaving a battery to be charged don't specify quick treatment, as it will ruin it to have it returned in a hurry time after time. Leave the service man to take his time and treat the battery properly, and get another one on loan from him to carry the set on if necessary.

### THE ACCUMULATOR BATTERY.

An accumulator battery has a correct rate of charge and discharge in terms of its total capacity in order to give it ideal treatment. This consideration must necessarily be waived somewhat for radio work, so far as discharge rate is concerned, but it is wise to tell the service man the discharge rate and get him to charge at a rate likely to apply a corrective. For batteries from 40 ampere hours upwards, two amperes is a good mean rate, and one likely to keep a battery in good condition, and it is for this reason that makers of battery chargers designed for domestic service rate them round about two amperes. For batteries of a smaller capacity than 40-ampere hours capacity, rates of half to one ampere are advisable.

Undoubtedly the best proposition where power is available is the use of a domestic charger, which plugs into a light or power socket, and is clipped on to the battery. Under these conditions there is no necessity to shift the battery or even to disconnect the battery from the radio set. Every few months a certain amount of distilled water should be added to make up for evaporation of liquid electrolyte. If there is any suspicion that the battery is not doing its job properly or frying or hissing noises in the radio set are traceable to the battery, then it should come in for a thorough examination, and should the liquid not show its proper specific gravity when tested with a hydrometer, it should be treated accordingly to advice received from some reliable source, such as the dealer it was purchased from, or a recognised agent of that particular brand of battery.

### ADVICE ON ACCUMULATORS.

There are many types of domestic chargers on the market to-day, but consideration of their characteristics will be deferred temporarily in favour of keeping strictly to the subject outlined at the beginning of this article. Turning, therefore, to the question of the use of accumulators for B supply, a definite recommendation can be made at once, and that is that unless a domestic charger is available it is unwise to go in for this type of battery unless a small receiver is in use. This is a statement which will probably be resented by a certain section, but from the listeners' point of view it is a fact. Batteries are placed in a cabinet or otherwise out of sight invariably, and are not easily dismantled and taken away. Two ampere hours and over are more or less unwieldy sizes, and only batteries of this capacity will theoretically run a 5-valve set (one valve of which is always a power valve these days) for 20 days, assuming a drain of 30 milli-amperes, and the set in use three hours a day. This time will cause the battery to run right down. This is plain murder to a small capacity accumulator. Small outfits such as B accumulators can not have tricks played with them like the big batteries will put up with. Played once too often, the battery will simply disintegrate without warning. Capacities under two ampere-hours are more sensitive than ever to ill-treatment, and although the batteries are less cumbersome to move about and may be readily removed for changing their capacity, is so small that the continual charging will soon drive the user to the purchase of a large capacity battery, or else a charger.

### THE BATTERY AND THE CHARGER

The solution to the problem is the purchase of an average size battery and a charger, and the charging rate should be set at slightly over the discharge rate. Under these circumstances the batteries should be charged for at least the same number of hours as the set is run. This sounds a bother, but is nothing of

the sort with a power or light socket set aside for the purpose and a well designed charger. There is no noise and very little circuit used; in fact, the average charger only just turns the electricity meter, and an annual bill would be rated in shillings. The majority of chargers are fitted for both A and B charging by simply changing a clip or switch, and are purchasable at round about £5. This will soon pay for itself in convenience and added length of life to batteries.

### THE EFFECT OF SIZE.

It should be realised that small capacity accumulators cannot be rated in output in terms of hours in the same way as larger batteries. For instance, a battery rated at 100 ampere-hours will give 1 ampere continuously for 100 hours or 5 amperes for 20 hours. This actually approximates it in performance, and even if the normal discharge rate is stated by the makers to be 5 amperes, this may be doubled or even trebled and the rate divided into the total capacity will still give a normal number of hours of discharge (providing it is not done consistently, of course).

With small batteries of up to 3 ampere-hours these conditions change, and as the discharge rate is increased, so is the total capacity reduced in terms of time. For instance, a battery rated at 2 ampere hours (continuous discharge rating) for a rating of 10 milli-amperes (2 valves) discharge will supply this current for a full period of 200 hours. If this discharge is doubled in feeding a 4-valve set taking practically 20 milli-amperes the total available capacity drops at once to nearly 1 ampere hour. Thus, although the battery will supply 10 milli-amperes for 200 hours, it will only supply 20 milli-amperes for 50 hours. Such a battery would supply 50 milli-amperes for about 10 hours. Actually this is not unfair treatment for this battery, providing a charger is available to always keep tickling it and keeping it up to scratch. The voltage should not be allowed to drop, and the deep chocolate colour of the positive plates in the battery well sustained, giving a healthy appearance. Under these conditions even a small capacity battery, such as the 2 ampere size just quoted, will drive a six or even an eight-valve set drawing 50 milli-amperes and will show no signs of discomfort, always providing the charging is frequent enough to maintain the voltage.

## Mainly About Construction

(Continued from page 12.)

### B ELIMINATOR (Continued).

New Zealand would cost much more than the price of the ready-made article.

### Small Output Affects Tone.

An eliminator should be well up to its work, or tone will suffer, and that is why double-wave rectification is necessary to get best results from any but small sets.

### Testing Fuses.

Tinfoil fuses as specified should be included at all points, for the small amount of extra labour ensures freedom from a burnt-out valve or a serious breakdown later on. Sometimes in a set of such new fuses there is a weak one that blows unnoticed. The fuses should all be tested across with a pair of 'phones and dry cell, and a defective one replaced. If soon after the eliminator is put into use it refuses to work, test fuses again, and if a weak one has blown and is replaced there will be no further trouble except when one acts as a safety device. A blown fuse can scarcely be detected by the eye, so the quickest way to locate one is with 'phones as above.

A side elevation of transformer was marked "half-scale," but is really quarter scale, as the drawing was reduced to half-size.

Care must be taken to pack tight the laminations inside transformer windings.

In operating, filaments must always be turned on before the eliminator, and when closing down the eliminator is switched off first. If the eliminator is working on no load, a high peak voltage is thrown upon the condensers,

which may not be able to stand the abnormal strain. This remark applies to all B eliminators.

Extra output voltages can be provided by adding a variable resistance with a 2 mfd. condenser across in the same way as those already shown.

Work by the diagram marked "Correct Eliminator Circuit."

When adjusting filament current for PM4 valves, care must be taken to commence with the minimum, that is, with plenty of resistance in circuit. For these valves an ordinary 30-ohm rheostat would be a convenience rather than none at all.

UX280 is a new full-wave rectifier tube delivering up to 300 volts at 125 milli-amperes, for use in circuits specially designed for it, as it is a hot-cathode type, intended for use in complete A.C. socket operation.

Several American broadcast stations are now licensed for daylight hours only, and some others are authorised to use higher power before 7 p.m. The power of many large stations has been reduced, and the average for the whole 700 stations is 645 watts. The majority range between 100 and 500 watts.

Wednesday night, when 2YA is silent, affords Wellington listeners an example of what some country set owners have to put up with in the form of "fading" caused by radiating sets. Reception of 3YA is usually good, and free from fading, but on Wednesday nights there is an amount of "intense fading" caused simply by radiating receivers, to say nothing of the weird howls that mostly proclaim the resignation of their originators to spend a whole evening setting very little, and ensuring that other listeners shall do the same.

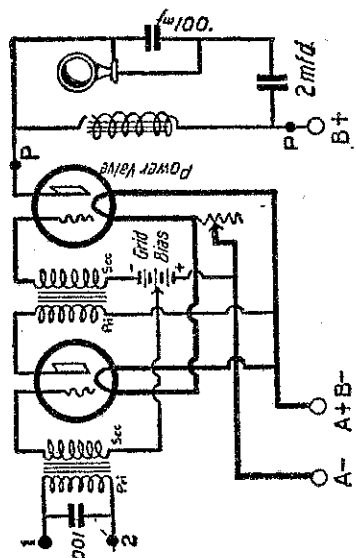
## ANSWERS TO CORRESPONDENTS

(By "Megohm.")

### Crystal Queries.

"M.J." (Wellington) says: "I started on the 'Record' crystal set and added the one-valve amplifier, which is great." This reader now wishes to know how to add a second valve. You will require another audio transformer, and if you are wise it will be a Ferranti. Grid bias should be applied to each valve by means of a C battery made for the purpose.

You do not say what filament voltage you are using, but let the last valve be as much a power valve as you are able to run, bearing in mind grid bias required, which may be six or nine volts for this valve, and, perhaps, 4½ for the first. Grid bias required increases as high-tension current is increased. To give your loud-speaker a chance of delivering good tone, a choke filter should be provided for the output, and you will then have a fine amplifier. Various particulars have recently been given of this filter. The following diagram shows the two-valve amplifier complete with output filter:



The input terminal marked 1 is connected to the side of the crystal that is not connected to the aerial, and 2 connects to earth. A power valve is recommended in the last stage, but if not used the choke filter may all be cut out at points PP, and the 'phones or speaker connected directly to these points, the marked positive tags to the B positive side.

The fixed condensers shown must all be included to get best results.

### Charging Accumulators from Daniell Cells.

A Grey Lynn reader writes to say that some time ago he was charging accumulators with Daniell cells with different solution to that specified in the "Record." His experience was that the cells required watching, and occasionally it was necessary to correct a tendency for the copper sulphate to work through the porous pot to the zinc. This reader had the outfit in use for over three years, and states that it gave very good results. He also sends a description of a different form of Daniell cell known as the "gravity" type, which requires no porous pot. As this may be of use to country experimenters, a brief description is given elsewhere.

"G.R.W." (Rodney): Porous pots are generally narrow and tall. They would protrude above the jars, but the latter should be large enough to give a circular space of about half an inch. A larger jar than specified can be used to suit the porous pots. Extra size within reason will be no detriment in either receptacle. Sheet zinc, if reasonably pure, could be used in place of rods, but would often need renewal. The two small accumulators specified are of 2 volts each, the two in series giving 4 volts. An essential point is not to have too large an accumulator, but your 20 amp. hour would be all right, especially if you keep on the large side for dimensions of containers and zinc and copper. Don't waste time making Leclanche cells for A battery work—they run down too quickly and are useless for the purpose. The Daniells give constant, though small, current, and the accumulator ensures steady and increased output when required for a few hours out of the twenty-four.

D.H. (Taranaki).—Your five-valve neutrodyne would certainly be better with a power-valve in the last stage, which you should attend to first. The valves you suggest are good for first audio, but for second, P.M. 256, or UX 171. An output filter, which can be bought separately, is an advantage to prevent overloading speaker.

### Five-valves Troublesome.

J.T. (Hataitai).—The howling and distortion are caused by the radio-frequency valve being worked too near oscillation point. Reduce the R.F. B voltage and get the set neutralised properly, and the trouble should disappear. In its present state your set will be radiating badly.

W.D. (Blenheim).—More particulars of transformer necessary to give any decision. Send rough sketch and gauge of wire on both windings.

### Browning-Drake.

W.J. (Napier) replaced old coils in his Browning-Drake with space-wound ones, as described in the "Record," and reports marvellous results in clarity and tone, and was able to reduce tickler turns from 25 to 10, which shows his set now to be efficient. The only trouble now is the neutralising condenser, which is too large now that the capacity of the set has been greatly reduced with the space winding. A midget condenser, with one fixed and one moving plate, is all that is required. Many constructors have purchased a midget and removed the superfluous plates.

Towards the latter part of December the first consignment of Ferranti push-pull transformers will arrive in New Zealand, and included in the shipment will be the new AF5 transformers, which have a 3½ to 1 ratio, but will handle even greater volume than the AF3.

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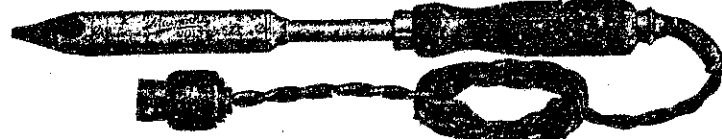
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# Broadcasting Religious Services

## THE QUESTION OF METHODS

In our issue of November 18 we gave a summary of factors bearing upon the broadcasting of religious services. We have received a communication from the Anglican Broadcasting Association of N.Z. (Inc.), Auckland, in that connection which makes it necessary, in order to give readers a full appreciation of what we did say, to reproduce our original article, together with the Association's comment thereupon and our reply to points raised in same.

### WHAT WE DID SAY.

With the question of the broadcasting of religious services now somewhat prominent, a brief explanation of the position may be opportune.

In response to numerous requests the Broadcasting Company has endeavoured to accede to what would seem to be the simplest solution of the problem, namely, a fair rotation of the various principal denominations with no two of the same denomination on the air at two of the New Zealand stations on any one Sunday night. This would seem to be easy to arrange, but in practice it has failed.

At best this solution would please only a small percentage of the minority of listeners throughout New Zealand who have valve sets. Only a small percentage of those with valve sets would be concerned with any particular service. So it follows that the number of listeners to whom the rearrangement of the services would be a satisfactory solution would be very small. The great majority of listeners have crystal sets, and these listeners would not be concerned by the regrading. Also, it may be pointed out that even some of those listeners with valve sets in the cities would find it impracticable to tune in to the station they wanted if their own station was on the air. These facts show that very few people would benefit from such an arrangement, even if it could be satisfactorily carried out.

As a matter of fact it would break down at once. The same number of denominations do not broadcast from each station. In two cities there are five, in two seven. In certain cases a church, while strong in one city, is too weak in another to be able to broadcast. Where it has a strong membership it is fully entitled to a turn, but as the number of broadcasting churches is not the same a set rotation cannot be followed. Then, also, it has been found that in numerous instances churches cannot or do not want to take their turn and a church of another denomination has had to fill the breach. Thus it might happen that two, three, or even four stations might be broadcasting services by the one denomination on the one night. The default of one church to take its turn throws the whole rotation out of order and when this happens repeatedly it is not possible for such an arrangement to last.

### AN INDEPENDENT ROTATION

All that the Broadcasting Company can do is to be undenominational in this matter and to work each station independently, giving each church a turn regardless of its numerical strength; but the churches do not always desire to be broadcast in the order arranged. Some prefer to arrange amongst themselves, for various reasons of their own—perhaps because of special (such as anniversary) services—and others again have been very indifferent in taking advantage of the opportunity to broadcast their services.

### THE ANGLICAN CHURCH PROPOSAL.

One can take it as a further tribute to the power of broadcasting that the Church of England is now considering the erection of a transmitting station for the purpose of broadcasting religious services.

The Church of England has been very slow in recognising the value of broadcasting as a means of disseminating the Gospel and has not availed itself of the opportunities which the company has offered it. Other churches have gladly accepted every chance to broadcast, and this state of affairs has resulted in the impression getting abroad that the Broadcasting Company has been differentiating against the Church of England. Nothing, of course, could be further from fact. The Broadcasting Company has been, is, and will be absolutely impartial.

The Broadcasting Company will certainly state its case to the authorities in regard to the application by the Church of England to secure a broadcasting license, and that will be tantamount to protesting against the granting of the application. It is in the interests of all listeners that such a station should not be erected. If a license were granted, the purpose of the Act would be departed from and a precedent would be set, so that every denomination and sect in New Zealand would seek a license. The result would simply be chaos and it would seem unlikely that a license for such a station as the Church of England people are thinking about will ever be granted. By far the great majority of listeners have crystal sets of poor selectivity, what would be the result when several such stations were broadcasting simultaneously?

It will be far better for all concerned if the Church of England will agree to work in with the other churches in regard to the broadcasting of services. For months the Broadcasting Company has had under consideration a proposal for reaching a working basis among the principal denominations. The Broadcasting Company is quite impartial in the matter of which church service it broadcasts. It thinks that it is up to the various religious denominations to agree amongst themselves as to the best way to take advantage of the great power which has been placed at their disposal for spreading the Gospel. The Broadcasting Company could do no more than it has done and can do no more in an impartial way than it offers to do.

The first conference between the various churches will be held in Christchurch this month, and it is to be hoped the Church of England will send a representative, and that an amicable arrangement will be arrived at, when the Broadcasting Company will be only too pleased to lend what help it can.

### THE ANGLICAN ASSOCIATION'S COMMENT.

We wish to enter a vigorous protest to your article on "Broadcasting Religious Services" appearing in your issue dated 19th inst., containing as it does an attack on the Anglican Broadcasting Association of N.Z. (Incorporated), and we ask that you give our reply the same publicity as your attack.

Your article is not a fair statement of facts. The Anglicans, who form over 40 per cent. of the listeners, cannot be described as "a small percentage of the minority of listeners," or as "a very small number." You state that if the Anglicans had a station of their own many would find it impracticable to tune in to it in the cities. We can only describe this as a deliberate distortion of fact. With a crystal receiver and one valve 1YA station is being tuned out night after night and other stations tuned in by the undersigned. This is quite a simple matter for valve sets. You would apparently like crystal owners to believe that their sets would be useless in a centre where more than one station was broadcasting simultaneously. There is one overwhelming answer to this. Other cities, such as Sydney, are operating two A stations and several B stations, and crystal owners benefit by the choice of programmes they can tune into. Surely what can be done there can be done in New Zealand!

Your statement that "it is in the interests of all listeners that this station should not be erected" is another statement made without any evidence to support it. It must be evident to all listeners that it is to their advantage to have a wide and varied choice of programmes to tune into. Every station within range is an added incentive to take out a license. In N.Z. the Radio Broadcasting Coy. hold the monopoly in receiving 25/- out of every 30/- license issued, which on the latest figures runs to over \$40,000 per annum. On top of this financial monopoly they are trying to establish a huge and complete monopoly of all broadcasting in this Dominion, in spite of the Postmaster General's repeated announcements that they have no right to claim such a monopoly. Undoubtedly the company would welcome the advent of new up-to-date stations, which would bring increased license fees to them, if it were not for the fact that the Radio Broadcasting Co. is afraid that if such stations proved their worth, the public at some future date might demand that this huge financial monopoly come to an end.

Your statement in heavy type regarding the slowness of the Church of England to recognise the value of broadcasting is absolutely amusing to those who know the facts. We have been very much alive to its importance, for we have, for some considerable time past been in touch with what is being done elsewhere by churches owning their own stations. Moreover, we have as a Church, through His Grace the Archbishop, repeatedly asked the Broadcasting Company for a better service, but our applications have simply been side-stepped, as will be seen if we have to publish our full correspondence.

We, therefore, very much regret the attitude you have taken up, and can simply assure your readers that we are not in any way antagonistic to the Radio Broadcasting Company or any other company or private individual who may erect and operate a broadcasting station. We are out to fill a want which the Radio Broadcasting Company is not called upon to fill. We are an incorporated society of churchmen who are willing to put our hands in our pockets to reach the great mass of members of our Church who are involuntarily cut off from organised religion.

Yours faithfully,  
The Anglican Broadcasting Assn.  
of N.Z. (Inc.),  
Cecil A. B. Watson, President.  
H. M. Smyth,  
Hon. Gen. Secretary.

### OUR REPLY

To this statement we would make the following categorical reply:—

(1) Our article was not an attack upon the Anglican Broadcasting Association, which was not in fact mentioned. It was a simple, straightforward review of the facts and factors bearing upon a matter of important Government policy of moment to listeners.

(2) We nowhere described the Anglicans as "a small percentage of the minority of listeners," or even as "a very small number." Our reference in that context was not to the Anglicans at all, but was a general reference to those who would be affected throughout New Zealand—(See the actual article). The statement in our correspondent's letter that 40 per cent. of all listeners are Anglicans may or may not be correct. It is apparently founded upon the census figures of the proportion of Anglicans in the population, but there is not the slightest guarantee that the same percentage holds good in the number of listeners. It might, as a matter of fact, be greater, or even very much less—our point is that the information is not in existence, and it is quite impossible to assume that the census proportion obtains in the general body of listeners. It is a matter of common knowledge that, in the census returns, as in the army, many of those who are nothing in particular return themselves as Anglicans. We say this in no unkindly spirit, but as a sheer matter of common-sense fact.

(3) We did not state, as written: "you state that if the Anglicans had a station of their own, many would find it impracticable to tune in to it in the cities." If our reverend correspondents will refer to our article they will see our statement was: "The great majority of listeners have crystal sets, and these listeners would not be affected by the regrading. Also it may be pointed out that even some of those listeners with valve sets in the cities would find it impracticable to tune in to the station they wanted if their own station were on the air." This portion of the article merely referred to a rearranging of services and had no reference to the proposed Anglican station.

Further, our statement was "even some" and that is converted into "many" in our friends' letter; our statement referred to the well known fact that some valve sets in cities are unable to tune in other stations while their local station is on the air. This is particularly the case with 2YA, which is 10 times stronger than 1YA. Our statement is correct and remains correct and we invite our reverend friends to be courteous enough to withdraw and apologise for their comment that our statement was "a deliberate distortion of fact." We will not be so unchristian as to return their allegation in relation to the warping of our words which we have pointed out.

(4) The suggestion that the Broadcasting Company is afraid of the prospective competition of the Anglican Broadcasting effort may be left to take care of itself.

Our review of the situation was made without any concern for the Broadcasting Company's individual interests but was simply undertaken in line with our conception of our duty to safeguard the general interests of all listeners. Whether the license is granted to the Anglicans will depend entirely upon the Government, and is a matter for its policy determination. After giving consideration to the matter, and particularly after having perused the booklet issued by the Anglican Broadcasting Association, we reached the conclusion that the institution of such a broadcasting station upon the air in New Zealand would be definitely a retrograde step, as introducing propaganda, inviting reply thereto, and generally creating disharmony on a subject which should be free therefrom. We therefore wrote the article we did. The reply of the association confirms our conviction that the adoption of such propagandist methods in the field of religion, however they may be gilded with the pill of entertainment, would not be desirable.

(5) Our correspondents take us to task for stating that "The Church of England has been very slow in recognising the value of broadcasting as a means of disseminating the Gospel, and has not availed itself of the opportunity which the company has offered them."

In replying to this our correspondents adopt the rather common Auckland failing of assuming that Auckland is New Zealand. There are other cities in New Zealand besides Auckland, and our statement was a general statement, which is true to the fullest degree. The absence of Anglican services from the programmes of other stations in New Zealand has been marked, and since our inception we have received numerous letters from readers commenting upon this fact, and assuming that the deficiency was on the part of the Broadcasting Company. That absence has not been due to the Broadcasting Company. It is not our place to go any further into the matter at this stage, but it is open to our correspondents to make their own inquiries in relation to other centres and enlarge their knowledge.

There is, further, one suggestion in this portion of our correspondent's letter which must be strongly repudiated. It says: "We have repeatedly asked the Broadcasting Company for a better service, but our applications have simply been side-stepped, as will be seen if we have to publish our full correspondence." We have no knowledge whatever of the correspondence referred to, but we regard the suggestion that there is anything in that correspondence that should not be published as quite unworthy, and we would suggest to our correspondents that they take the earliest opportunity of publishing it. We and our readers would

prefer full frankness rather than the subtlety of innuendo.

In our opinion, the greater frankness with which this matter is discussed the better, because then our readers will be able to understand the objective of our friends. The objects of the promoters of the Auckland Anglican station are set out in their own booklet to be:

- (1) The broadcasting of church services, especially for the young, the sick, the aged and isolated;
- (2) Scriptural and other religious instructions;
- (3) Lectures on church history, etc.;
- (4) Propaganda for the Church's social work;
- (5) Information on parish and general church news;
- (6) Good church music;
- (7) Special messages from prominent church people.

The point immediately apparent here is that of general propaganda. Under the terms of its license, the Broadcasting Company must avoid all propagandist and special debatable matter. In line with that restriction, its activities are confined to a dissemination of religious services, which it has endeavoured to do on a basis perfectly equitable to all denominations.

But the Auckland Anglicans say in their booklet, after referring to the restriction upon propaganda:

"There is only one escape from this position, OWN AND OPERATE OUR OWN STATION, and so long as we receive no share of the license fees, we can put out whatever we like as freely as the man on the soap-box, and we have the same chance of holding or losing our audience that he has. The urgency of the matter lies in the fact that only a limited number of high-power stations will be licensed in each centre, and UNLESS THE CHURCH GETS IN EARLY our chance of owning and operating such a station will be lost."

A further extract of interest is this:

"We are convinced that, from a churchman's point of view, the present position is very undesirable. Thousands of our people are actually listening in all over the country to all sorts of dissenting (and lately, to anti-Christian services) because there is nothing else to listen to."

Such terms and phraseology, strike in our ears, at any rate, a jarring note. We do not imagine that the other churches will welcome either the language or the tone employed towards them, while the charge of disseminating anti-Christian matter is so serious that we invite the Auckland Anglicans to be a little more specific so that the matter can be investigated further.

The importance of the dissemination of religious services as a social service is beyond question. The issue raised by our friends, however, goes beyond that. They would seem to be not so much concerned with the dissemination of religious services, because that is already being done on a basis which it is the desire of the Broadcasting Co. to make as fair and equitable as possible to all denominations. The aim is confessedly a propagandist one, and having regard to the care taken by the Government that this new medium of broadcasting should not be sullied by partisanship, we are satisfied, in the general interests of listeners, that the proposal in question is not to their advantage.

We have excised from our correspondent's letters a final paragraph which suggested we are not responsible for our own views. We are, wholly and solely—Editor.

### WEATHER REPORTS

With the recent vagaries of the weather, the nightly weather report has been greatly looked for by listeners, particularly country listeners, to whom prompt advice of the weather indications and prospects is of definite value in enabling them to handle their stock to the best advantage. Realising this, particularly in the sheep-shearing season, the Broadcasting Company has arranged with Dr. Kidson, of the Meteorological Service, to extend that Department's service by providing forecasts for both Saturday and Sunday evening. The Saturday evening forecast is issued at the usual time, as near to 9 o'clock as possible, and on Sunday evening between the church service and the succeeding musical programme.

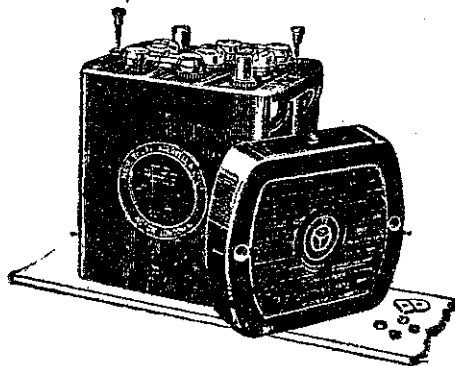
In addition to this nightly forecast, it has been the practice to give in the news session a very full and admirable report on the weather from the columns of the "Evening Post." This report is of definite value, and has been specially appreciated by country listeners, who have not wished to stay up to 9 o'clock in order to secure the weather report.

Popular enthusiasm for wireless in the Argentine has developed to such an extent that there are now approximately 150,000 holders of receiving licenses. The majority possess crystal sets, but valve receivers are coming in to favour.

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## 3YA FEATURES CONTINUED

(From Page 7.)

On Friday, Mr. T. G. Rogers, popular tenor, will sing again at 3YA. Two of his items will be the old favourites "Alice Where Art Thou?" and "Believe me if all those endearing young charms."

Mr. Alex Johnson, elocutionist, will be appearing again at 3YA on Friday.

The Joyous Trio—Misses Muriel Johns and Dorothy and Edna Johnson—have been engaged for Saturday evening's concert, and will dispense their usual measure of brightness.

Mr. H. Instone, well-known humorous entertainer, will give some of his popular sketches and recitations on Saturday evening.

Making his first appearance at 3YA on Saturday evening will be Mr. Joch Lockhart, whose forte is Scotch songs at the piano. He accompanies himself and his patter will amuse. He is a good entertainer.

Mr. Arthur J. Allan, well-known Christchurch soloist, being a member of the Male Voice Choir, and experienced in oratorio and cantata singing, will be heard from 3YA on Saturday for the first time. He is a very fine singer, and his tenor voice should be heard to great advantage. One of his songs will be the great favourite "Sally in Our Alley."



MISS HAMERTON, a well-known Christchurch teacher, who is frequently on the air from 3YA.

—Steffano Webb, photo.

A Salvation Army service is to be broadcast by 3YA on Sunday evening, December 11. Something out of the ordinary run of religious services will be enjoyed by listeners. Brigadier Bladen, who will have charge of the service, will be remembered by many returned soldiers as Captain Bladen, an extremely popular chaplain. Singing will be a great feature of the service. There will be a choir of 130 voices, and the singing will be accompanied by the boys' band.

Commencing last Friday, Mr. J. D. Baybutt is delivering at 3YA a series of lectures on physical culture. The second lecture takes place on Friday. Mr. Baybutt is physical instructor at St. Andrew's College, and is well versed in his subject. Last season he had charge of the Canterbury College football team and also the representative team, which won the Raufarui Shield.

"Stamp Collecting as a Hobby" will be discussed by Mr. R. J. G. Collins at 3YA on Thursday, December 1, at 9.15. Mr. Collins is the author of books on stamps. He is president of the Christchurch Philatelic Society and the New Zealand representative of the Royal Philatelic Society of London.

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## Next Week's Features, Continued

The address on "Music," which was to have been given by Mr. Raynor White, F.L.C.M., on Thursday, December 1, has been postponed till December 15.

A talk of interest especially to farmers will be given at 3YA on Thursday, December 1, when Mr. J. E. Strachan, president of the Canterbury Progress League, will speak on "Some Observations on American Farm Practice."

## 3YA'S FINE TRIO

## BRIGHT MUSIC NEXT WEEK.

Among the most interesting items to be played next week by the Christchurch Broadcasting Trio are a Petite Trio by Coerne, which is written in the form of a Canon; and the First Movement from the D Major Trio, Op. 70, which is representative of one of Beethoven's finest works.

Also will be given two movements (Moderato and Allegretto) from a Trio by Gurliitt, who is noted for his exceedingly bright and melodious melodies.

A composition which should prove a delight to many listeners is the Trio in A Major, by Carl Bohm, that most popular of composers. The bright, sparkling movement of the opening Allegro will appeal by its very vivaciousness, while the last movement, which is in reality a bright and rhythmic Turkish March, always creates much enthusiasm whenever performed in public.

Another favourite number to be played by the trio will be Gounod's Meditation on Bach's First Prelude. It was expected that Gounod would enter the priesthood. Therefore, it is not surprising that he should have taken the Prelude, using it as a basis for a religious meditation.

Schubert's Ballet Music from "Rosamond" will also be featured, besides a Country Dance from some ballet music by Gade.

A cavatina which has done so much to make the name of Rapp almost a household word will also be played. It is indeed a beautiful melodic effort, simple and unaffected.

Miss Irene Morris will play the "Romance" from Wieniawski's 2nd Violin Concerto, while among the solos to be played by Miss Eileen Warren will be Liszt's brilliant arrangement of Schubert's much-beloved "Serenade."

## 4YA NOTES

On Sunday evening the first children's song service, conducted by "Big Brother Bill" will be heard. It will commence at 5.45 p.m., and will include a bright little entertainment of a sacred nature. The service from the First Church of Otago will afterwards be relayed, commencing at 6.45, when Dr. V. E. Galway will give a short organ recital. Dr. E. N. Merrington will be the preacher.

At 8 p.m., providing the weather is suitable, the St. Kilda Band's concert will be relayed from St. Kilda. Mr. James Dixon conducts the band, and a first-class programme will be presented. On Tuesday, during the afternoon session, the usual weekly addresses will be delivered by Miss M. Pachequid on "Interior Decoration," and by Mr. H. Greenwood, who will review the latest books.

The children's session in its new form will commence at 6 p.m. on Tuesday, when a most attractive little programme will be offered, in addition to "Big Brother Bill's Features." This session will conclude at 7 p.m.

The concert session will be provided by a party of well-known entertainers known as the "Twinklers," organised by one of the leading elocutionists, Miss Anita Winkel. A first-class programme is promised by the following ladies and gentlemen—Miss Sheila Neilson and Miss Roberta Williams (elocutionists), Miss Winnie McPeak, Miss M. Dales, Miss Rona Wood, Mr. J. B. McPherson (vocalists), Mr. Malcolm Robillard, and the Rev. G. E. Moreton (instrumentalists). Pastor W. D. More will give another humorous address.

A recital by the Chamber Music Club will be given on Thursday evening. The programme includes solos, duets, trios, quartets, and quintets. A rare treat in chamber music is promised.

Dr. E. N. Merrington will on Thursday give a talk on the influence of the League of Nations in international affairs and on States outside the League.

The Kapai Dance Band, a popular musical organisation in Dunedin, will provide a dance programme of music on Friday, interspersed with other instrumental and vocal selections. The vocalist will be Miss Rita Holmes, a fine soprano singer.



MR. C. L. RICHARDS, OF 3YA.

One of a very musical family—a sister toured with the Belle Crome Company, and is now professionally engaged in San Francisco, and a brother is Mr. H. Richards, one of the Lyric Quartet, so popular at 1YA.—Mr. C. L. Richards is a prominent singer in Christchurch. He has been successful at competitions.

—Steffano Webb, photo.

## THE MELODY FOUR

Personnel—Mr. C. A. Williams (tenor), Mr. F. Bryant (tenor), Mr. R. S. Allwright (bass), Mr. W. Marshall (bass).

On Monday, December 5, this talented male quartet will be heard "on the air" from 2YA. The quality, blend, and interpretation of the concerted work which the quartet presents reaches an exceptionally high standard, being the result of experience and assiduous practice. Mr. C. A. Williams (first tenor) is an experienced choral singer and soloist, and is not new to listeners-in, having been a very successful broadcaster from 2YA. He is the possessor of a particularly pleasing voice, which he uses with studied discretion, evidencing the sound training which he received in England. He is well known as a performer of merit on the concert platform in Wellington,

and as soloist for many provincial musical societies. Mr. F. Bryant is also known to listeners-in as a tenor soloist at 2YA. He has a voice eminently suited for broadcasting purposes, which has been proved by his previous performances on the air. He also is a frequent performer at the principal concerts held in Wellington, and has had a wide experience in part singing. Mr. R. S. Allwright has for many years occupied a prominent position amongst the leading baritones in the Dominion, and is well known in both the North and South Island. He has proved his suitability for broadcasting on the several occasions on which he has been broadcast from 2YA. He has been a member of many fine male voice quartets, and his experience in this particular branch of singing is varied and extensive.

Mr. W. W. Marshall (bass) is a frequent performer at 2YA, and is one of the leading basses in the Dominion at the present time. Listeners-in will no doubt remember his finished rendering of the Prologue from "Pagliacci," also the many excellent performances he has given since then. A rich, resonant bass voice of exceptional range and quality, coupled with the clearest diction, places this singer in the foremost rank of successful broadcasters. He also is an experienced choral and male part singer.

## ESPERANTO

## LESSON XIX.

(To be broadcast from 2YA on December 8, from 7.39 to 7.54 p.m.)  
Bonau vesperon, Sinjoroj kaj Sinjoroj!

## AFFIXES (concluded):

-IG- denotes the action of becoming, turning to; ric'a, rich; ric'ig'i, to become rich; pala, pale; palig'i, to turn pale.

-IL- denotes tool or instrument; pafi, to shoot; pafilo, a gun.

-IN- denotes feminine gender; filo, a son; filino, a daughter; leono, a lion; leonino, a lioness.

-IND- denotes worthiness, merit; admir, to admire; admirinda, admirable.

-ING- denotes a thing for holding only one object; glavo, a sword; glav ingo, a scabbard; kraĵono, pencil; kraĵoningo, a pencil holder.

-ISM- denotes doctrine, practice, cult; katoliko, catholic; katolikismo, catholicism.

-IST- denotes a person occupied with the idea contained in the root: anonci, to announce; anoncisto, an announcer.

-MAL- denotes the direct opposite of any idea: forta, strong; malforta, weak.

-RE- denotes, as in English, repetition, back, again; diri, to say; rediri, to repeat.

-UJ- denotes that which contains a number or quantity of (applicable to names of trees and countries), Mono, money; monujo, a purse; Turkujo, Turkey; pomujo, apple tree.

-UL- denotes a person or being characterised by the idea contained in the root; bela, beautiful; belulino, a beauty (fem.).

-UM- has no definite meaning. Its meaning is understood by the signification of the root to which it is joined: plena, full; plenumi, to fulfil; proksima, near; proksimuma, approximate.

Bonau nokton al c'uj.

## A NEW CRYSTAL DETECTOR

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A single wire or catwhisker cannot transmit the necessary electrical energy through it, without destroying the contact point or the crystal face. To remedy this condition, use has been made of a silk core brush, composed of seventy strands, which distributes the energy equally, thus making it impossible to burn out either the crystal or contact points.



MISS EURICE COTTON.

Singing at 3YA on Monday evening. Miss Cotton, who is a pupil of Madame Otlee, is a very popular soprano.

—Steffano Webb, photo.

The silk brush used is constructed of seventy silk cords, minutely wrapped with flat bronze tinsel, making contact on the full crystal face, preventing burning out of crystal and resulting in louder music. This detector is easily fitted to your panel, by drilling one 7-16 inch hole.

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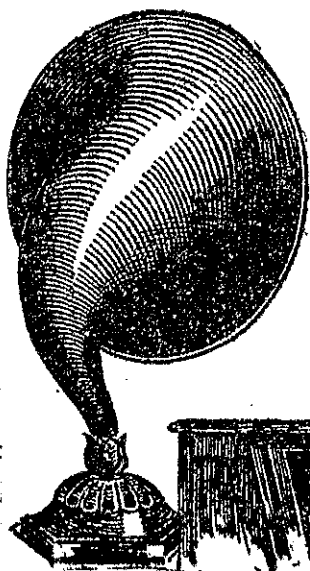
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# The Wonderful Neutrodyne Explained by Its Originator

By L. A. HAZELTINE

Professor of Electrical Engineering, Stevens Institute of Technology, New York.

**T**HE neutrodyne receiver has now been before the public for four and a half years and has achieved a popularity and reputation never approached by any other type. It is often

considered simply as the embodiment of a single feature, the neutralisation of capacity coupling. But this is far from the truth, for several other important and novel elements entered into its make-up and contributed essentially to its success. As discussed in some detail below, these elements included, in particular, the elimination of all coupling between tuned circuits, the use of high step-up ratio in the interstage radio-frequency transformers, an antenna circuit closely coupled to the first tuned circuit through a step-up transformer and tuned together with this circuit, the electrically similar arrangement of all of the tuned circuits so that the dial settings are practically alike and the mounting of all of the radio-frequency transformers in the same manner but at a particular angle, which results in no magnetic coupling. Some of these additional features have since been copied and applied to other receivers.

Nearly all commercial neutrodyne receivers now comprise two stages of

the set which is causing them, but they are also likely to be annoying to his neighbours, for the oscillating set and its aerial constitute a miniature radio transmitting station. In some neighbourhoods the squeals of oscillating receivers produce such a chorus as often to prevent the reception of enjoyable programmes.

Even when a regenerative receiver is not oscillating, it may be distorting the broadcast programme in a way that is not always recognised. This distortion is due to the fact that when the regeneration is adjusted quite close to the oscillating point it makes the receiver so highly selective as not to respond to the high-pitch components of the music so well as to the low-pitch components. The result is that, although the music may come in loud, the low pitches are accentuated, and its character is lost.

## REGENERATION UNDESIRABLE.

With the valves now in general use, and with well-designed coils and condensers, it is possible to make receivers for the broadcast wave-lengths which are naturally as selective as is permissible without the distortion just referred to. For this reason regeneration, even below the oscillating point, is not desirable.

Since the introduction of the neutrodyne receiver, there have been developed certain other receivers which do not eliminate regeneration, but which

enter: First, by magnetic coupling, or mutual induction between the coils; second, by capacity coupling, due to capacity between the grid and plate of a vacuum tube and to various other capacities between coils, condensers, and lead wires, and, third, the inclusion of some apparatus or simply connecting wires in the paths of the radio-frequency currents of the different stages.

## REDUCING COUPLING.

Magnetic coupling between the coils is avoided by mounting them with the axes in certain relations. If all of the coils are to be mounted in the same manner, their centres should be on the same straight line and their axes should make an angle of about 55 degrees with this line. This method of coil mounting is one of the most conspicuous features of the neutrodyne receiver. There is a form of magnetic coupling that has sometimes given trouble to home constructors; and this is the presence of a closed loop in the wiring or supports which is coupled magnetically to two or more of the coils and so serves to couple these together. For example, sometimes the positive and negative filament leads are run some distance apart. As these leads are connected together through each filament, closed loops are formed. The obvious remedies are to avoid closed loops in the supports and

In case a bias battery, or C battery, is used in the radio-frequency amplifying tubes, it is even more necessary to use a large condenser shunting this battery, connected analogously to C. But even a single condenser so connected may not suffice, in which case a separate condenser is used for each of the amplifying tubes, connecting directly from the terminal of the secondary coil to the filament. It has not been found essential to use C batteries with the radio-frequency amplifying tubes; but a C battery with the audio-frequency tubes, as designated by C in the diagram, is of distinct advantage when a loudspeaker is used in increasing the audio-frequency amplification and improving the quality.

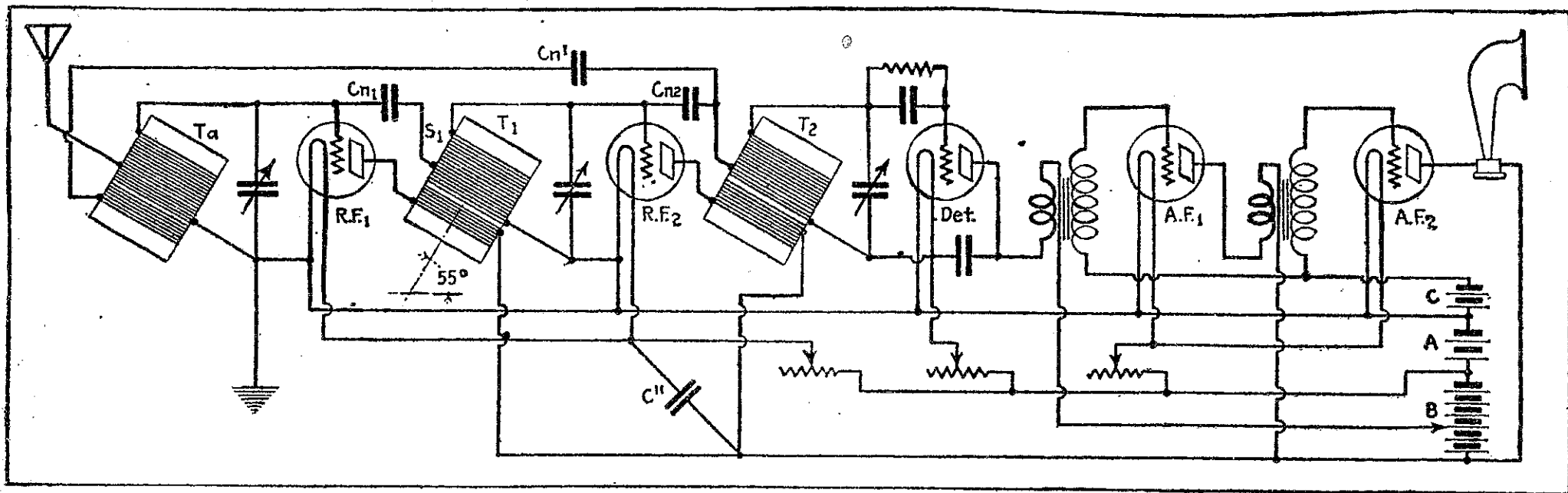
## NOT EASY TO BUILD.

The various forms of possible coupling described in the preceding paragraphs are sometimes very elusive in the development of a new model. For this reason home constructors have frequently been disappointed in their neutrodyne receivers because they find themselves unable to eliminate regeneration and oscillation. While the neutrodyne receiver, once properly arranged and neutralised, is simpler to operate than most regenerative sets, it is not so easy to construct with satisfaction; for in a regenerative set one form of regeneration can be combined with another, either assisting or opposing, or can counteract the effects of losses, where-

rheostat for the two radio-frequency valves together is useful for controlling the volume of the sound. For good loudspeaker operation without overloading of the detector valve two stages of audio-frequency are preferred. If both stages are to be employed at all times a single rheostat for the two audio-frequency valves is appropriate.

Probably almost everyone who has operated a neutrodyne receiver has noticed that the three tuning dials read nearly alike for each wave-length setting, and has had the idea that these three adjustments might better be made simultaneously by gearing the dials together, or, better, by mounting the rotors of the three tuning condensers on the same shaft.

This has been successfully accomplished, and tuning much simplified, and it is, therefore, practically impossible to pass through the adjustment of any given station having an audible signal strength without hearing it. The manner in which this simple fixation of tuning has been accomplished has been the improved manufacturing methods enabling condensers and inductances to be so accurately matched in characteristics that the condensers can be simultaneously notated by a single control, and precision of tuning in each stage maintained. When antennae of various capacities are used, the difficulty of absolute precision is overcome by inserting a compensating control in the interior of



Lay-out by the originator of the Neutrodyne which so wonderfully promoted quality reception.

tuned radio-frequency amplification, a valve detector and two stages of audio-frequency amplification. Some audio-frequency amplification is necessary in any receiver for operation of a loudspeaker, because a detector valve alone cannot give sufficient output without distortion. On the other hand, more than two stages of transformer audio-frequency amplification is likely to result in excessive disturbing noises, due to induction and to irregularities in valve and battery operation; so the further amplification usually desired must be at radio frequency. Radio-frequency amplification can be made much higher. For the same number of valves, when each stage is tuned, and such tuning has a marked additional advantage in increasing selectivity.

## EFFECT OF TUNED TRANSFORMERS.

The tuning of the interstage transformers has an effect similar to the tuning of the plate circuit of a valve—that is, it makes the capacity coupling between the plate and the grid effective in producing regeneration and frequency oscillation. As everyone knows an oscillation in a receiver is the cause of objectionable "squeals," due to the beat note produced with the carrier waves of broadcasting stations which are not quite in tune. These squeals are not only annoying to the user of

prevent or control oscillation in some other way, usually by the introduction of some source of loss in the radio-frequency circuit. Theory as well as practice indicates that a cure is better than a palliative, and that the neutrodyne receiver which eliminates regeneration will give the greatest amplification, coupled with freedom from distortion.

## STATIONS EASILY LOGGED.

There is another reason for preferring a receiver which has no regenerative control, and this is the convenience in being able to "log" stations once heard, with the confidence that the dials may be set at the same points and the station again picked up at any future date when it may be broadcasting. This is not possible with a regenerative receiver: for the regenerative adjustment is dependent on the condition of the batteries, and the tuning adjustments will be dependent on the regenerative adjustment. In the neutrodyne receiver, on the other hand, all adjustments are independent of one another and the tuning is not affected by the condition of the batteries.

Regeneration is avoided in the neutrodyne receiver by eliminating all coupling between the tuned circuits. There are three ways in which coupling can

to run the two filament leads close together.

The theory of the neutralisation of capacity coupling has been explained quite often, but will now be briefly reviewed. Referring to the diagram, suppose that a disturbance is started in the second tuned circuit, T1. This will cause a current to flow through the capacity between the plate and the grid of the tube RF1, which current would then tend to flow through the first tuned circuit Ta, building up a potential on the grid and causing regeneration. However, at the same time a current will flow from the tap on the secondary coil S1, through the neutralising capacity Cn1 to the grid. As the plate and the tap are connected to points of opposite polarity, these currents will have opposite directions. The neutralising capacity is so adjusted as to make these currents equal; so the final result is that the current flowing to the grid is equal to the current flowing away and no current flows through the grid circuit Ta. Thus a disturbance originating in the second tuned circuit does not reach the first tuned circuit and there is no regeneration.

Besides the capacity coupling through the individual tubes, there is some slight capacity coupling between the first and third tuned circuits, Ta and T2. This coupling is slight, particularly if the receiver is partially shielded, as by a metal sheet on the back of the panel. Some of the recently developed neutrodyne receivers, however, have introduced the refinement of neutralising this capacity coupling. This method is illustrated by the capacity Cn shown in the sketch, the theory of which is similar to that just given.

## SELF-INDUCTANCE IN WIRING.

Coupling due to the inclusion of common apparatus in the different radio-frequency stages is most likely to occur in the leads to the common B battery. Even when these leads are quite short they have sufficient self-inductance to cause objectionable coupling. This difficulty is obviated by the use of the condenser C in the figure, which should preferably have a capacity of the order of 0.1 microfarad or larger. The leads to this condenser should be made very short and should connect exactly as shown, from the junction of the leads from the two primary coils to the junction of the two filament leads. This condenser effectively short-circuits the radio-frequency currents of the plate circuits of the valves RF1 and RF2, and so prevents these currents from flowing through the leads to the B battery. Instead of the single condenser C sometimes a separate condenser is used for each valve and may then connect even more directly from the terminal of the primary coil to the filament.

as in the neutrodyne receiver every form of regeneration must be eliminated individually and any losses will result in diminution of amplification.

A valuable feature in the design of the neutrodyne receiver is the use of a high step-up ratio in the interstage transformers T-1 and T-2, as well as a fairly high step-up ratio in the aerial transformer T-A. In both cases this results in a high degree of selectivity, with an amplification that is close to the optimum value. The proper ratio to employ in the interstage transformers depends on the valve for which the set is designed. The better the valve is from an amplifying standpoint the fewer primary turns should be employed. The fairly high-step up ratio employed in the aerial transformer T-A makes the operation of this circuit nearly independent of the aerial constants, particularly its capacity and its resistance. If a very long aerial is employed, which is not recommended on account of the greater interference experienced, a fixed condenser is sometimes connected in series with it.

## THE RHEOSTATS.

The arrangement of the rheostats is subject to considerable variation. Sometimes a single rheostat is used for all five valves, while at the other extreme a separate rheostat may be used for each valve. If a soft detector valve is used it should have its own rheostat. A

the set to match the first tuning arrangement, with its attached aerial. This compensator obtains accuracy at an average wave-length on the scale. Some manufacturers prefer to keep the aerial tuning arrangements separate, and under these circumstances of dual control complete accuracy of tuning is naturally forthcoming, with practically the same simplicity of operation.

The ideal neutrodyne is, therefore, to hand now, because with "gang control" of the condensers as many as four stages of radio-frequency amplification is available, and such sensitivity of pick-up enable a loop receiver to be used, and, providing the batteries are contained in the cabinet, the whole equipment may be put on legs having castors and rolled freely around the floor to any desired position.

The volume control on modern receivers consists of a single filament rheostat, which drives the filaments of either one or all of the radio-frequency stages.

Printed and published for the New Zealand Radio Publishing Company, at the registered office, Dominion Avenue, Wellington, of the Wellington Publishing Company, by Archibald Sando, of 47, Freyberg Street, Lyall Bay, FRIDAY, DECEMBER 2, 1927.

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