



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

Vol. II., 49.

WELLINGTON, FRIDAY, JUNE 21, 1929.

## Radio Exhibition Endorsed

**D**ECISION to proceed with the radio exhibition in the Town Hall on July 25, 26 and 27 has been reached, and enthusiastic preparation and organisation in connection with the function is being prosecuted.

This decision was reached at a full meeting of the radio branch of the Wellington Electrical Federation. The proposals submitted by the "Radio Record" for the organisation of the exhibition were fully discussed, and finally accepted. The proposals have also been submitted to the Wellington Amateur Radio Society in so far as they affect that body, and it, too, has decided to co-operate and accord the measure of support asked for, particularly in relation to the supervision and control of competitions designed for constructors.

**F**ULL co-operative support has been promised by the Radio Broadcasting Company and the Post and Telegraph Department, so that all interests affected are working effectively and harmoniously to make the function a big success. The committee of management appointed comprises the following: Messrs. C. J. Ralph, G. Robertson and C. W. Rickard (representing the Electrical Federation, Radio Section, with Mr. G. C. Camp associated as secretary), Mr. Byron Brown (Wellington Amateur Radio Society), Mr. J. Davies, station director 2YA (representing the N.Z. Radio Broadcasting Company), and Mr. A. J. Heighway ("Radio Record"). Mr. Heighway was appointed chairman of the show committee.

**T**HE attention of constructors is directed to the detailed announcement made in another column of the competitions available to them. These are calculated to appeal to both crystal and valve constructors. It is anticipated that considerable interest will be evoked in this section, and that the entries will display a high order of attainment. In addition to the exhibits of the winning entries in these sections, arrangements will probably be made for the display of other sets of historic and present-day interest to listeners.

**T**HE preliminary announcement we made last week as to our hope that such an exhibition would be developed has attracted a good deal of attention; and from Auckland come indications of approval and encouragement. In fact, our Auckland correspondent states emphatically that the Auckland view is that the goal of 50,000 listeners set for attainment is too low, and that the opinion is held there that it will be exceeded and a much

*Three Day Function in  
Wellington Town Hall  
July 25, 26, 27*

larger total reached. This is cheerful news. Auckland, itself, is aiming at a total of 20,000 listeners in the very near future, and with the rate of expansion which is developing, largely because of the present-day efficiency of the modern electric set, this estimate would seem to be quite within the capacity of the northern city. In Well-

ington, too, and other centres, the same healthy tone is apparent. It is pointed out, however, that while the cities are responding to the extra efficiency now provided by this modern equipment, the countryside has not as yet reacted in full degree to the possibilities of the situation. It is therefore stressed that there should be directed towards the countryside some propaganda to make farmers and their households acquainted with possibilities at command, and what they are missing by not participating in radio. This is a good point, and no doubt a forward move will be made by the traders closely concerned in the course of the near future.

**I**T is recognised that the forthcoming exhibition in Wellington will result in a splendid aggregation of radio equipment and material, and a suggestion has been made that country radio dealers should make a special point of visiting the Capital City during the progress of this exhibition. By doing so they would make contact with the principals in the radio wholesale firms, and see in a comprehensive exhibition the full range of material now on the market. Propaganda to this end will be undertaken by the exhibition show committee.

**F**OR the listener the show will prove a focus point of interest.

That there will be a large attendance of listeners from the Capital City is, we think, undoubted. Many in addition will come from nearby centres; but, in order that those at a distance may secure all the benefit possible from the exhibition, both the air and the "Radio Record" will be used to convey to them essential data. As indicated last week, it is our view that no one stands to gain so much by an expanded interest in radio as the individual listener. While the best possible is being done with the means now available to the radio service, it is certain that, with bigger resources in the way of revenue, material improvements could be effected and longer hours of service given. Under those conditions the listener would receive for his 30/- a greater return, and collectively derive more benefit than any other individual section. From that angle we bespeak for the exhibition the support and interest of listeners, and feel sure we will not appeal in vain.

## Football Broadcasts

## Auckland Notes

## DX Notes

## News Items

## Desirable or Undesirable

THE feeling that the question of football broadcasts was to be discussed brought out about forty enthusiasts to the last meeting of the Amateur Radio Society of Wellington. The question was opened by a motion from a vice-president rescinding the motion passed at the last meeting recommending that the broadcast of football of local interest only be ceased. What promised to be a lively discussion commenced, but the president ruled that discussion on this score was out of order, and that notice of motion only could be given at that meeting. The discussion proper on the question of whether the motion should be rescinded or not must be withheld till the next general meeting.

It was explained by a member of the committee that in conjunction with the "Radio Record," the Amateur Radio Society was intending to hold certain competitions in connection with the forthcoming radio exhibition. The meeting was asked to endorse or refute the action of the committee in expressing their willingness to co-operate. A resolution was then moved, and seconded, by members of the society: "That this meeting confirms the movement of the executive in agreeing to co-operate with 'Radio Record' with respect to competition for the exhibition."

There was no correspondence, and before introducing the speaker of the evening, it was asked whether there were any complaints. There were none, and it was added by several present that both transmission and programmes of late had been good.

The speaker for the evening was Mr. Firth, of Kirkcaldie and Stains, Ltd., who took as his subject, "The Majestic Receiving Set." The synopsis of his lecture appears elsewhere.

(BY LISTENER.)

"FIFTY thousand!" says last week's "Record." "Not enough," reply several Aucklanders, to whom this desired goal was mentioned. They contend that there ought to be at least twenty thousand listeners in this district alone, and that there soon will be, at the steady though not phenomenal rate of progress now developing. Auckland is doing its bit towards the support of broadcasting, recognising that conditions are all the time improving; that every day we are getting better and better. What is needed at this time is an intensive country campaign with moderate priced reliable electric sets in all districts where power lines radiate. There are still so many country folk who do not realise all that an electric set can mean to them. Doubtless the annual winter show next month will do much to remedy this.

NEXT Sunday Whangarei comes to Auckland, per land line, with an after-church concert which, though it cannot be expected to reach the excellence of the Wellington relays, will nevertheless be quite as welcome. It will demonstrate that the outlying centres can play their part in the gigantic scheme of entertainment which broadcasting now undertakes. There is another keen musical centre in the province that should soon contribute to our programmes, and that is Cambridge, which, for its size, possesses some excellent talent.

THE Auckland Radio Society is making good progress with an ambitious programme it has set itself. Membership is growing in a very healthy manner, and the committee have under consideration at the present several suitable places for club-rooms. A decision regarding these premises should be reached in a few days.

## IYA on a Crystal at Blenheim.

CAN anyone tell me if IYA was lecturing on "Gramophones and Records" on Wednesday evening, between 7.30 and 8. I was experimenting with a crystal set I had made. I made it up on Monday, and tried it out to see how it went. I received 2YA fair, with the condenser half out. With the dial at 90 I could hear a station with band playing. I was surprised to hear IYA, Auckland, announced. I put on the amplifier, and brought it in at fair speaker strength. At about a quarter to 8 on Wednesday, June 12 I put the set on to see if I could get any results. I logged him all right, but I think I must have had someone else at the same time, as I heard IYA's announcer giving the shipping news, and right on top of him came another man lecturing on gramophones and records. Were both men speaking from IYA?—"Puzzled" (Blenheim).

Is there a nearby valve set liable to radiate?

THE resolution of the Wellington Radio Society regarding the broadcasting of football matches has caused both surprise and amusement here, where the Saturday afternoon accounts of matches, most capably given, are one of the best attractions of the week. If any local body of listeners were to carry such a resolution as was adopted in Wellington, there would be such an immediate howl of protest, and such a flood of newspaper correspondence, as would quickly indicate the local public taste in regard to football broadcasts. One of the most commendable features of New Zealand broadcasting, according to an Australian visitor, is the excellent way in which sporting information, with the exception of racing, is given, while, at the same time, the general tenor of broadcasting is not made subservient by over-catering for sport.

THE way of the programme organiser is never an easy one, but during the past few weeks it has been rendered increasingly difficult through a persistent epidemic of influenza colds, which has enforced absence upon several advertised performers.

"OUTWARD BOUND" has been acclaimed by so many as the finest broadcast effort by IYA, that the presentation of "A Bird in Hand," also by the "Little Theatre Society," is the one programme anticipation for next week.

THE Friday evening talks on football by Mr. Frank Sutherland are exceedingly popular. Mr. Sutherland is well known to listeners as a vocalist, and to the public as one of the Dominion's most capable referees. He has also proved himself an excellent lecturer, who handles his subject in a manner that makes it attractive to all who have any fondness for the game. There are one or two gentlemen in Auckland who could do equally well for boxing and tennis, what Mr. Sutherland has done for football.

IT is learned that Radio-Toulouse has commenced transmissions of entire operas from the Theatre du Capitole. The first opera to be transmitted was "Faust."

"ON the air more hours per day than any other station in the world" is the claim made by the Paramount-Express station KNX, Hollywood. Broadcasting begins at 6.45 in the morning and continues without interruption until 1 a.m.

AN extension of the "Home Talkie," called the "Radioscope," will make it possible, with the promised help of the B.B.C., to synchronise a home-cinema with a sound-record transmitted from a wireless station. Mr. Dowling stated that Captain Eckersley, the chief engineer of the B.B.C., had tested the mechanism and found it so satisfactory that arrangements are to be made very shortly for special transmissions to be synchronised by "radioscopes" in their homes with a film of the actual speakers, singers, or scenes.

For Sale or Exchange.

See page 32 for column of casual advertisements.

## You'll Never Find a Radio Value to Equal this

£24/10/-

Complete with Full Equipment (excluding masts).

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70/- Deposit and 10/- Weekly  
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6-60

A 6-VALVE CROSLEY that will outperform any other similar receiver on the market. Better music, more volume, Greater distance-getting ability. Low Price.

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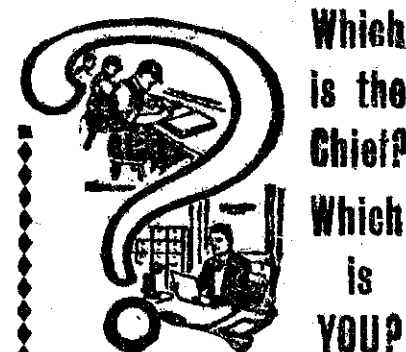
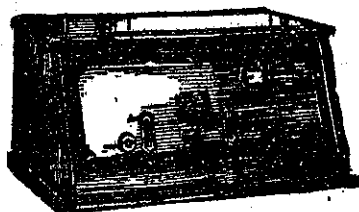
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Auckland.

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Motor Engineer, Language (G phone)  
Motor Mechanic, Special Examinations  
Electrical Engineer, Accountant (Inst Ex)  
Elec. Mech. Exams, Matriculation,  
Mechanical Engin'g, Intermediate,  
Mine Electrician, Hatfield House,  
Telephone Mech., Public Service,  
Aeroplane Engineer, Special Women's Dept.  
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over 19,000 of these being in New Zealand)

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Age.....Occupation.....

Address.....

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Dealers and Booksellers 2/6; Post  
Free 2/9—P.O. Box 1032, Wellington.  
Now Available.

# Education by Wireless

## W.E.A. Lectures on Evolution

SINCE times as remote as the fifth century B.C. philosophers have propounded theories to account for the marvellous diversity of forms which constitute the fauna and flora of our globe. Such hypotheses may always be grouped either as theories of creation or theories of evolution. According to the former, chief amongst which are the theory of Special Creation founded upon the literal interpretation of the first chapter of the Book of Genesis, and the theory of Catastrophism proposed by Cuvier, all living species and plants and animals were created separately, almost simultaneously, and independently of each other. On the other hand, all the numerous theories of evolution attempt to explain the distribution and existence of the organisms comprising the fossil and modern faunas and floras by the assumption that life has gradually unfolded and branched from an original simple primitive form which came into existence—we know not how—soon after the earth became habitable for life.

The first hazy theories of evolution were put forward in very early times by the Greeks, but it was not until the later part of the eighteenth and the beginning of the nineteenth century that the subject was dealt with scientifically, while Charles Darwin in his "Origin of Species" (1859) was the first to gather together a really formidable mass of evidence in its support. Since that time the researches of hundreds of investigators, zoologists, palaeontologists, and botanists, have revealed such an enormous number of facts which cannot be explained in any other way that it is probably safe to say that every scientist of note agrees that evolution must have taken place in the past and is slowly proceeding on its course to-day.

In these four short articles it is intended to disregard the controversy between scientist and layman as to the existence or otherwise of such a process, but, assuming that the case for evolution is established, to consider the much more interesting question of the mechanism by which this process of growth and branching of the tree of life proceeds, and the laws which govern it. What are these evolutionary changes and what is the driving force behind them? These are vexed questions over which there has been much controversy, and it is to such differences of opinion that anti-evolutionists really refer when they state that scientific authorities themselves disagree widely on the subject of evolution.

Before considering the mechanism of organic change, three fundamental factors, all having an important bearing on evolution, should be emphasised. These fundamental factors are Variation, Heredity and Isolation, and their operation is admitted by every biologist and geologist.

The basic requirement for evolution is undoubtedly variation, for all must admit that if there was no such factor—i.e., if the different individuals of the same species were all identical with one another—then any such species must remain unchanged until extinction, and

from it no new species could arise. It is a matter of common knowledge, however, that no two human beings, for example, are exactly alike; and the same thing applies to a greater or less extent to all other species of living things. It is in such variants from the normal conditions of the species that the raw material for evolution is to be found.

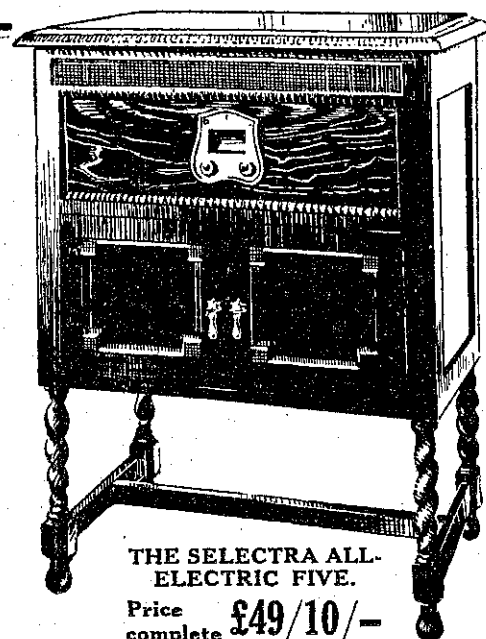
In contrast with variation, which may be regarded as the progressive factor in evolutionary change, is the conservative factor of heredity which is just as much an established fact as variation, and by which the offspring tends to have exactly the same character as the parent. Now it must be remembered that evolution implies a change gradually taking place in a race of organisms, and therefore changes in an individual produced by variation can have no evolutionary significance unless they can be transmitted by heredity. Heredity is an extremely complex subject which is as yet only partially understood, though the work of Mendel, Weismann, and others, has done much to elucidate its problems. Theories of heredity—such as the famous theory of Mendel—should not be confused with theories of evolution, though they are frequently quoted as such. But some of the problems of heredity nevertheless have a very important bearing on the mechanism of evolution, and among questions of this sort possibly the most discussed is that relating to the possibility or otherwise of the inheritance in succeeding generations of new characters acquired by the ancestral form in response to external environmental stimuli. The student of genetics declares that such inheritance of acquired characters is extremely unlikely; and yet the geologist sees much in the study of fossils to support the opposite view. On the other hand the inheritance of congenital variations—for example shortness of stature, peculiarities of facial features, or colour-blindness in man—is a definitely established fact.

Even when the inheritance of a variation or series of variations in successive generations has resulted in the production of a new form, there is still a third condition which must obtain before the species can become established. It must be isolated or segregated from the parent species or from other new species of similar ancestry, or else interbreeding with the production of hybrids and intermediate forms.

The changes which take place in organic evolution are extremely slow, so that the time required for the differentiation of the complex and varied organisms which people the world to-day from their common protozoan ancestor must have been of great duration.

Geologists have succeeded in measuring with moderate accuracy the time that has elapsed since the oldest strata containing the fossil remains of what were once living creatures, were laid down as sediments on the sea floor. This estimate is about 800 million years—a lapse of time so vast in comparison with the few thousand years of historical time that the human mind can scarcely comprehend it.

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have heard a  
**SELECTRA**  
you don't  
know Radio."



THE SELECTRA ALL-ELECTRIC FIVE.

Price complete £49/10/-

the **ELECTRIC RADIO**  
that exceeds your expectations!

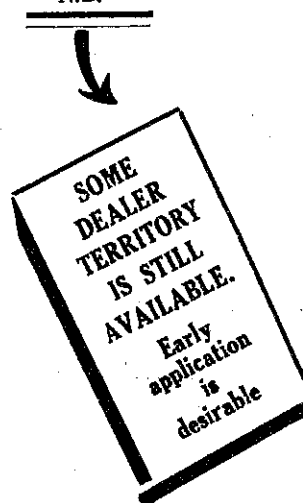
## The **SELECTRA** ALL-ELECTRIC "FIVE"

A great new receiver that is far in advance of competition. Built with superlative care and skill to a laboratory precision from the world's selected and finest components.

A powerful 5-valve model, incorporating every up-to-date principle. It is totally shielded and super-selective. Extremely sensitive and particularly long ranged, it is capable of obtaining daylight reception of Australian stations, whilst Japanese and Californian stations are easily within its capabilities. It has ample volume for every occasion, and a surprisingly perfect quality of reproduction. Its simplicity makes it an ideal set for the novice, its remarkable power renders it a joy to the expert. Operated by two synchronised controls, it is only necessary to plug in to an ordinary electric light socket to obtain reception of flawless purity.

### Electric Gramophone Attachment

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SOME  
DEALER  
TERRITORY  
IS STILL  
AVAILABLE.  
Early  
application  
is  
desirable

An especial feature usually only found in very much higher priced sets: an attachment for playing ordinary gramophones electrically, which can be accomplished simply by attaching an electric gramophone pick-up in place of the usual sound-box of existing machines. The volume obtained when used with the new electrically-recorded records is equal to that of instruments costing £200 to £300.

PRICE, Complete  
**£47/10/-**

If unable to obtain from your local dealer, write to us direct. Complete lists of Selectra Super-sets available on application.

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For the Latest  
in Valves . . .

**Mullard**  
THE MASTER VALVE

# A Modern All-Electric Receiver

# Private Radio Broadcasting Stations

## Lecture to Amateur Radio Society

## Full List of Present Operators

AT the last meeting of the Amateur Radio Society Mr. Firth, of Kirkcaldie and Stains, lectured on and demonstrated a combination model of the Majestic all-electric radio receiver.

In opening his remarks the speaker stated that in 1928 the radio forecast was none too bright, and many were beginning to point out that radio was slackening up. It was then claimed that the introduction of the new Majestic had done much to stimulate interest in radio. It had answered three questions: First, it was unique, better, and distinctive in every way. Second, good reception was assured; and, third, the all-important price factor. The march of progress had seen the improvement in every direction in the reproduction of music, and it became evident that power supply would be necessary and power blocks for "A," "B," and "C" came into universal use. Distance is not now usually considered important, the stress being laid upon the better reproduction made possible through improved power valves and transformers.

"The following points are worthy of note in our modern receivers," said Mr. Firth. "The price is as low as compatible with efficiency and appearance—chassis, all-metal, well braced and completely shielded—speaker with large field coil and well built, power pack robust and able to deliver ample current, single dial control and smooth volume control, all valves A.C., cabinet a piece of furniture, selectivity sharp and clean cut, volume ample for any home without distortion."

Some 7500 persons are employed every day in the Grizzly Grunow Com-

pany, of Chicago, who manufacture the Majestic. Thirty railway truck loads of raw material go into the plant every morning, and 32 truck loads of completed radio sets go out every night. That means 4000 complete radio sets are turned out every day. Approximately 94 tons of steel are used each day, 25,000 miles of enamelled wire are used for loudspeaker coils, 16,000 pounds of tinfoil and 12,000lb. of paper are daily required for the condensers,

### Technical Features.

THE circuit is the balanced R.C.L. type with the new "raw A.C. valves." Volume control is effected in the input circuit in such a manner so that there is no time to lag as in the case of a filament voltage control as when using a 227 type of valve as R.F. The antenna trimmer which permits adjusting the input circuit to bring it into exact resonance with the other three tuned circuits is an excellent selectivity control.

The valves used are the standard A.C., the R.F. and audio being the "raw" type and the detector the five-prong indirectly heated.

A useful feature in the power pack is the line voltage control, which automatically adjusts the primary to the surges of the A.C. from the mains. This prevents the valves being burnt out through overloading.

The power unit provides both filament supply and "B" and "C" power. The rectifiers are UX281, and combined with chokes and condensers makes an excellent rectifier. The inductance of the magnetic field of the dynamic speaker is used as a choke in the "B" voltage supply. The speaker is of the electro-dynamic type, and will faithfully

	Power input to aerial.	Wavelength, metres.	Transmissions.
<b>Auckland District:</b>			
12B—La Gloria Gramophone Co. Auckland .....	24	275	7 to 10 p.m., Monday.
12Q—L. R. E. Keith, Esq., Auckland .....	20	253	4 to 6 p.m., Sunday; 8 to 10 p.m., Monday; 8 to 10 p.m., Thursday.
<b>Wellington District:</b>			
2YB—The Radio Broadcasting Co. of New Zealand, Ltd. ....	100	244	Mon., Wed., Sat., Sunday.
2ZF—Palmerston North Radio Club, Palmerston N. .	20	285	6.15 to 9 p.m., Wednesday; 3-4.30 p.m., 7-9 p.m., Sunday.
2ZK—D. A. Morrison and Co., Wanganui .....	25	500	8 to 10 p.m., Wednesday; 8-5 p.m. Sunday (approx.).
2ZM—Atwater Kent Radio Service, Gisborne ..	60	250	Tuesday, Thurs., Sunday.
2ZQ—N. R. Cunningham, Ltd., Masterton .....	50	254	8-10.30 p.m., Mon., Wed., Saturday.
<b>Canterbury District:</b>			
3ZC—Home Recreations Broadcasting Service, Ltd., Christchurch .....	250	250	Mon., Wed., Thurs., Friday, 10-11 a.m., noon-2 p.m.; Tues., 10-11 a.m., noon-2 p.m., 2.30-4.30, 6.30-11.30 p.m.
<b>Otago District:</b>			
4ZB—Otago Radio Association, Dunedin .....	10	277.8	8-10 p.m., Thursday.
4ZL—Radio Service, Ltd., Dunedin .....	60	245	8.30-10.30 a.m., 12.30-1.30 p.m., 2-3 p.m. daily, except Sunday.
4ZM—J. D. McKewen, Dunedin .....	10	277.8	10-11.30 p.m., Monday.
4ZO—Barnett's Radio Supplies .....	20	277.8	12.1 p.m., 5.6 p.m. daily, except Sunday.

fully reproduce a wide range of frequencies. Grid bias is accomplished by applying a positive potential to the filaments and earthing the grids. This has the same effect as applying a negative bias to the grid.

Having finished his lecture, Mr. Firth demonstrated. With an aerial comprising a wire thrown across the roof and an improvised earth the receiver was able to bring in Auckland at quite good strength, though unfortunately power noises were very bad in that particular area. Christchurch and 2BL were both heard. 2YA came in at great strength and with good quality.

Switching over to the gramophone pick-up by merely rotating the dial till it reached its limit, Mr. Firth entertained by several well reproduced gramophone records and demonstrated that the set was capable of delivering a greater volume than could be needed or a whisper barely audible. In conclusion, the speaker was accorded a very hearty vote of thanks for his interesting and instructive lecture.

Byrd from a hotel at the famous watering place, Atlantic City.

KDKA have requested 2ME, Sydney, to endeavour to rebroadcast this interesting event.

I am indebted to Mr. Morrison, Brooklyn, for this news item. He heard it while the two stations mentioned were carrying out a duplex telephony test this (Saturday) afternoon.

### Mr. Frank Kellogg Heard

JUNE 14th is the anniversary of the birth of the American flag. The celebration of this, under the auspices of the American Legion, was broadcast by the National Broadcasting Company through a network of stations from "coast to coast," and heard by the writer from station 2XAD.

The first speaker, name not heard, traced American history with appropriate music faintly in the background; the officer in charge of the American Legion was next heard.

Soon after 2 p.m. the Secretary of State, Mr. Frank Kellogg, was introduced. A very interesting address followed on the world's peace.

In speaking of talk of war between the United States and Great Britain, Mr. Kellogg said: "War between Britain and the United States is unthinkable, and should be impossible." Later, he referred to bad feeling between these two countries being caused by irresponsible people in both America and Britain. Mr. Kellogg spoke for nearly half an hour, every word being clearly heard, and followed with great interest.

### For Byrd in Antarctica

A SPECIAL broadcast for the Byrd expedition is promised from KDKA on June 23 (Sunday), when a party of film stars of the Paramount Film Company will send messages to Commander



## The Greatest Value Ever Known in Radio MAJESTIC All-Electric RADIO

MODEL 71.—Post-Colonial period design with instrument panel of matched Burl Walnut framed by a panelling of Bird's-eye Maple and matched Burl Stamp Walnut. Seven valves, completely shielded, using R.F.L. balanced circuit. Majestic Super-Dynamic Speaker. Volume control instantaneous in action. Single dial control.

PRICE, with Valves and all ready to attach to aerial, Main Ports (Auckland, Wellington, Christchurch and Dunedin) ..... £48  
Inland and Outports, £50.

There is a "MAJESTIC" Dealer in nearly every part of New Zealand and those dealers located where there is not an official "Majestic" Distributor should communicate with the Territorial Distributors. If any difficulty in securing, communicate with:—

"MAJESTIC" FACTORY REPRESENTATIVES.  
P.O. Box 462, AUCKLAND  
P.O. Box 1581, WELLINGTON.  
P.O. Box 922, CHRISTCHURCH  
P.O. Box 516, DUNEDIN.

**Piano and 'Cello****Two Gifted Students**

EVERY available seat in the Concert Chamber was occupied when an excellent programme was given by Miss



MISS JESPERSEN.

Thelma Willoughby, piano pupil of Mr. Gordon Short, and winner of the 1928 L.A.B. scholarship, and Miss Grete Jespersen ('cello pupil of Mr. George Ellwood). Despite their tender years, they succeeded in holding the rapt attention of their large audience in works which technically and musically would well have taxed older performers. The programme was refreshingly unhackneyed. Miss Willoughby possesses an unusually comprehensive technique and command of tone in one so young.

Miss Grete Jespersen, though but twelve years of age, possesses a command of bow and fingering which would be the envy of many older 'cellists. She has a fine purity of in-

Photograph of the Orphans' Minstrel Troupe, who will give an excellent evening's popular programme from 4YA on Wednesday, June 26. The troupe is well known in the city for its fine entertainments, and listeners can



look forward to an evening of unusual and exceptional enjoyment. The entertainment will be relayed by 3YA.

Back row (left to right):—T. Bachop, H. Grant, R. B. McDonald, L. Booth. Front row:—C. D. Andrews, A. Clapp, Alan Young, R. Wilson Browne, A. Watson. Seated in front:—D. Bewes.

tonation and an instinctive sense of phrasing, whilst her tone is dignified, with a note of sweet sadness in it.

The Mayor (Mr. G. A. Troup) congratulated Miss Willoughby and wished her every success at the Royal Academy of Music.

Sections of the recital were broadcast, much to the pleasure of listeners.

Technically the broadcast was excellent so that those who were interested and not able to attend lost little as regards the items put on the air.

Certainly the good wishes of all listeners go with Miss Willoughby when she goes abroad to further her studies in music.

**Radio Licenses****Over 41,000 Issued**

THE Secretary of the Post Office supplies the following summary showing the total number of radio licenses issued as at May 31, 1929:—

	Transmitting and misc.		
	Receiving Receiving Dealers		
Auck. ..	13,414	130	211
Cantby. ..	7,402	74	155
Otago ..	3,118	45	110
Wgtn. ..	16,168	92	366
	40,102	329	832
Grand Total:	41,285		

Have you procured your copy of

"N.Z. Radio Listener's Guide?"

Dealers and Booksellers 2/6; Post Free 2/9—P.O. Box 1032, Wellington.

Now Available.

**REPRESENTATIVES  
WANTED**

For our Radio Sets (Battery and Electric 6 Models), Radio Accessories, Storage Batteries, Gramophones, etc.

Write for Interesting Proposition.

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**HERE THEY ARE!**

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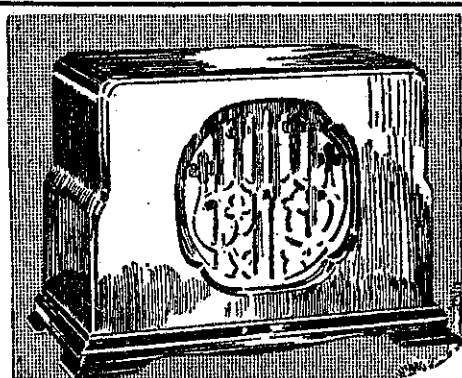
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# The New Zealand Radio Record

P.O. BOX. 1032. WELLINGTON.

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

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

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

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

WELLINGTON, FRIDAY, JUNE 21, 1929.

## THE RADIO EXHIBITIONS.

WE are happy to announce that the radio exhibition proposed to be held in the Wellington Town Hall at the end of July will take place. The Wellington traders, at a full and representative meeting, decided to accord their support and heartily co-operate with the idea. The Wellington Amateur Radio Society, in its turn, is taking advantage of the opportunity presented to father certain competitions calculated to interest constructors. The full details of those competitions are announced in another column. We are glad that this support has been forthcoming, and feel sure that the exhibition will be a big success. In their respective spheres the Radio Broadcasting Company and the Post and Telegraph Department will co-operate with the exhibition, and give in the one case special programmes and expanded service, and in the other, will provide a special stall of interest to the public and those technically minded.

IT is our hope that the holding of this exhibition will prove a milestone in radio history, and that it will mark the beginning of a forward drive in regard to the number of listeners. No section stands to benefit so much in the final upshot as listeners themselves. They are primarily concerned with greater service in quantity and quality. That greater service can be given only as revenue expands, for it is an axiom of any business that it must be self-supporting. Judging by the enthusiasm evoked in Auckland, and our correspondent's comments that the figure of 50,000 provisionally suggested last week is too low, it seems likely that our expectations will be exceeded and a substantial figure set this winter and up to Christmas.

IN Dunedin, too, a radio exhibition is to be held, and congratulations must be extended to those in that city who are responsible for its organisation. We feel sure that the radio family will be considerably enlarged in that centre and its district, and thus place it more on a parity with other parts of the Dominion.

## Competitions for Constructors

[In connection with Wellington Radio Exhibition, Town Hall, July 25-27, constructional and literary competitions under the auspices of the Wellington Amateur Radio Society.]

TO permit constructors displaying their capacity and demonstrating the simplicity and attractiveness of radio, the following competitions have been arranged in connection with the forthcoming Radio Exhibition.

### 1.—BEST AMATEUR HOME-MADE CRYSTAL SET.

(Under 18.) Entrance Fee 1s. 6d. 1st Prize, £1 1s.; 2nd Prize 10s. 6d.  
Points.—(1) Signal Strength; (2) Selectivity; (3) Neatness and Construction.

### 2.—BEST AMATEUR HOME-MADE NOVELTY SET (Capable of Local Reception).

Entrance Fee 1s. 6d. 1st Prize, £1 1s.; 2nd Prize, 10s. 6d.  
(In a cigarette case, pocket set, etc.)

### 3.—BEST HOME-MADE VALVE RECEIVING SET.

Entrance Fee 2s. 1st Prize, £2 2s.; 2nd Prize, £1 1s.  
Points for Judging.—(1) Tone and Quality; (2) Selectivity (for 4); (3) Volume; (4) Layout, Wiring, Construction; (5) Simplicity of Operation; (6) Economy.

### 4.—ESSAY: "POSSIBILITIES OF RADIO." (Not necessarily Technical).

(Limit, 1,500 words). Entrance Fee 1s. 1st Prize, £2 2s.; 2nd Prize, £1 1s.  
Entries for Essay to be sent, with 1s. postal note attached, to "Essay," c/o "Radio Record," P.O. Box 1032, Wellington. Closing date July 17, 1929.

### CONDITIONS:

- 1.—Entries for competitions 1 to 3 (inclusive) will close on WEDNESDAY, JULY 17, 1929, and must be delivered, accompanied by the necessary fee, at the Studio of 2YA, between the hours of 7 p.m. and 9 p.m. on that evening.
- 2.—The Wellington Amateur Radio Society, who are conducting this competition on behalf of the Radio Exhibition Committee, will take all care of exhibits, but cannot take any responsibility, with the exception of the loss by fire or theft, which will be covered by insurance, and entry must be made strictly on that understanding.
- 3.—The Society will not be responsible for any damage to sets during the judging, but it will take all precautions possible to prevent such happening.
- 4.—Every competitor must ticket each valve with the "A" and "B" voltage to be applied. "A," "B," and "C" batteries will be provided by the Society.
- 5.—If, in the opinion of the judge, the quality of the exhibit or exhibits in any one section is not of sufficient merit to warrant the first or any prize given, the Society reserves to itself the right to allocate the first or any other prize as the judge may direct.
- 6.—The judge's decision shall in all cases be accepted as final, subject to the conditions of entry being fulfilled. Any appeal concerning a breach of said conditions must be made during the period of the Exhibition.
- 7.—The Society to have the right to show the selected exhibits in each section at the Radio Exhibition.
- 8.—After the Judge's decision has been made, delivery must be taken of all unsuccessful entries on Wednesday, July 24, from the 2YA Studio, between the hours of 4 p.m. to 6 p.m., or as otherwise arranged. Exhibits required for the show will be delivered to owners from the show between 10 p.m. and 11 p.m. on July 27, or between 9 a.m. and 11 a.m. on Monday, July 29.
- 9.—It shall be a condition of entry that each exhibit shall be home built and constructed without any assistance or supervision by any person connected with the radio trade.

Are you a member of the Wellington Amateur Radio Society? If not, join now. Subscription, 5s. per annum.

W. G. H. LAWS,  
Sec. Wellington Amateur Radio Society.

P.O. Box 303, Wellington.

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# BURGESS RADIO BATTERIES

**Mr. W. J. Bellingham****Resignation as Musical Director**

MR. W. J. BELLINGHAM, who has for nearly two years been director of music for the Broadcasting Company, has tendered his resignation in order that he may proceed to England. Mr. Bellingham proposes to journey via America.

In announcing Mr. Bellingham's resignation, Mr. A. R. Harris, general



manager of the Broadcasting Company, pays a tribute to the good work accomplished by Mr. Bellingham while filling the position of director of music for the company. In that period considerable development has taken place in the broadcast service, and the advance has been very considerable on the musical side.

Mr. Harris said that he has been aiming to make the Broadcasting Company recognised as the greatest musical organisation in New Zealand, and the rapid advance to that end during the past two years has been largely attributable to what Mr. Bellingham has done in the way of organising the vocal and instrumental portions of the musical programmes at the four stations. Great credit was due to Mr. Bellingham, said Mr. Harris, for his success in the formation of the fine 2YA Orchestra, the trios, and of the numerous vocal quartets.

**All Blacks' Departure****Broadcast by 2YA**

THE Rugby football team which is to visit Australia will be sailing from Wellington on Friday afternoon, June 21, at 3 p.m. A description of the scene on the wharf will be relayed by 2YA, also the farewell speeches, and all the members of the team will have the opportunity of broadcasting messages to their friends and relations.

The proceedings will be rebroadcast by 3YA.

**Programme for the Islands****Perfect Reception Enjoyed**

ON the evening of Saturday, June 8, a programme specially intended for the Cook Islands was broadcast by 1YA. Maori and Hawaiian items predominated, and the feature of the evening was a talk by Mr. F. W. Platts, C.M.G., S.M., of Hamilton, and one-time Resident Commissioner for the Islands.

Captain Campbell, of Rarotonga, at whose suggestion the entertainment was arranged, sent a radiogram on the following Monday morning reporting on how the concert, including Mr. Platt's address, was received. This radiogram read:—

"Delighted. Reception perfect. Express my thanks."

The Broadcasting Company accordingly at once advised Mr. Platts of the success which attended his effort, for his remarks were specially addressed to the chiefs of the island, whom Captain Campbell had undertaken to assemble round his receiving set.

It may be mentioned that the Cook Islands are some 1,500 miles from 1YA.

**The New 4YA 1YA Musical Committee****To be Model Broadcasting Station**

AT the present time the Broadcasting Company is concentrating on the completion of Station 4YA, and all the experience derived from the erecting and equipping of the other three stations is being brought to bear on the new southern station. It will include many new features in equipment and lay-out.

The most striking feature about the station will be that the offices, studios and transmitting room will be all on the one floor. Plate-glass windows and partitions will also be used extensively, more so than is the case in the other stations.

As is well known, the new studio will be on the top floor of the "Evening Star" new buildings, and the whole floor is being fitted up as a most modern broadcasting studio. The partitions, which are mostly glass, are now being erected, the furnishings have been chosen, and are now on order. Some of the curtains and hangings have to be imported.

The lay-out of the studio, as disclosed by the plan, shows most conveniently arranged offices, studios and transmitting rooms. One end of the building is occupied by the main studio and by the transmitting and generator rooms. From the stair-landing, which is large and will be handsomely furnished, access to the main studio is gained through a lounge. On one side of this lounge is a second lounge, also abutting the main studio, and on the other side is a smaller studio. From the transmitting room a clear view can be obtained of both studios, and both lounges look directly into the main studio. The public office and the station manager's office are directly off the landing.

The electrical wiring of 4YA will be ahead of anything else ever used in a broadcasting station. The company's chief engineer, Mr. J. M. Bingham, is planning many new signalling devices which, though cunning and intricate in lay-out, will be wonderfully simple in operation, and will ensure very efficient service in the working of the station.

A meeting of the 1YA Musical and Dramatic Committee was held at 1YA Station, Auckland, on June 7, 1929, Mr. Karl Atkinson presiding over a good attendance.

A letter was received from the Bohemian Orchestra, in which they offered the Broadcasting Company one or two items from their semi-final rehearsal of their next and second concert, their offer being recommended for approval.

A suggestion to hold elocutionary competitions for children, together with the suggestion for entertaining short talks on music to the children, was referred to the Children's Committee.

The Victoria College debating team, which is shortly to tour America, will be holding a debate against a team from the Auckland University in September, and the offer from the Auckland University Students' Association to broadcast this debate was accepted.

It was reported that the 1YA Broadcasting Choir's first rehearsal was to take place on June 10, the first work being Sterndale Bennett's "May Queen."

**3YA Children's Session**

A MEETING of the 3YA Children's Session Advisory Committee was held on Wednesday, June 5. Present: Mr. D. E. Parton (chairman), Miss Scotter, Mrs. F. Schenkel, Mrs. R. McLaren, Mrs. Tomlinson, Mrs. Parr, Rev. Tooley, Mr. Slade, Mr. Booth and Miss M. Hall.

The chief business of the meeting was the discussion on the proposed Children's Wireless Exhibition, to be held during the spring holidays, on September 5, 6, and 7, in the rooms of the Y.M.C.A. This was enthusiastically supported, and a sub-committee was set up, consisting of Mr. Parton, Mrs. Schenkel, Mr. McEldowney, and Miss Hall, to arrange details in connection with the exhibition.

**Maori Language****Lesson in Pronunciation**

THE Bishop of Aotearoa proved to be a delightful radio personality when he spoke from 3YA on Wednesday evening, June 12. His talk lasted for twenty minutes, and was the "piece de resistance" in what would in any case have been a splendid programme. In response to a telegram from Hawke's Bay, he addressed a few remarks to his own people in Maori. The smoothly flowing Native words, perfectly enunciated, came over the air with crystal clarity, and did not justify his humorous apology to his white listeners: "I hope no one is cursing old man Static for what some of you have not understood. I have been greeting my Maori people," he said.

The Bishop then called up the Hawke's Bay Radio Society and Maori friends, reminding everyone of the radio concert which is to be arranged for the purpose of raising funds for installing a receiving set in the Napier Hospital.

A LESSON to pakehas on Maori pronunciation followed, and thousands of listeners no doubt repeated after him the correct way to pronounce a-e-i-o-u.

"We have about eight variations in dialect, throughout New Zealand," said the Bishop, "but when you know one you haven't much difficulty in understanding the others. The variations in dialect are very much as it is with the English—North Country dialect, Yorkshire, Devon, Cornwall, Somerset, and others. It is mainly intonation and a few peculiar words.

"Here in the South Island the greatest characteristic of their language is the dropping of the 'ng' sound common to all the dialects of the North Island, and substituting a 'k' in its place. For instance, the common term 'kainga,' meaning a village or home, here in the South is called 'kaika,' and by the pakeha it is contracted into the word 'kaik.' Tangata (a man) is in the South Island dialect 'takata.' Tangi (to wail) is here called 'taki.' They have no 'ng' sound at all. This South Island dialect sounds quite peculiar to those of us of the North. It sounds rather like a man suffering from a heavy cold in the head. Of course these South Island people are a good deal nearer the South Pole than you are of the North. Probably that accounts for it. They get more colds down here.

"May I say just a word about pronunciation. You all know how musical the Maori language is to listen to. That is due to the fact that the five vowels—*a, e, i, o, u*—have the soft musical sound. If you learn singing you are made to sing the vowels:

A, as a in father.

E, as e in Ted.

I, as i in hit.

O, as o in obey.

U, but u is like the oo sound in boot.

"Or if you know Italian or French, or the modern pronunciation of Latin, then you cannot go far wrong if you adopt the same pronunciation. Generally speaking, there is no variation in these vowel sounds, except lengthening or shortening: *ariki*—a lord, *awhira*—to help.

## Uncle George's Session New Plant for ZLW

### Opening Song at 4YA Engineer to Visit Australia

STATION 4YA is arranging to have a special opening song for each Uncle and Aunt. Big Brother Bill's was published in the "Radio Record" recently. This one will open the session on Saturday night for Uncle George. And when the opening songs are in good going order, a special closing song will be written for each session also.

#### SINGING IN TO RADIO.

Tune: "Marching Thro' Georgia."

We're sitting round the microphone in Station 4YA.

With songs, and jests, and funny jokes, and lots of things to say; And Brother Bill and Uncle George, they both are here to-day,

So we are singing into radio.

#### Chorus:

Hurrah, we sing; we sing right merrily, Hurrah, we sing; a happy family we; And so our happy voices will ring out from sea to sea,

While we keep singing in to radio.

Oh; how we please the family by the funny stories told;

And the children's eyes do glisten as the fairy tales unfold;

And to-night we'll send out parcels by the Radio Postie bold,

While we keep singing in to radio.

#### Chorus:

Hurrah, we sing; we sing right merrily; Hurrah, we sing; we're happy, don't you see?

There's no one quite so happy, or from dull care so free;

As those who keep singing in to radio.

## Carrying on the Business

There is a certain satisfaction in knowing that one has an executor capable of carrying on his business successfully. The Public Trustee has the experience, the knowledge and an expert staff to enable him to carry out a testator's wishes to the smallest detail. Read the interesting new booklet entitled

### "A Vital Business Matter"

This booklet contains information of definite value to the man in business. If you haven't read it, get your copy to-day. Obtainable from any Office or Agent of the Public Trustee, or free by post from the Public Trustee, Wellington.

A MODERN short-wave transmitting and receiving plant has been ordered for the Tinakori Hill Morse Station, ZLW, at a cost of £6000. This is much in advance of the spark transmitters now used in other Government



MR. J. R. SMITH.

stations. The plant will be supplied by Amalgamated Wireless Ltd.

The transmitter will be used primarily for communicating with the Pacific (Samoa, Rarotonga, and Tonga), but it will afford an emergency means of communication with Australia and with the United Kingdom during certain hours of the day. The plant will be assembled in Sydney at the end of this month, and will be submitted to extensive efficiency tests before dispatch to the Dominion.

Mr. J. R. Smith, engineer of the P. and T. Department's laboratory, will proceed to Sydney for the testing operations, and he will supervise the installation of plant at Wellington. Mr. Smith, while in Australia, will also investigate many radio developments in the Commonwealth in recent times, such as long-distance short-wave telephony, picture transmission, modifications in the beam system working to Canada and the United Kingdom, broadcasting technique, and extensions of the Commonwealth Post and Telegraph laboratory at Melbourne.

In connection with these and other technical problems which are common to Australia and New Zealand, and upon which considerable correspondence has passed, the Hon. J. B. Donald says it will be of great value to the Dominion to have one of its higher engineering officers visiting Australia to collaborate with Commonwealth postal engineers.

Use Our Booking Offices in Advance

### S-O-S

TRAVEL IN COMFORT BY CAR

WELLINGTON - PALMERSTON  
NEW PLYMOUTH

## Timaru Relay

### A Musical Treat

NEVER in the history of Timaru had musicians such a large audience, or speakers such a large circle of listeners, as was the case last night, when the concert given in the Theatre Royal by the Timaru Orchestral Society was relayed to 3YA and broadcast. The programme was transmitted by land-line to the studio of 3YA, Christchurch, and put on the air by that station.

Mr. J. Ball, editor-announcer of the B.B.C., officiated at the microphone, and Mr. W. Edwards, one of the company's technicians, made the arrangements for the relay.

A special telephone wire was arranged for between the theatre and 3YA. The night was not altogether unsuitable for the relay, spasmodic bursts of static being only a slight hindrance, and on the whole the effort can be regarded as a successful one.

The items by the orchestra and the vocal numbers were heard clearly, and at good strength. Naturally reception was not so perfect as in the case of broadcast direct from a studio, but it was better than has been the case in most previous long-distance relays. During an interval a eulogy of Timaru and South Canterbury's climatic, scenic and industrial features was delivered by Mr. Ball, and it is safe to say that more people heard of the town and district on this occasion than ever before.

Prior to the opening of the concert, the president of the society (Mr. G. H. Andrews) spoke a few words for the benefit of the far-away members of the audience. He thanked the Broadcasting Company for the enterprise they had shown in arranging for a relay line from the theatre to the transmitting station, thus permitting thousands from one end of New Zealand to the other to listen to the music.

The broadcast that evening, he said, marked another mile-stone in the progress of Timaru. Many in the audience might remember the first cycle, and some the first motor-car. Then came the gramophone, and following that the excitement of the first aeroplane. That evening Timaru was to have its first concert broadcast, and the effort would probably lead to a modern relay station being erected in Timaru.

There were people who said that the gramophone and the wireless lessened the interest in concerts of the type of that to be given that evening, but such

## 3YA Church Service Committee

A MEETING of 3YA Church Service Committee was held in the Studio, 202 Gloucester Street, on Tuesday afternoon, June 11. There were present: The Very Rev. Dean Julius, Anglican Church; Rev. T. W. Armour, Presbyterian Church; Rev. W. Greenslade, Methodist Church; Rev. J. Robertson, Baptist Church; and Pastor J. Crawford, Church of Christ.

Rev. T. W. Armour was elected to the chair for the period ending March 31, 1930.

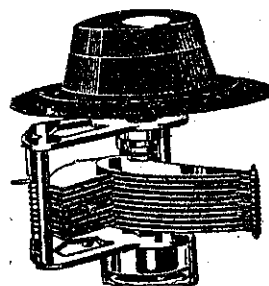
On account of the withdrawal of the Congregational Church, a rearrangement of the rota of broadcasts was rendered necessary, and on the motion of the Rev. J. Robertson, it was decided that two additional Sundays be offered the Presbyterian Church, and one additional to the Church of England, these services having been voluntarily given up at the time of the arrangement of the previous rota.

The question of the advisability of broadcasting Sunday School anniversaries was discussed, the general feeling of the meeting being that the inclusion of too many of these special services tended to detract attention from the regular form of church service.

was not their experience, as the audience in the theatre that evening was the largest the society had had, and their list of subscribers and the number in the orchestra were also larger than ever. It was really very creditable that a town the size of Timaru should have an orchestra of 53 enthusiastic members, and that the public had supported them the way they had, the theatre being packed to capacity.

His opinion was that the gramophone and the wireless were mediums by which people could cultivate a greater appreciation of music, which otherwise they might not have been able to develop. Commander Byrd, in the Antarctic, had this week sent a radiogram stating how much his party had enjoyed the New Zealand wireless concerts, and he hoped the members of the expedition were all listening in that evening.

That the audience fully enjoyed the many orchestral numbers was evidenced by the hearty and prolonged applause at the conclusion of each item. The well-balanced orchestra of fifty musicians, under the baton of Mr. F. J. Hyde, played with genuine inspiration, and the full effect of the works selected, was frequently brought out in no uncertain manner.



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## Hawke's Bay Notes

(By "X.Y.Z.")

THINGS are quiet in the local radio world this week, and not many kicks have been heard. Static has been easier, and generally business is reported good. Referring to radio business reminds one that most of the dealers in Hastings are placed in an unfortunate position. Within a certain radius from the local power station only D.C. is used, and according to the borough electrical engineer there is not likely to be any change for at least many years. The majority of dealers are in this D.C. area, the result being that they are not in a position to demonstrate (except elsewhere) the new all electrics which are now flooding the markets. This is undoubtedly a hardship, and must interfere with business.

It was this fact that led to a deputation of dealers to wait on the council this week to see if the position could not be remedied. The dealers even offered to pay the cost of the necessary wiring, but at the time of writing it was not known if they had been successful in their quest or not.

LOCAL radio enthusiasts are looking forward to the big concert to be broadcast on August 22 from Hastings. A great programme has been tentatively arranged, and if it can be clinched one does not hesitate to predict that it will equal anything ever presented in New Zealand. It is hoped to have the programme finally settled next week.

RECEPTION conditions have been up to the usual standard of late, but the position in regard to Wellington is unchanged. The "Australians" are heard at good strength, and a couple of the Japs. have been coming through well.

IN a footnote to last week's notes regarding the delay in the commencement of the R.B. Company's proposed scheme of relay stations, the editor of the "Radio Record" suggested in reply to the statement that the Gov-

## Bishop of Ao-te-aroa Parliament Opening Education by Wireless

To Speak from Station  
2YA

Descriptive Talk from  
2YA

Lectures on Evolution

LISTENERS to 2YA will be interested to learn that His Lordship the Bishop of Ao-te-aroa will speak from 2YA on the evening of Friday, August 9.

### An Appreciation

A FRUIT farmer who visited 1YA recently expressed his appreciation thus:—

"As a mark of appreciation for allowing me to inspect the studios a few evenings ago, I am sending a few apples for use at the station, not forgetting 'Cinderella.' Please accept same."

A bag of apples, freight and cartage paid, duly reached 1YA.

ernment was not placing obstacles in the way of the company proceeding, that certain business adjustments, etc., were necessary before any large capital expenditure could be undertaken.

This, of course, is natural, but it does not clear up the position, and listeners up this way would be glad to learn just what is holding up the scheme. Has it been OK'd by the Post and Telegraph Department, or who is responsible for the delay?

The position as we know it up here is that according to the statement made publicly by Mr. Ball, and presumably with the authority of his company heads, the scheme had been put before the Department, and when approved of by the Government would be put into operation by the company. Against this, the Government advises that it will place no obstacles in the way of the company, so it now still looks as if it is up to the R.B.C.

[Business arrangements such as are necessary have not yet been concluded.—Editor.]

At any rate, some information on the point would be welcomed, for under present conditions it is no exaggeration to state that 90 per cent. of the Hastings people who own multi-valve sets (and most of them do), while receiving 2YA perfectly in the afternoon, find evening reception difficult. With a good relay station here, one can imagine licenses up this way doubling in no time.

BY the time these notes are read, the Hawke's Bay Radio Society will have had its June meeting. Mr. J. Lynn was to have lectured on components, symbols, and how to read a circuit diagram, the idea being to give many new members some idea of what is inside their sets. This may develop into a series of lectures, and should prove valuable and interesting.

IN view of the opening of Parliament on Thursday, June 27, and the great interest which will attract thereto on this occasion, Mr. Charles Wheeler's talk on Tuesday evening at 9 o'clock will be listened to with rapt attention. Mr. Wheeler, who has previously given a series of talks on "Parliament from Within," has been a Parliamentary Press correspondent for over twenty years.

### "Station P.C."

Mr. Hunt, S.M., Broadcasts

A new radio station came on the air at 10 a.m. to-day (says a recent issue of the Auckland "Star," when Mr. F. K. Hunt, S.M., broadcast fines from "Station P.C.") The listeners-in were those persons who had failed to license their radio sets. There was a complete absence of static, but listeners seemed a little pained when they heard the announcements.

For having unlicensed sets the following were fined:—G. Ross, £3 and costs; G. A. Burns, E. K. Clements, J. B. Ferguson, each £1 10/- and costs; Ruby M. Underdown, £1 and costs.

ON the political and religious problems of the day the Workers' Educational Association has no official attitude. It is not a propagandist organisation; it does not exist to make converts for any creed or belief; it believes that such work should be left to the parties concerned. The W.E.A. wants people to take an interest in all social problems, but it would urge them to base their interest on knowledge. The W.E.A. tries to supply such knowledge. A course of lectures will therefore be delivered from 4YA by Mr. F. S. Turner, M.Sc., of the Otago University, beginning Tuesday, June 25. Mr. Turner invites criticism and questions. It is thus hoped to place this controversial subject on an intellectual basis.

### Linen Diaphragm Speaker

I HAVE just finished the linen diaphragm speaker described in the "Record" some time ago, which is quite equal to anything I have yet heard. The bass notes of the band as well as the high notes of the violin are wonderfully reproduced. I am at present only using a small unit. Would it improve the volume much if I used a Lissenola, or would a "Blue Spot" unit be better?—C.M. (Auckland).  
Use a good big unit.

## Exide BATTERIES

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## The AIRZONE

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# Broadcast Music for Coming Week

"'Tis the deep music of the rolling world,  
Kindling within the strings of the waved air—  
Aeolian modulations."

—Shelley.

By  
Bolton  
Woods

## A Pianist Composer.

**ALTHOUGH** only twenty when he made his first public appearance as a concert pianist, Ernst von Dohnanyi, stepped at once into the front rank. A year later, having won laurels throughout Europe, he visited England with no less success, and in 1899 he made a tour of the United States. As a composer he was at first known by his compositions for his own instrument, but later his chamber music won him a place among composers. Although making comparatively little use of the folk tunes, his music is strongly characteristic of his native Hungary.

Miss Sylvia Kindberg will play one of Dohnanyi's Rhapsodies at 1YA on Tuesday, June 25.

## The Two Scarlattis.

**THERE** were two Scarlattis, both brilliant performers, both prolific composers. Alessandro, born 1659, belonged to a family almost all of whom were musicians. His son, Domenico, more distinguished than his father, was born in 1685, and soon achieved fame not only as a pianist, but as a composer for the piano and the stage. He is regarded as one of the most important figures in music. The development of themes and many of the factors of our present-day music in which the early seventeenth century was only groping its way, reached a point in Scarlatti's music, which was hardly surpassed until Mozart carried

it a stage farther. When listening to his piano compositions, it should be remembered that it was composed for the much slighter-oned instrument of those early days.

Mr. Arthur E. Wilson will play Scarlatti's "Cantata in A Minor" as an organ solo, from 1YA on Friday, June 28.

## A Patter Comedian.

**ONE** of the favourite patter songs in opera, is the "Largo al Factotum" in Rossini's "Barber of Seville" (1816). It is not generally known that the libretto lik that of Mozart's opera "Figaro" is based on Beaumarchais. Figaro, barber, scoundrel, go-between for lovers and general handyman for Seville, bustles round the corner of the street, his guitar hanging round his neck. He describes his busy life and ends with the words, "Oh, what a life—like a spinning teetotum, Whirls on his course the city's factotum."

Mr. Len Barnes will sing "Largo al Factotum" at 1YA on Tuesday, June 25.

## From Kitchen to Court.

**THE** composer, Lully. (1633-87), was a poor Italian youth who was taken to France when quite young. He began his working life as a kitchen scullion, and was lucky enough to gain the favour of the young King, Louis XIV, who made him leader of the band. Being as clever a courtier as he became a composer, he found that French liked ballets and graceful

operas, and pleased them by writing plenty of this kind, acting and dancing in some of them himself. "Sombre Woods" ("Bois Epais") comes from his tragedy, "Amadis," one of Lully's late works.

Mr. John Bree will sing "Sombre Woods" at 1YA on Thursday, June 27.

## The Russian Cinderella.

**IT** is interesting to note how closely the fairy tales of different countries resemble each other. The Russian equivalent to our own "Cinderella" is "The Legend of Tsar Sultan." The great Rimsky-Korsakov wrote an opera round this story, and in it occurs the famous "Flight of the Bumble Bee." The bee comes in to punish two wicked sisters, who, after the manner of the pair in "Cinderella," are jealous of the third because she has become the Tsar's bride. The opera was first produced in Moscow in 1906, and is among the composer's last works.

A rendering of "The Flight of the Bumble Bee" by the San Francisco Symphony Orchestra will be broadcast from 1YA on Tuesday, June 25.

## Beethoven's "Pathétique."

**ALTHOUGH** Beethoven did not, as a rule, give names to his pieces, his Sonata, Op. 13, has long been affectionately known by the title "Pathétique," and none has ever doubted its appropriateness. The sonata begins with a very solemn slow introduction, and the first theme is like a funeral march. The whole introduction is made up of this first theme, and then quite suddenly it leads straight into the impetuous main quick part of the movement.

Miss Mary Lennie, A.T.C.L., will play the first movement of the "Pathétique" at 2YA on Monday, June 24.

## A Prima Donna Passes Through.

**AS** she has just passed through Auckland on her way to Australia, and will be most likely returning to give some concerts in the Dominion, a note on the soprano Dusolina Giannini is appropriate. Of Italian parentage, the singer was born in Philadelphia, U.S.A., where her father was a well-known tenor. Her first chance came when she deputised for an indisposed lady, and the papers were full of her praises the next day. Her first operatic appearance was in "Aida," in Hamburg, after which she toured Europe and then returned to America. She has since appeared in many operas and given a large number of recitals.

A record on "Just a Wearin' for You," sung by Dusolina Giannini, will be used at 2YA on Tuesday, June 25.

## A Vivid Caucasian Piece.

**IN** 1923 the Government of Russia conferred the title "People's Artist of the Republic" on Ippolitov-Ivanov. He was born in 1859, and was for some

time a pupil of Rimsky-Korsakov. In composing music with an Eastern flavour he is on ground which is familiar to him, and his Caucasian sketches are full of vivid suggestions of the East. This suite consists of four scenes: In the Mountains, In the Village, In the Mosque, and the Procession of the Sirdar.

The 2YA Orchestra will play the "Procession of the Sirdar" on Monday, June 24.

## The Bells of Provence.

**L'ARLESIENNE**, or the "Maid of Arles" Suite, is the music composed by Bizet for Daudet's play of Provençal life. There are two suites, the most interesting piece in the second being the "Farandole," which in the play is a chorus sung in praise of St. Eloi, into which is introduced after a march-like introduction, a famous Provençal song and dance tune. The conclusion of the first suite is a carillon in which the effect of bells is cunningly made by horns, harp, and strings. The tune of three bells persists through most of the movement, with a short middle section for the flutes.

Records of the suites, as played by the Orchestra Symphonique de Paris, will be used at 2YA on Monday, June 24.

## Handel's Martial Oratorio.

**WHEN** Judas Maccabeus returned from his wonderful victories over Apollonius and Eron there was great rejoicing among the Israelites. Mattathias, his father, during his lifetime has roused the Jewish people to rebel against the Syrian King, who has sought to suppress their religion and liberties. On his death the people unanimously elected Judas to be their leader. He was most successful, and his reply to their praise is the air "How Vain is Man."

"How vain is man who boasts in fight  
The valour of gigantic might,  
And dreams not that a hand unseen  
Directs and guides this weak machine."

Mr. W. Bradshaw will sing "How Vain is Man," from Handel's "Judas Maccabeus," at 3YA on Sunday, June 30.

## Beethoven at His Best.

**BEETHOVEN'S** Trio in D appeared fourteen years after the three trios of Opus. 1, but there is more difference between the compositions than this period would suggest. Published in 1799, a year before the great "Fidelio," the trio has all the bigness and splendid dignity which was Beethoven at his best. This was his best period, because in a very short time his last string quartets appeared, and they were full of rather depressing sombre qualities of mystery.

The 3YA Broadcasting Trio will play the "Allegro Vivace" from the Trio in D, on Sunday, June 30, and the Allegro and Finale from the 1st Trio by the same composer on Thursday, June 27.

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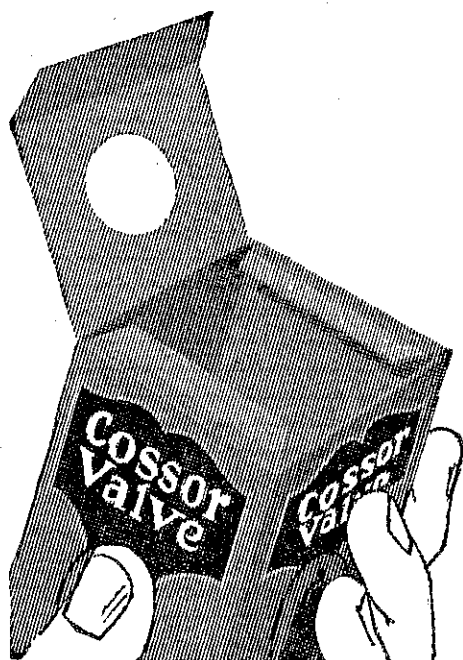
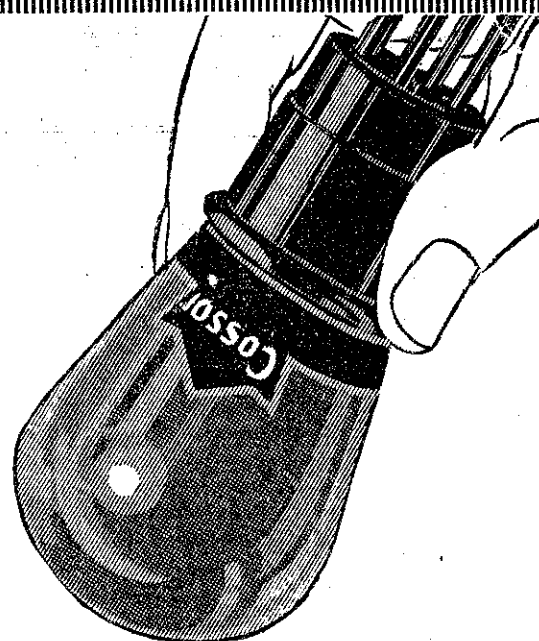
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## Coil Data.

"D.G." (Wellington) has asked for the data to make a set of coils on a 3-inch former to cover wave-lengths from 15 to 600 metres.

A.: On page 122 of the 1928-29 edition of the "Radio Listeners' Guide" the data for coils ranging up to 110 metres was given. This was for use with a .0001 variable condenser. To cover the broadcast band a coil comprising about 60 turns space wound secondary with 30 turns primary and 25 tickler, all wound on a 3-inch former, are necessary. The tuning condenser in this case is .0005. The intermediate band, where there is, however, little in the way of broadcasting, could be covered by a coil intermediate in size between the largest of the short wave and the broadcast coils.

## The Round-the-World Two.

THREE correspondents this week have written in concerning this receiver. Their queries and their remarks are interesting. "W.C.P." (Wellington) has had difficulty in that all he can get is a "congestion of unearthly rows." He is using 90 volts on the detector and 22½ volts on the amplifier. Here is the trouble, for the connections have been reversed. 22 volts should be applied to the anode of the detector valve and 90 volts to the amplifier. This should cure all his troubles. This correspondent asks: "Just where are the coils placed and where should the clips be placed for different results?"

A.: The coil on the left (the larger coil) is the tapped aerial. Experiment will show which coil to plug in for the different wave-lengths. The aerial is

variable by the clip so that the position giving the best results can be chosen. The small coil to the right is the reaction, and this should be the lowest value which will cause the circuit to oscillate. The amperite for use with 201A valves is No. 1A.

A **NOTHER** correspondent, "E.A.C." (Dunedin), has had very good results, but asks if he might add a screen grid amplifier in order to increase the range?

A.: Yes, it is quite possible and in a week or two "Pentode" will describe how this may be effected.

"R.W.P." (Taupiri), asks for a clear diagram of Round-the-World Two, and asks whether this set is suitable for the broadcast band.

A.: The diagram in the "Radio Record" is as clear as can be made without redrawing, which would involve considerable time. If the correspondent has a bad copy he could obtain another, as there are still a few of these in stock. As to whether the set is suitable for the broadcast band, see "Beginner Corner."

## The Two R.F. Browning-Drake.

A **CONSTRUCTOR**, "B-Drake," who wishes to construct the Two R.F. B.D. described in the "Listeners' Guide," states that he finds the instructions for

making the coils insufficient, and asks the following questions:—

1.—When using condenser control reaction, is it necessary to use a centre tapped tickler?

A.: No. The diagram on page 119 of the Guide shows the theoretical diagram for condenser controlled reaction.

2.—Would a .00035 variable condenser do in place of the .00025 condenser used for reaction?—Yes.

3. How many turns are required for the primaries?

A.: These vary according to the valves to be used, for which see "Beginner Corner," "Matching Impedances," Volume 2, No. 42.

4. Should the primary be jumble wound?—Yes.

5. How many turns should be wound on the tickler?

A.: Just sufficient to make the set oscillate, usually about 25.

6. Is the tickler wound on the spool and pushed inside the secondary similar to the primary when using condenser control?

A.: It could be, but the best method is to continue the secondary winding for about 25 turns, taking a tap off at the end of the secondary proper and the other at the end of 25 turns. These are then connected as shown in the diagram previously referred to.

7. Where can I buy sheet aluminium?

It seems to be unobtainable in Dunedin. A.: Johns Limited, Auckland, carry very extensive stocks and cater for the distant constructor who cannot obtain his needs locally.

"Megohm" in a future issue will devote a fully illustrated article dealing extensively with the construction of all types of coils.

## An Old-fashioned Circuit.

"F. D." (Dunedin) forwards a circuit of a detector and two-stage tuner for consideration. He asks if it could be neutralised satisfactorily and whether it would be capable of receiving Auckland during the daytime. He adds: I must state in conclusion that I, being an old enthusiast of some six years, appreciate very much indeed the variety of the topics dwelt in your little magazine, but in particular the constructional articles gain my close attention and have proved very practical.

A.: The circuit is a good one, but it is rather old-fashioned, and would not be as efficient as say the Two R.F. Browning-Drake, or even the Two R.F. Neutrodyne.

## "Pentode's" Trickle Charger.

"C.M." (Auckland) has built the trickle charger, which he states appears to act well, but the aluminium does not last, the acid eating it off just at the top of the liquid.

A.: Add a little oil, which will settle as a film on the surface of the electrolyte and prevent the chemical action causing the aluminium to disintegrate.

2. When the charger is on the aluminium shows white in the dark. Is that correct?

A.: Yes, it is due to phosphorescence resulting from the chemical action of the electrolyte and the aluminium.

3. How long should one solution of ammonium phosphate last?

A.: It depends very much upon how much the charger is used, and the particular conditions under which it works. From nine to twelve months may be considered as the average.

4. Could the battery eliminator described by "Megohm," March 23, 1928, be provided with an extra tapping to give an intermediate voltage?

A.: Yes, but see "Pentode's" article this week for all details.

5. What would be the best rectifying valve to use?

## Questions and Answers

A.: Any three-electrode valve will be sufficient, say a 201A type in one of the cheaper makes.

## An Unneutralised Set.

"W.H.W." (Central Otago) has constructed a 5-valve neutrodyne using commercial coils and good components. Signals are very weak from Wellington and hardly audible from other stations. When more power is switched on the only effect is to make the set oscillate violently.

A.: It would appear that the set is not neutralised. Methods of neutralisation have been described in the "Radio Listeners' Guide," and in previous issues of the "Radio Record," e.g., March 22, Vol. 2, 36. If then the set is unstable 100,000 wire wound resistance in series with each of the grid leads of the R.F. valves add greatly to the stabilisation.

## A Shielded Receiver.

**WISHING** to construct the very latest 5-valve set, "C.D." (Avonside, asks if it would be preferable to build a one-stage R.F. Browning-Drake shielded with push-pull amplification. If the details in each article were followed, he asks, would the set be matched throughout?

A.: There is no necessity to shield a set comprising one triode as R.F. The question remains as to whether the 5-valve two R.F. Browning-Drake is preferable to the 1-valve R.F. with push-pull amplification. The correspondent indicates that what he desires most of all is tone, and this could be best accomplished by a good push-pull amplifier, whereas, the two stage R.F. B.D. would give the greatest amplification of weak signals.

## A Question of Aerials.

**THE** fact that on a one-valve set he can log 2YA and 4YA with considerable volume and yet not receive 1YA and 3YA has puzzled "G.G." (Keri Keri).

A.: This can be explained only by situation, probably, of the aerial. Some districts will receive one station well and yet another cannot be logged, although the two are of equal strength and at equal distance from the receiver. Trees, hills, and geological structure quite frequently cause a trouble of this nature. It cannot be eliminated. Were it not that the correspondent can receive 2YB one would suspect that the tuning coil is too long.

2. The set whistles when tuning in. Is it causing local interference?

A.: Yes, but very little. However, care should be exercised.

3. A friend five miles distant has a two-valve set which will not receive at all. I brought it home and found that on my aerial and earth it went excellently. On returning it, I found it would not go on her aerial and earth system, which I inspected and found in perfect order. On trying it again I received very weak signals.

A.: We doubt the result of the test. Try again, for it would seem that somewhere there is a defect. The earth may not be making good contact. Try shifting it, and, as a last resource, change the direction of the aerial. Direction has

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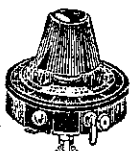
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a great effect upon a receiving aerial. This has been fully discussed in the "Radio Listeners' Guide," and in our issue of December 11, 1928.

#### Indoor Antenna.

HOW can I set up an indoor antenna? asks "Robpuni" (Taranaki).

A.: These are by no means as efficient as outdoor antenna, e.g., aerials. There are several types of indoor antenna, the most efficient being three or four wires strung under the roof and above the ceiling. Separate the wires by the greatest distance possible, and insulate them well from the walls. Take a collective lead to the set, attaching it to the aerial terminal. Insulators are attached as is described in an article which will appear shortly.

#### Counterpoise Incorrectly Connected.

"J.I.C." (Rarawai) is troubled with interference from his electric light dynamo coming through the loud-speaker very harshly. By an attached plan he shows that he is using a counterpoise, but has unfortunately connected this wrongly. The counterpoise is in no wise connected to the earth, but to the earth terminal of the set with all other leads to the earth disconnected. This arrangement, in all probability, will decrease signal strength slightly, but should clear up the interference considerably. The aerial should be at right angles to the source of interference.

#### Making a Portable.

"J.M." (Mangonui) wishes to construct a portable wireless receiver which will give good phone reception from a small frame antenna built into the lid. He asks for a circuit.

A.: In our issues, December 11 and 18, "Pentode" described the "Rotorua Portable" which has proved most successful. This should suit the correspondent.

2. Would a screen-grid valve receiver give good reception from a frame antenna?

A.: It is most difficult to say. Three valves using a frame antenna is not doing justice to the signals available.

#### The Adapted Screen-Grid Browning-Drake.

HAS any listener tried out the adapted screen-grid Browning-Drake, described in the 1929 Listeners' Guide? If so, with what success? asks "Dials" (Napier). I am using "Pentode's" 1-1 transformer, but cannot separate 2YA from 2FC, nor 1YA from 2BL.

A.: Selectivity in the screen-grid receiver is difficult to obtain, but it should be able to be made sufficiently selective to separate these stations. The R.F. transformers should be wound on the low loss principle, that is, with fairly heavy wire well insulated and well spaced. A wave trap while decreasing the signal strength slightly would greatly improve selectivity.

#### Excessive Heat From Valve.

I HAVE an "A" battery charger, and find that the bulb becomes so hot that it turns the insulation from the transformer causing a short-circuit and burn-out. Do you know of any method to prevent this?—"J.S." (Auckland).

A.: The correspondent has not stated the type of lamp used nor the voltage applied to its plate, and as these are essential in diagnosing a trouble of this nature. On the surface, it appears that the secondary voltage delivered from the transformer is too high, and a greater load should be placed on the charger while it is operating, e.g., another accumulator, but if the correspondent will furnish the details asked for, we would be better in a position to aid him.

2.: Is there any method of liquidising lump resin, so as not to lose its cleaning properties for soldering work?

A.: Dissolve it in ether, but BE CAREFUL. Ether is a dangerous drug, difficult to obtain, and dangerous to work with. Moreover, when working with a hot soldering iron, combustion is likely to take place.

#### The Exponential Horn Speaker.

"CONSTRUCTOR" (Stratford) in stating that he constructed the exponential horn speaker with which he has great success, asks:

1. Would the linen diaphragm speaker give better all-round results than the home-constructed exponential horn?—No.

2. Where could I procure a suitable unit for the linen diaphragm?—Rodger Importing Co., Christchurch.

3. Would the tone and volume be any different if I made the diaphragms the same size?

A.: Yes, it would be poorer.

4. Could a gramophone pick-up be connected to my set. If so, how?

A.: See the article on connecting the pick-up, in "Beginner's Corner."

### Beginners' Corner

#### All-Wave Sets.

ALL-WAVE sets are usually in great demand, for the average constructor usually considers that in one set he can combine the virtues of both broadcast and short-wave receivers. Not so; a sacrifice has to be made either to the long-wave or to the short-wave receiver. Regarding this, "Radio News," the world's largest and most popular journal, recently stated: "No large manufacturer has ever yet marketed a combined broadcast and short-wave receiver." The reason is obvious, and to use the simile quoted from a recently-published catalogue, "the rea-

son is that a Baby Austin and a Buick cannot both be built with the same engine."

The peculiarities of the short-waves or high frequencies demand that certain major alterations be made in the circuit to receive them. They are, briefly:

1. The coils have to be very much smaller.

2. The tuning condenser of very much smaller capacity than that used in the broadcast band.

3. High frequency amplification is rarely used except with the screen grid receiver.

4. The set is rarely earthed.

An all-wave set to be efficient on the short-wave must combine these features. In addition, provision must be made for tuning the broadcast band, and this usually by plugging in coils of greater length. But the tuning condenser cannot conveniently be altered, with the result that a coil of very great inductance requiring a very great number of turns must be used. This is not only inconvenient, but inefficient, and the all-wave set thus loses on the broadcast band. If a larger capacity condenser is used, it will be found that the tuning on the short waves will not be sufficiently sharp.

For tuning both short-wave and broadcast band the best arrangement is an ordinary broadcast receiver with a short-wave adapter, which can be plugged into the amplifier of the broadcast receiver. Such a combination has been described in the latest issue of the "New Zealand Radio Listeners' Guide."

Some constructors have had quite good results, though it is emphasised that the best results cannot be obtained from an all-wave receiver. However, to meet a

certain demand, "Pentode" will describe an all-wave receiver in a future issue.

#### The Gramophone Pick-up.

A CORRESPONDENT has asked if he can connect a gramophone pick-up to a Browning Drake. Certainly he can. It can be connected to the audio stages of almost any receiver. There are mainly two methods of connection: (a) Using the amplification of the detector valve; (b) plugging into the detector but losing its amplification. To make an arrangement of the "A" type take a wire from the G terminal of the detector valve to one side of a jack. Connect the other side to "A" fasten a plug on to each of the pick-up wires, and when the gramophone pick-up is required, just plug in.

The other method requires a broken valve base. Clean away the glass, and unsolder the wires passing down the legs of this. Decide which of the prongs goes to the plate and which to the filament negative, and pass one lead from the gramophone pick-up to each. All that is necessary when the gramophone pick-up is required is to remove the detector valve, replacing it with the base with the two wires attached.

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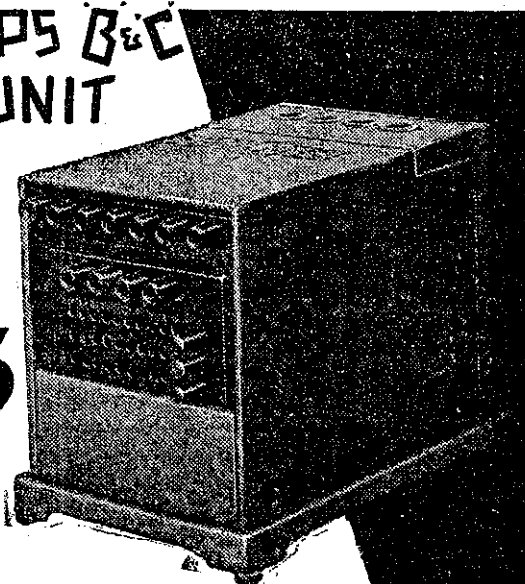
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# Next Week's Features

## 1YA Notes

**RESUMES** of the various racing events being run at the Auckland Trotting Club's meeting at Alexandra Park will be broadcast from 1YA on Monday, beginning at approximately 11.15 a.m.

**AT 7.40** on Tuesday evening Mr. L. J. Cronin, who recently gave an interesting talk on the British House of Commons, will speak on "Inner Workings of the New Zealand Parliament."

Miss Phyllis Hazell will be heard in contralto solos, including "The Star-Flower Tree" and "Mighty Lak a Rose." She will be associated with Mr. Len Barnes in the great duet between Delilah and the High Priest, from the opera "Samson and Delilah," Act 2, Scene 2. Mr. Barnes will also sing the fine buffo aria "Largo al Factotum" ("Barber of Seville"), and the dramatic "Edward" and "Danny Deever." Miss Sylvia Kindberg will make her second appearance before the microphone in the piano solos "Rhapsody" (Dohnangi) and "Hexantanz" (McDowell). After a long absence from 1YA, Miss Nina Scott will make a welcome reappearance in elocutionary items, including "Day that I Have Loved" (Brooke) and "Playmate" (Mayer). Soprano solos to be sung by Mrs. Leonard Cronin include "Nobil Signor" from "Les Huguenots," while Miss Ina Bosworth, the well-known Auckland violiniste, will play "Caprice Viennois." Instrumental selections will be played by the Studio Trio and orchestral music will be relayed from the Majestic Theatre.

**ON Wednesday evening at 7.40** Madame Mabel Milne, of the People's Health Society, will give the first of a series of talks on "Health Foods and Diet." The major portion of the evening's programme will be provided by the Auckland Salvation Army Congress Hall Band under the baton of Bandmaster Price. The assisting artists will be Mrs. L. Parry (soprano), Miss N. Lingard (contralto), Miss Maisie

Carte-Lloyd (elocutioniste), Mr. G. Barnes (tenor), and Sergeant W. H. Hallahan (bass).

**At 3 p.m. on Thursday** a programme of musical items will be broadcast from Lewis Eady's Hall.

**THE main contributors** to the evening programme will be Madame Mary Towsey's Quartet in solos, duets and quartettes. Ingall's Hawaiian Orchestra will be heard in Hawaiian and popular selections, while humour will be provided by Mr. T. T. Garland. Orchestral items will be played by the Studio Orchestra, and from 9.34 p.m. to 11 p.m. the evening will be given over to dance music.

**OUTSTANDING** on Friday evening's programme will be the presentation, by Mrs. Daisy Basham and Mr. Barry Coney, of excerpts from the cantata, "The Ancient Mariner." This well-known poem was written by S. T. Coleridge, and the music composed expressly for the Birmingham Triennial Musical Festival in 1867, by John Francis Barnett. In presenting the excerpts, two new artists will assist, in the persons of Mrs. F. Evans and Mr. Ian Barry. Two short organ recitals will be presented by Mrs. J. Litherland, soprano. The Studio Trio will contribute instrumental numbers, while Mr. A. B. Chappell, M.A., will give the second of his interesting "Tropical Talks." The well-known and popular pianist, Mr. Eric Waters, will be heard in "Greenwich Witch" (Wagner).

## 2YA Features

**2YA will relay the service** which is to be conducted in Trinity Methodist Church, Newtown, on Sunday evening, the preacher being the Rev. T. W. Vealie; organist, Miss Lillian Thawley, L.A.B.; choirmaster, Mr. E. Bales. At 8.15 p.m. approximately the concert to be given by the Port Nicholson Silver Band given by the Port Nicholson Silver Band in the Grand Opera House will be broadcast.

**A PROGRAMME** of unusual merit will be presented on Monday evening, the artists being Mrs. W. Fraser Morrish (soprano), Mr. John Prouse (baritone), Miss Hilda Chudley (contralto), and Mr. J. Fordie (tenor). The orchestral items will be the overture to "Norma," a suite from the opera "L'Enfant Prodigue," Scott's "Vesperale," "The Portege du Sirdar" of Ippolitow's, a selection entitled "Brahms Memorial" and Saint-Saens's "Suite Algerienne." The solo pianist for the evening will be Miss Mary Lennie, A.T.C.L., who will play the first movement of Beethoven's "Sonata Pathetique." Mr. Sidney Tingey, a well-known local elocutionist will contribute two items of more than passing interest, viz., "The Chariot Race" from "Ben Hur" and a character sketch of "Mr. Pickwick," one of the well-known characters of the immortal Dickens.

**THE usual light popular type** of programme will be given on Tuesday night, the orchestral items will include Kreen's "Glory of Russia," a cornet solo by Mr. W. Sneddon, "Reverie No. 2" by Clay, Ponchielli's "Dance of the Hours," two waltzes by Drigo and "Three Light Pieces" by Somerville. The vocalists for the evening will be Mr. Austin Blackie (tenor), Miss Lily Charles (who will sing several popular songs), and Mrs. N. R. Lightbody (soubrette). Mr. Len Ashton will provide the humour of the evening, and at 9.30 the usual dance programme will be presented.

**ON Thursday evening** the whole of the programme will be given by the Wellington Commercial Travellers' and Warehousemen's Association Orchestra and concert party. The orchestra plays under the conductorship of Mr. J. F. Woodward, and he has arranged a varied and entertaining programme that will cater for all tastes. The assisting vocalists will be Mrs. Amy G. Woodward, Mr. L. Bryan and members of the Wellington Commercial Travellers' Choir.

**FRIDAY evening's programme** will be provided by "The Strollers" Radio Party assisted by the 2YA Orchestra. Their items will consist of vocal gems from some of the latest musical comedies, sketches and comic songs, the orchestra providing items in keeping with the programme.

The Melodie Four with the assistance of Mrs. Ethel Wilman (soprano) will provide the vocal items on Saturday evening.

Mr. Frank Moran, late of "The Diggers" Company will be responsible for the lighter side of the programme, and judging by the reception of this artist received at a recent band concert, his items are bound to find favour with the radio audience. Novelty instrumental items will be provided by Mrs. Mildred Kenny's Mandolin Orchestra, and the Studio Orchestra will be heard in several numbers in keeping with the rest of the programme.

## 3YA Features

**A SPECIAL "animal" service** held under the auspices of the Humanitarian Society of New Zealand in the Christchurch Anglican Cathedral on Sunday afternoon will be broadcast.

The Rev. T. W. Armour will be the preacher at Knox Church on Sunday evening. The musical director will be Mr. W. H. Dixon, and the organist Mr. A. Wellbrock. After the church service 3YA will rebroadcast 2YA.

**A BAND concert**, to be followed by a ringside description of a boxing tourney, will comprise Monday evening's entertainment. The Christchurch Municipal Band, under Mr. J. Noble, will present a well-selected diversified programme. The vocal artists will be Miss Doris Irvine (mezzo-soprano), singing "Lorraine, Lorraine Lorree," "An Open Secret," and "O Ship of My Delight." Mr. Robert W. Rofe (baritone), whose items will be "The Drum Major," "Stone Cracker John," and "Come, Sing to Me." The boxing announcer will be Mr. A. R. Allardyce.

**IT was under the baton** of Mr. J. Noble that the Christchurch Municipal Band was successful in winning the B grade test in Dunedin in 1923, and the B grade championship at Christchurch the following year. In 1925 Mr. Noble removed to the North Island, where he was conductor of the Masterton Municipal Band and Masterton Orchestral Society. Last September he returned to Christchurch, being appointed headmaster of the Papanui School.

**On Wednesday evening 3YA will relay 4YA**, which is presenting a special programme by the Orphans Minstrel Troupe.

**THE Melodious Four** will contribute a programme of miscellaneous vocal items on Thursday evening. Songs have been chosen from the works of Schumann, Schubert, Quilter, Mendelssohn, Hatton, and Somerville, Ford, and Keel. The vocal numbers will include quartets as well as a duet and solos. The duet will be "On Wings of Music." Mr. T. D. Williams will sing Moussorgsky's "Song of the Flea," "Hill's Pavements," and "Cape

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**Horn Gospel.** On the instrumental side of the programme there will be some very interesting features. Besides the trio selections there will be pianoforte solos by Miss Merle Miller and a violin and pianoforte duet by Miss Miller and Miss Dorothy Davies. On the programme also there will be two recorded monologues by Will Kings, "Jim Bludso" and "Devil May Care."

**THE** popular Beckenham Male Quartet will be singing on Friday evening, assisted by Miss Merle Miller (mezzo-soprano) and the Studio Trio. The Beckenham's can be relied upon to present one of their usual enjoyable programmes, consisting of part songs (both grave and gay), duets, and solos. Miss Merle Miller will sing "She is far from the Land," Schubert's "Serenade," and Wishaw's "Vainka's Song." There will be items by the Studio Trio, 'cello solos by Mr. Harold Beck, and a recorded monologue by Will Kings, Tom Bracken's well-known "Not Understood."

On Saturday evening 3YA will re-broadcast 2YA.

### 4YA Notes

**THE** service conducted at the Methodist Central Mission will be relayed on Sunday evening. The Rev. Hinton will be the preacher, and afterwards the concert to be given by the Tramways Band in His Majesty's Theatre will be broadcast.

**THE** Majors, a vocal quartet consisting of Miss Freda Elmes, Miss Dorothy Skinner, Mr. J. Montague, and Mr. L. M. Skinner, will present the pretty song cycle known as "Dorothy's Wedding Day" on Monday evening. There are many bright tunes, in quartets and solos, in this song cycle. The supporting programme will be of miscellaneous vocal items, instrumental selections by the Studio Trio, violin, 'cello, and piano solos, and recitations by Miss Joyce Hould. These will include a sketch from Dickens and two excerpts from Shakespeare. In addition, Part 2 of Act 3 of "Tristan and Isolde," will be presented.

**THE** St. Kilda Band programme for Tuesday evening will include two marches, "The Crusaders" and "Guard of Honour," the "Druid's Prayer" Waltz, a selection from "The Pirates of Penzance," "Sandon," and cornet and euphonium solos. Contralto solos by Miss Constance Poole will be "Salaam," "Before the Dawn," "Sink Red Sun." Mr. Arthur W. Alloo, bari-

tone, will sing "Vagabond," "Serenade," and "Bedouin Love Song." Elocutionary numbers will be given by Miss Tui Northey. The recordings to be used will comprise soprano, choral, Wuriltzer organ, xylophone and male voice trio numbers.

**ON** Wednesday evening the entertainment will be provided by the Dunedin Orphans' Club Minstrel Troupe. This is a very popular combination. The evening's programme will open with a relay from the Empire Theatre, with Mr. Leslie N. Harvey playing on the Christie organ.

A "Book Review" by Mr. H. Greenwood will be given at 7.30 on Friday evening.

**THE** vocalists for Friday evening will be Miss Irene Hornblow, Mr. H. Drew and Mr. Arthur Lungley, while recitations will be given by Mrs. Nellie Osborn. There will be instrumental numbers by the Studio Trio and solos by Mr. P. J. Palmer ('cello), Miss Eva Judd (violin), and Mrs. Ernest Drake (piano). Among the recordings will be vocal selections from "The Flying Dutchman," "The Bat," and "The Pirates of Penzance."

On Saturday evening 4YA will relay 3YA, which is rebroadcasting 2YA's programme.

### Children's Sessions

#### 1YA.

**TUESDAY, JUNE 25:**  
Yes, I'm King Cole, that Merry Soul, with pipe and bowl,  
From far-off clime of nursery rhyme, right up to time,  
To 1YA I've come to say, and while away part of the day.

#### WEDNESDAY:

A quiet evening with Uncle Tom this evening—no parties, just some happy stories and songs and birthday greetings.

#### THURSDAY:

To begin with a little nonsense from Peter Pan and Cinderella, and afterwards a serious talk for the girls on nursing, given by the Lady Superintendent of the Public Hospital.

#### FRIDAY:

Gather round for the Happy Hour with Nod and Aunt Jean, and if you are very good they will probably give you one of their delightful playettes.

#### SATURDAY:

This evening brings Cinderella, coach and glass slippers complete. She will have puzzles and catches as well as stories, and cousins to provide songs and recitations.

#### SUNDAY:

Children's Song Service, conducted by Uncle Leo, assisted by the Beresford Street Sunday school.

#### 2YA.

#### MONDAY, JUNE 24:

Uncle Jeff and Aunt Gwen will greet all Radioland to-night with puzzle, song, and story, and the pupils of Miss Edna Sneddon will bring joy to the hearts of little folk with their cheery music and song.

#### TUESDAY:

Uncle Jim with some clever little children to-night. Cousin Rome will be here too, also Cousin Teddy, who always has something interesting to talk of.

#### THURSDAY:

Aunt Gwen, with cheery songs to-night, and some happy little cousins will be here too, also Cousins Helen and Betty, and musical items from pupils of Mrs. W. G. McCartie.

#### FRIDAY:

To-night there will be a relay from the Presbyterian Girls' Orphanages at Island Bay. Uncle George will be there with jolly songs.

#### SATURDAY:

Cousin Dick with his bagpipes, Cousin Zac to play the steel guitar, Cousin Jean to sing songs, and Uncle Toby and Aunt Gwen to talk and tell bedtime stories.

#### SUNDAY:

Uncle George will conduct the Children's Song Service this evening, assisted by St. Mark's Sunday School. Choir under Mr. Small.

#### 4YA.

#### FRIDAY, JUNE 21:

Really, they ought to be in bed, So their parents say;  
But Miss Parker's pupils instead Are at 4YA.

#### SATURDAY, JUNE 22:

They will play on the piano, and will sing a little song,  
They will give some recitations which will not be very long;  
Miss Crawford is the leader, and there's nothing more to say,  
Excepting you'll be sorry if you miss Station 4YA.

#### MONDAY, JUNE 24:

They open their mouths wide and the sound rushes out,  
It's the sound of happy singing which is different to a shout;  
Their leader is the Ensign, and he's trained them to a T,  
It's the Army children singing to entertain the familiee.

#### TUESDAY, JUNE 25:

They're doing their one good deed to-day,  
By singing and talking from 4YA  
They're wearing their ribbons as though to a rally,  
These jolly little Scouts from North East Valley.

#### WEDNESDAY, JUNE 26:

The girls in uniform, the girls in blue,  
Are marching to the studio to please me and you;  
They're coming from Musselburgh, dainty Girl Guides,  
They'll sing rousing camp songs, and other things besides.

#### FRIDAY, JUNE 28:

Here are the boys who live on the hill,  
They're that full of fun that they can't keep still,  
They can sing all together and some can recite,  
The Anglican Home boys are pleasing us to-night.

#### SATURDAY, JUNE 29:

There's a great white house on a broad high hill,

Where dozens of boys live who sing with a will;  
Glendinning boys we call them, and they live far away,  
But not too far to come to-night and sing at 4YA.

### "Bird in Hand"

From 1YA on June 19

**THE** play by John Drinkwater, "Bird in Hand," which 1YA is broadcasting, per medium of the Auckland Little Theatre Society, is one of the most successful plays by an eminent repertory author. Possibly no play by so distinguished a playwright has appealed to the theatre-going public so much as has "Bird in Hand." It ran for nearly two years in London, this run being almost equalled in New York, and was eminently successful in Australia.

It was perhaps the outstanding success of all the Auckland Little Theatre Society's activities. The cast that will broadcast on June 19 is the same, with one exception, to the performance recently given in Auckland.

#### Cast:

Thomas Greenleaf, Arnold Goodwin  
Alice Greenleaf.... Ina M. Allan.  
Joan Greenleaf... Janet Clarkson.  
Mr. Blanquet..... Dan Flood  
Cyril Beverley,

#### Morrison Steedman

Gerald Arnwood... Harold Haines  
Ambrose Goldolphin, K.C.

#### Ernest Blair

Sir Robert Arnwood

#### Gerald Roxburgh

It will be remembered when "Outward Bound" was broadcast a few months back that it proved highly successful. There is every reason to believe that "Bird in Hand," by that famous dramatist, John Drinkwater, will be equally attractive. Readers are reminded that they can support the Little Theatre movement in Auckland by application to the secretary, Mr. Theo. J. Spry, Victoria Arcade, Auckland, who will give all particulars.

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# Full Programmes for Next

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## Sunday June 23

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

- 3 p.m.: Afternoon session—selected studio items.  
 4.0: Literary selection by the Announcer.  
 4.8: Studio items.  
 4.30: Close down.  
 6.0: Children's session conducted by Uncle Leo.  
 7.0: Relay of service from Baptist Tabernacle (Preacher, Rev. Joseph Kemp; Organist, Mr. Arthur E. Wilson).  
 8.30 (approx.): Rebroadcast of 2YA, Wellington (relay from Grand Opera House, Wellington, of concert by the Port Nicholson Band under the conductorship of Mr. J. J. Drew).  
 9.30 (approx.): Studio items:  
 Vocal duet—Caruso and Journet, "Crucifix" (Faure) (H.M.V. Record DB951).  
 Choral and orchestra—Philharmonic Choir, "Mass in G Major—Benedictus" and "Agnus Dei" (Schubert) (H.M.V. Record D1480).  
 9.45: Close down.

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

- 3 p.m.: Afternoon session—Selected studio items.  
 6.0: Children's session conducted by Uncle George.  
 7.0: Relay of evening service of Trinity Methodist Church, Newtown.  
 Preacher: Rev. T. W. Vealie. Organist: Miss Lillian Thawley, L.A.B. Choirmaster: Mr. E. Eales.  
 8.15 (approx.): Relay from Grand Opera House of recital by the Port Nicholson Silver Band under the conductorship of Mr. J. J. Drew.  
 Close down.

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

- 3 p.m.: Relay of special "Animal" service from the Christchurch Anglican Cathedral (under the auspices of the Humanitarian Society of New Zealand and the patronage of the Mayor and Councillors of the City of Christchurch); Preacher, The Dean of Christchurch (Patron of the Humanitarian Society).  
 4.15 (approx.): Studio items.  
 4.30: Close down.  
 5.30: Children's song service.  
 6.15: Hymn tunes on Vibraphone.  
 6.30: Relay of service from Knox Presbyterian Church, Bealey Avenue (Preacher, Rev. T. W. Armour; Musical Director, Mr. W. H. Dixon (Professor of Music); Organist, Mr. A. Wellbrock).  
 7.45: Studio gramophone recital.  
 8.15 (approx.): Rebroadcast of 2YA, Wellington (relay from the Grand Opera House, Wellington, of concert by the Port Nicholson Silver Band under the conductorship of Mr. J. J. Drew).  
 Close down.

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

- 3 p.m.: Town Hall chimes.  
 3.1: Selected gramophone items.  
 4.30: Close down.  
 5.30: Children's song service, conducted by Big Brother Bill.  
 6.15: Close down.  
 6.30: Relay of service from Methodist Central Mission. Preacher: Rev. Hinton. Organist: Mr. Chas. A. Martin.  
 8.5: Relay from His Majesty's Theatre of concert by the Tramways Band.  
 9.15: Close down.

## Monday, June 24

### 1YA, AUCKLAND (333 METRES)—MONDAY, JUNE 24.

- 11.15 a.m. (approx.): Results of Auckland Trotting Club's meeting at Alexandra Park.  
 4.45 p.m. (approx.): Close down.

### 2YA, WELLINGTON (420 METRES)—MONDAY, JUNE 24.

- 3 p.m.: Chimes of the G.P.O. clock.  
 3.1: Selected gramophone items.  
 3.40: Relay from Messrs. Kirkcaldie and Stains' Tea Rooms of Music by the Trio.  
 4.0: Selected studio items.

- 4.30: and 4.55 Sports results to hand.  
 5.0: Children's session, conducted by Uncle Jeff.  
 6.0: Dinner session:  
 Orchestral—Orchestre Symphonique de Paris, "L'Arlesienne—Prelude Act 1" (Bizet) (Columbia Record 01324).  
 Orchestral—Orchestre Symphonique de Paris, "L'Arlesienne—Pastorale" (Bizet).  
 Orchestra and chorus—Orchestra Symphonique de Paris "L'Arlesienne—Choeurs" (Bizet) (Columbia Record 01325).  
 6.12: Tacet.  
 6.15: Orchestral—Orchestre Symphonique de Paris, "L'Arlesienne—La Cuisine de Castelet" and "L'Arlesienne—Minuetto" (Bizet) (Columbia Record 01326).  
 Orchestral—Orchestre Symphonique de Paris, "L'Arlesienne—Le Carillon" and "L'Arlesienne—Adagietto" (Bizet) (Columbia Record 01327).  
 6.28: Tacet.  
 6.30: Orchestral—Orchestre Symphonique de Paris, "L'Arlesienne—Fandango" (Bizet).  
 Orchestra and chorus—"L'Arlesienne—Marche des Rois" (Bizet) (Columbia Record 01328).  
 Violin solo—Jascha Heifetz, "On Wings of Song" (Mendelssohn) (H.M.V. Record DB283).  
 6.40: Tacet.  
 6.45: Orchestral—Regal Orchestra, "Casse Noisette—Valse des Fleurs—Marche" (Tchaikowsky) (Regal Record G20369).  
 Violin solo—Jascha Heifetz, "Ave Maria" (Schubert-Wilhelm) (H.M.V. Record DB283).  
 6.57: Tacet.  
 7.0: News session—Market reports and sports results.  
 7.40: Lecture—Mr. A. J. Nicholls (Representative Hutt Valley Horticultural Society), "Gardening."  
 8.0: Chimes of the G.P.O. clock.  
 8.1: Overture—Orchestra, "Norma" (Bellini).  
 8.9: Soprano solo—Mrs. W. Fraser Morrish, "Orpheus with His Lute" (Sullivan).  
 8.18: Pianoforte solo—Miss Mary Lennie, A.T.C.L., "Sonata Pathetique—1st Movement" (Beethoven).  
 8.20: Baritone solos—Mr. John Prouse, (a) "Ich Grolle Nicht" (Schumann); (b) "The Two Grenadiers" (Schumann).  
 8.27: Suite—Orchestra, "L'Enfant Prodigue" (Wormser).  
 8.35: Recital—Mr. Sidney Tingey, "The Chariot Race" ("Ben Hur") (Lew Wallace).  
 8.42: Contralto solos—Miss Hilda Chudley, (a) "Go Down, Moses" (Negro Spiritual) (Burleigh); (b) "For Ever and a Day" (Mack).  
 8.49: Tenor solo—Mr. James Fordie, "Flower Song" ("Carmen") (Bizet).  
 8.53: Selections—Orchestra, (a) "Vesperale" (Scott); (b) "Cortège du Sirdar" (Ippolitow).  
 9.1: Weather report.  
 9.3: Soprano solo—Mrs. W. Fraser Morris, "The Little Dustman" (Brahms).  
 9.7: Soprano and chorus—Florence Austral, "Senta's Ballad" ("The Flying Dutchman") (Wagner) (H.M.V. Record D1517).  
 9.11: Orchestral—Light Opera Orchestra, "Gondoliers" Overture (Sullivan).  
 Concerted with orchestra—D'Oyly Carte Opera Company, (a) "List and Learn" (b) "Good Morrow, Pretty Maids" (c) "For the Merriest Fellows are We"; (d) "See, See, at Last They Come" ("The Gondoliers") (Sullivan) (H.M.V. Records D1334/5).  
 9.26: Baritone solos—Mr. John Prouse, (a) "The Brow of Nefin" (Needham); (b) "Queen of Connemara" (Needham).  
 9.33: Selection—Orchestra, "Memoriam" (Brahms).  
 9.41: Recital—Mr. Sidney Tingey, "Mr. Pickwick" ("The Pickwick Papers") (Dickens).  
 9.48: Tenor solos—Mr. James Fordie, (a) "Mary" (Richardson); (b) "My Love is Like a Red, Red Rose" (Burns).  
 9.55: Contralto solo—Miss Hilda Chudley, "Remembrance" (Landon Ronald).  
 9.59: Suite—Orchestra, "Suite Algerienne" (Saint-Saens).  
 10.8: Close down.

### 3YA, CHRISTCHURCH (306 METRES)—MONDAY, JUNE 24.

- 3 p.m.: Afternoon session—selected gramophone items.  
 4.25: Sports results to hand.  
 4.30: Close down.  
 6.0: Children's session.  
 7.0: News session.  
 7.15: Talk—Mr. E. J. Bell, "Book Review."  
 8.0: Chimes.  
 Concert by the Christchurch Municipal Band, under the conductorship of Mr. J. Noble, and assisting artists.  
 8.1: March—Band, "B.B. and C.F." (Ord Hume).  
 Waltz—Band, "Maid of the Mountains" (Fraser Simpson).

# Week-all Stations-to June 30

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- 8.3. Mezzo-soprano solo—Miss Doris Irvine, "Lorraine, Lorraine, Loree" (Spross).  
 8.17: Selection—Band, "Iolanthe" (Sullivan).  
 8.26: Baritone solo—Mr. Robt. W. Rofe, "The Drum Major" (Newton).  
 8.30: Hymn—Band, "Fierce Raged the Tempest" (Dykes).  
 8.34: Mezzo-soprano solos—Miss Doris Irvine, (a) "An Open Secret" (Woodman); (b) "O, Ship of My Delight" (Phillips).  
 8.41: Foxtrot—Band, "The Glad Rag Doll" (Dougherty-Ager).  
 8.45: Baritone solos—Mr. Robt. W. Rofe, (a) "Stone-Cracker John" (Coates); (b) "Come, Sing to Me" (Thompson).  
 8.53: March—Band, "Punchinello" (Rimmer).  
 8.58: Weather report.  
 9.3: Relay description of boxing tourney from the Municipal Hall (under the auspices of the Christchurch Amateur Boxing and Sports Club).  
 Close down.

## 4YA, DUNEDIN (463 METRES).—MONDAY, JUNE 24.

- 3 p.m.: Town Hall chimes.  
 3.1: Selected gramophone items.  
 4.25: Sports results to hand.  
 4.30: Close down.  
 6.0: Children's session, conducted by Uncle Allan.  
 7.0: News session.  
 8.0: Town Hall chimes.  
 8.1: Orchestral—Orchestre Symphonique de Paris, "Ballet Egyptien—Andante and Finale" (Luigini) (Columbia Record 02786).  
 8.9: The song cycle, "Dorothy's Wedding Day" will be presented by the Majors Quartet:  
     Soprano ..... Miss Freda Elmes  
     Contralto ..... Miss Dorothy Skinner.  
     Tenor ..... Mr. J. Montague  
     Baritone ..... Mr. L. M. Cachemaille  
 Quartet—"Carillon."  
 Quartet—"Aubade."  
 Soprano solo—"Now, the Lark" (Gavotte).  
 Entr'acte—San Francisco Symphony Orchestra, (a) "Serenade" (Volkmann); (b) "Flight of the Bumble Bee" (Rimsky-Korsakov (H.M.V. Record ED9)).  
 Quartet—"Musette."  
 Tenor solo, "Oh, How I Love Thee" (Minuet).  
 Quartet—"Gigue."  
 Entr'acte—Royal Opera Orchestra, "Sleeping Beauty" waltz (Tschalkowsky) (H.M.V. Record C1415).  
 Contralto solo—"Dear Child" (Sarabande).  
 Baritone solo—"Did You Ne'er Hear The Tale?" (Pastorale).  
 Finale.  
 8.44: Instrumental—4YA Broadcasting Trio, "Le Cygne" (Saint-Saens).  
 8.50: Recital—Miss Joyce Hould, sketch from Dickens.  
 9.0: Cello solo—Mr. P. J. Palmer, "Valse Triste" (Sibelius).  
 9.4: Weather report.  
 9.6: Presentation of the opera "Tristan and Isolde" (Act 3 (Wagner):  
     Second Instalment (H.M.V. Records D1415/17):

(Synopsis: The final scene of the last Act of "Tristan and Isolde" will be presented this evening. The preceding acts have told how Tristan, a Cornish knight of Royal birth, who has fought successfully in Ireland for his uncle, King Mark of Cornwall, brings Isolde, an Irish Princess, as an unwilling bride for the King, but discovers that he himself loves Isolde. They hide their love, and her marriage with the King is carried out. But the lovers cannot be denied. During one of their secret meetings the King surprises them, and one of his followers stabs Tristan, who will not defend himself. The great third Act, the second half of which will be presented this evening, comes as a fitting climax to the opera. Nowhere than in this Act did Wagner achieve a more vivid expression of deep human emotions. As the Act unfolds, the full explanatory story will be told. Tristan lies dying in his castle in Brittany. He longs to see Isolde once again. When at last she comes, he is delirious, and leaps from his couch, dying in her arms. Isolde sings her Death Song over his body, and in a transport of passionate love, falls lifeless).

- 9.38: Instrumental—4YA Broadcasting Trio, "Ave Maria" (Schubert).  
 9.44: Baritone solo—Mr. L. M. Cachemaille, "The Star" (Rogers).  
 9.48: Pianoforte solo—Mrs. Ernest Drake, "Gardens in the Rain" (Debussy).  
 9.54: Soprano solo—Miss Freda Elmes, "Love Triumphant" (Brahms).  
 9.58: Recitals—Miss Joyce Hould, (a) Scene from "Twelfth Night" (Shakespeare); (b) "Mercy Speech" from "The Merchant of Venice" (Shakespeare).

- 10.4: Violin solo—Miss Eva Judd, "Song Without Words" (Mendelssohn).  
 10.10: Contralto solo—Miss Dorothy Skinner, "The Miller's Song" (Schubert).  
 10.14: Close down.

## Tuesday, June 25

### 1YA, AUCKLAND (333 METRES).—TUESDAY, JUNE 25

- 3 p.m.: Afternoon session—selected studio items.  
 4.0: Literary selection by the Announcer.  
 4.8: Studio items.  
 4.25: Sports results to hand.  
 4.30: Close down.  
 6.0: Children's session, conducted by Uncle George.  
 7.0: News and market reports.  
 7.40: Talk—Mr. L. J. Cronin, "Inner Workings of the New Zealand Parliament."  
 8.0: Chimes.  
 8.1: Relay of overture from Majestic Theatre Orchestra.  
 8.11: Contralto solo—Miss Phyllis Hazell, "The Star-flower Tree" (Woodforde-Finden).  
 8.15: Pianoforte solo—Miss Sylvia Kindberg, "Rhapsody" (Dohnangi).  
 8.19: Recital—Miss Nina Scott, "Day That I Have Loved" (Rupert Brooke).  
 8.23: Baritone solo—Mr. Len Barnes, "Largo Al Factotum" ("Barber of Seville") (Rossini).  
 8.27: Instrumental—Studio Trio, "Lohengrin" Selection (Wagner).  
 8.35: Soprano solo—Mrs. Leonard Cronin, "Nobil Signor" ("The Huguenots") (Meyerbeer).  
 8.39: Relay of orchestral entr'acte from Majestic Theatre.  
 8.49: Vocal duet—Miss Phyllis Hazell and Mr. Len. Barnes, "Samson and Delilah" Act 2, Scene 2 (Saint-Saens).  
 8.57: Orchestral—San Francisco Symphony Orchestra, (a) "Serenade" (Volkmann); (b) "Flight of the Bumble Bee" (Rimsky-Korsakov) (H.M.V. Record ED9).  
 9.1: Weather report.  
 9.4: Violin solo—Miss Ina Bosworth, "Caprice Viennois" (Kreisler).  
 9.9: Contralto solos—Miss Phyllis Hazell, (a) "Only a Rose" (Woodforde-Finden); (b) "Mighty Lak a Rose" (Nevin).  
 9.15: Pianoforte solos—Miss Sylvia Kindberg, (a) "The Lark" (Glinka); (b) "Hexantanz" (MacDowell).  
 9.23: Recitals—Miss Nina Scott, "Daddy and Babsy"; (b) "Playmate" (Mayer).

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WELLINGTON.

- 9.28: Orchestral—Philadelphia Symphony Orchestra, "Nocturne No. 2—Fetes" (Debussy) (H.M.V. Record E507).  
 9.34: Soprano solo—Mrs. Leonard Cronin, "What Does Little Birdie Say?" (Parsons).  
 9.38: Instrumental—Studio Trio, "Girl Friend" Selection (Rogers).  
 9.48: Baritone solos—Mr. Len Barnes, (a) "Edward" (Loewe); (b) "Danny Deever" (Danzrosch).  
 9.56: Orchestral—San Francisco Symphony Orchestra, "Marche Militaire" (Schubert) (H.M.V. Record ED9).  
 10.0: Close down.

### 2YA, WELLINGTON (420 METRES).—TUESDAY, JUNE 25.

- 3 p.m.: Chimes of the G.P.O. clock.  
 3.1: Selected studio items.  
 4.30 and 4.55: Sports results to hand.  
 5.0: Children's session, conducted by Uncle Jim.  
 6.0: Dinner session:  
 March—Budapest Philharmonic Orchestra, "Rakoczy" (Berlioz) (Columbia Record L2729).  
 Foxtrot, Coon-Sanders' Orchestra, "Who Wouldn't Be Jealous of You?" (Gillespie) (H.M.V. Record EA504).  
 Soprano solo—Dusolina Giannini, "Just a' Wearying For You" (Bond) (H.M.V. Record DA808).  
 6.12: Tacet.  
 6.15: Cinema organ solos—Eddie Horton, (a) "The Adorable Outcast" (Hayes); (b) "O Mi Paloma" (Merton) (Parlophone A2557).  
 Male trio—California Humming Birds, (a) "It Goes Like This" (Caesar); (b) "Ten Little Miles From Town" (Kahn) (H.M.V. Record EA463).  
 6.28: Tacet.  
 6.30: Male voices—Salon Group, (a) "Jeannine, I Dream of Lilac Time" (Shilkret); (b) "Sonny Boy" (Jolson) (H.M.V. Record EB35).  
 Male trio—Melody Three, (a) "Pals, Just Pals" (Dreyer); (b) "Remember Me to Mary" (Green) (Zonophone Record EE183).  
 6.45: Violin solos—Edith Lorand, (a) "The Old Tower of St. Stephen" (Brandt-Kreisler); (b) "Minuet in G" (Beethoven); (c) "Schon Rosmarin" (Kreisler). (Parlophone Record EI0549).  
 Wurlitzer organ solo—Jesse Crawford, "I Loved You Then, As I Love you Now" (MacDonald) (H.M.V. Record EA444).  
 6.55: Tacet.  
 7.0: News session, market reports, and sports results.  
 7.40: Lecturette—Representative Agricultural Department, "For the Man on the Land."  
 8.0: Chimes of the G.P.O. clock.  
 8.1: Overture—Orchestra, "Glory of Russia" (Kreen).  
 8.9: Tenor solo—Mr. G. Austin Blackie, "Dream Boat" (Novello) (by request).  
 8.13: Cornet solo—Mr. W. Sneddon, "Reverie No. 2" (Clay).  
 8.18: Popular song—Miss Lily Charles, "Me and the Man in the Moon" (Monaco).  
 8.22: Humour—Mr. Len Ashton, "The Miserable Farm" (MS).  
 8.29: Selection—Orchestra, "Dance of the Hours" (Ponchielli).  
 8.37: Soubrette—Mrs. N. R. Lightbody, "The Gay Seaside" (Longstaffe).  
 8.41: Novelty piano solo—Herschel Henlere, "Tinkering with 'Home, Sweet Home'" (Parlophone Record A2643).  
 8.47: Tenor solo—Mr. G. Austin Blackie, "Mary of Argyle" (trdtl.) (by request).  
 8.51: Waltzes—Orchestra, (a) "Waltz de Ballet" (Drigo); (b) "Waltz Talisman" (Drigo).  
 8.59: Weather report.  
 9.1: Popular songs—Miss Lily Charles, (a) "Sweet Sue" (Young); (b) "My Window of Dreams" (Klenner).  
 9.8: Lecturette—Mr. C. E. Wheeler, "Opening of Parliament—Descriptive Account in Advance."  
 9.18: Kinema organ solos—Stanley MacDonald, (a) "Was it a Dream?" (Coslow); (b) "Nicolette" (Batten) (Regal Record G20401).  
 9.24: Humour—Mr. Len Ashton.  
 9.31: Soubrette—Mrs. N. R. Lightbody, "Come Out" (Runbridge).  
 9.35: Instrumental—Orchestra, "Three Light Pieces" (Somerville).  
 9.40: "His Master's Voice" dance programme:  
 Overture—H.M. Coldstream Guards Band, "Poet and Peasant" (Suppe) (H.M.V. C1315).  
 Foxtrot with vocal chorus—Henry Busse's Orchestra, "One Step to Heaven" (Klages) (H.M.V. EA437).  
 Foxtrot—Arcadians' Dance Orchestra, "There's Something About a Rose" (Fain) (Zonophone 5169).  
 Waltz—The Troubadours, "Diane" (Rapee) (H.M.V. EA269).  
 9.59: Vocal duet—Dalhart and Robison, "My Blue Mountain Home" (Robison) (H.M.V. EA295).  
 Jazz piano solo—Pauline Alpert, "The Dancing Tambourine" (Ponce) (Zonophone EE98).  
 Foxtrot—Arcadians' Dance Orchestra, "Chilly-Pom-Pom-Pee" (Bryan) (Zonophone 5169).  
 Foxtrot—Henry Busse's Orchestra, "How About It?" (Klages) (H.M.V. EA437).  
 10.12: Humour—Norman Long, "Under the Bazunka Tree" (Weston) (H.M.V. B2454).  
 Wurlitzer organ solo—Jesse Crawford, "High Hat" (Alter) (H.M.V. EA426).

- Foxtrot with vocal refrain—Geo. Olsen's Music, "Old Man Sunshine" (Dixon) (H.M.V. EA422).  
 Foxtrot with vocal chorus—Geo. Olsen's Music, "Doin' the Raccoon" (Klages) (H.M.V. EA446).  
 Foxtrot—Louisiana Sugar Babies, "Persian Rug" (Kahn) (H.M.V. EA397).  
 10.24: Tenor solo—John McCormack, "Somewhere a Voice is Calling" (Tate) (H.M.V. DA914).  
 Waltz—Hilo Hawaiian Orchestra, "Kawaihau Waltz" (Kealakai) (H.M.V. EA397).  
 Foxtrot with vocal chorus—Shilkret's Orchestra, "Baby's Blue" (Hupfeld) (H.M.V. EA422).  
 Foxtrot with vocal refrain—Statler Pennsylvanians, "It Goes Like This" (Caesar) (H.M.V. EA446).  
 10.35: Bass-baritone solo—Peter Dawson, "Now Your Days of Philandering are Over" (Mozart) (H.M.V. C1401).  
 Violin and cinema organ—Elsie Southgate, "Rose in the Bud" (Foster) (Zonophone 5109).  
 Foxtrot—Nat Shilkret's Orchestra, "Nagasaki" (Dixon) (H.M.V. EA412).  
 Guitar and piano—Roy Smeck and Art Kahn, "Itchin' Fingers" (Robison) (Zonophone EE119).  
 Waltz—Nat Shilkret's Orchestra, "Till We Meet Again" (Egan) (H.M.V. EA412).  
 10.52: Whispering voices—Devonshire Dance Band, "At the End of an Irish Moonbeam" (Golden) (Zonophone EE84).  
 Community Lancers, Bert Firman's Dance Orchestra, Figures 1, 2, 3, 4, and 5 (Zonophone Records 5117/8).  
 11.0: Close down.

### 3YA, CHRISTCHURCH (306 METRES).—TUESDAY, JUNE 25.

SILENT DAY.

### 4YA, DUNEDIN (463 METRES).—TUESDAY, JUNE 25.

- 3 p.m.: Town Hall chimes.  
 3.1: Relay of instrumental music from the Ritz.  
 4.30: Close down.  
 6.0: Children's session conducted by Big Brother Bill.  
 7.0: News session.  
 7.30: Lecturette—Mr. F. S. Turner, M.Sc., "Geology and Evolution" (under the auspices of the Workers' Educational Association).  
 8.0: Town Hall chimes.  
 Studio concert by the St. Kilda Band, and assisting artists:  
 8.1: March—Band, "The Crusader" (Anderson).  
 8.6: Baritone solo—Mr. Arthur W. Alloo, (a) "The Vagabond" (Ireland), (b) "Serenade" (Schubert).  
 8.13: Waltz—Band, "Druid's Prayer" (Dayson).  
 8.18: Contralto solos—Miss Constance Poole, (a) "Salaam" (Lang), (b) "Before the Dawn" (Lang).  
 8.25: Euphonium solo—Band soloist, "Heart of a Rose" (Nicholls).  
 8.30: Choral—Sheffield Orpheus Male Voice Choir, (a) "Hymn Before Action" (Walford-Davies), (b) "The Long Day Closes" (Chorley) (Regal Record G30008).  
 8.38: Recitals—Miss Tui Northey, (a) "Land of the Might Have Been," (b) "Catch You" (Crofts).  
 8.48: Wurlitzer organ solo—Jesse Crawford, "I'll Get By as Long as I Have You" (Turk) (H.M.V. Record EA499).  
 Soprano solo—Dusolina Giannini, "Just a' Wearyin' for You" (Bond) (H.M.V. Record DA808).  
 8.54: Selection—Band, "Pirates of Penzance" (Sullivan).  
 9.4: Weather report.  
 9.6: Concerted with orchestra—Light Opera Company, "Hit the Deck" Vocal Gems (Youmans) (H.M.V. Record C1433).  
 9.14: Xylophone duet—W. Byrne and W. W. Bennett, "The Two Imps" (Alford) (Columbia Record 02745).  
 9.18: Baritone solo—Mr. Arthur W. Alloo, "Bedouin Love Song" (Pinsuti).  
 9.22: Cornet solo—Band, "When You Come Home" (Ham).  
 9.29: Contralto solo—Miss Constance Poole, "Sink, Red Sun" (Del Riego).  
 9.33: Air and variations—Band, "Sandon" (Rimmer).  
 9.43: Recital—Miss Tui Northey, "As His Mother Used to Do" (Anon.).  
 9.53: Male trio—California Humming Birds, (a) "It Goes Like This" (Friend), (b) "Ten Little Miles from Town" (Kahn) (H.M.V. Record EA463).  
 9.59: March—Band, "Guard of Honour" (Hames).  
 10.3: Close down.

## Wednesday, June 26

### 1YA, AUCKLAND (333 METRES).—WEDNESDAY, JUNE 26.

- 12.30 p.m.: Relay of community singing from the Town Hall.  
 1.30: Close down.  
 3.0: Afternoon session—Selected studio items.  
 4.0: Literary selection by the Announcer.  
 4.8: Studio items.  
 4.25: Sports results to hand.  
 4.30: Close down.  
 6.0: Children's session conducted by Uncle Tom.  
 7.0: News session.

- 7.40: Talk—Madame Mabel Milne, "Health Foods and Diet."  
 8.0: Chimes.  
 studio concert by the Salvation Army Band, and assisting artists:  
 8.1: March and selection—Band, (a) "Redcliffe" (Carroll), (b) "The Warriors' Reward" (Ball).  
 8.14: Soprano solo—Mrs. L. Parry, "Christina's Lament" (Dvorak).  
 8.18: Grand organ solo—Marcel Dupre, "The Swan" (Saint-Saens) (H.M.V. Record E518).  
 8.21: Bass solo—Sergeant W. H. Hallahan, "On the Road to Mandalay" (Speaks).  
 8.25: Meditation and euphonium solo—Band, (a) "Wareham" (Coles), (b) "Calvary's Stream" (Frstrup).  
 8.36: Humour—Miss Maisie Carte-Lloyd, "The Silent Wife."  
 8.41: Xylophone solo—W. W. Bennett, "Dancer of Seville" (Grunow) (Columbia Record 02745).  
 8.45: Accordion solo—Johnny Sylvester, "By the Waters of Minnetonka" (Lieurance) (Regal Record G20352).  
 8.48: Contralto solo—Miss Nellie Lingard, "Husheen" (Needham).  
 8.52: Meditation—Band, "Remember Me" (Broughton).  
 9.2: Weather report.  
 9.5: Tenor solos—Mr. George Barnes, (a) "Nirvana" (Adams), (b) "When Song is Sweet" (Sans-Souci).  
 9.13: Male chorus—"Over There" Medley (H.M.V. Record EB33).  
 9.17: Male quartet—Masters Lough and Mallett and Messrs. Dixon and Hastwell, "Drink to Me Only" (Ball) (H.M.V. Record B2770).  
 9.20: Soprano solos—Mrs. L. Parry, (a) "The Market" (Molly Carew), (b) "Sweet Spirit, Hear My Prayer" (Wallace).  
 9.28: Hymn tunes—Band, (a) "Oolne," (b) "Toplady."  
 9.34: Recitals—Miss M. Carte-Lloyd, (a) "Which Shall It Be?" (b) "Not At Home."  
 9.42: Bass solos—Sergeant Hallahan, (a) "Bells of Ely" (Mann), (b) "Red Devon by the Sea" (Clarke).  
 9.49: Selection—Band, "Songs of Liberty."  
 9.57: Contralto solos—Miss N. Lingard, (a) "Yonder" (Oliver), (b) "The Horses of the Dawn" (Brett).  
 10.3: Tenor solo—Mr. G. Barnes, "Come, for it's June" (Foster).  
 10.6: March—Band, "The Victor's Crown" (Hollis).  
 10.10: Close down.

**2YA, WELLINGTON (420 METRES)—WEDNESDAY, JUNE 26.**

SILENT DAY.

**3YA, CHRISTCHURCH (306 METRES)—WEDNESDAY, JUNE 26.**

- 3 p.m.: Afternoon session—Selected gramophone items.  
 4.25: Sports results to hand.  
 4.30: Close down.  
 6.0: Children's session conducted by Mother Hubbard and Uncle Frank.  
 7.0: News session.  
 7.30: Addington stock market reports.  
 8.0: Chimes.  
 8.1: Rebroadcast of 4YA, Dunedin (special programme by the Orphans Minstrel Troupe).  
 10.0: Close down.

**4YA, DUNEDIN (463 METRES)—WEDNESDAY, JUNE 26.**

- 3 p.m.: Town Hall chimes.  
 3.1: Selected gramophone items.  
 4.25: Sports results to hand.  
 4.30: Close down.  
 6.0: Children's session conducted by Aunt Anita.  
 7.0: News session.  
 8.0: Town Hall chimes.  
 8.1: Relay from the Empire Theatre of Christie Organ music rendered by Mr. Leslie N. Harvey.  
 8.11: Special "Minstrel" Programme presented by members of the Dunedin Orphans' Club Minstrel Troupe.  
 9.40: "His Master's Voice" Dance Programme:  
 Foxtrot with vocal refrain—Jack Hylton's Orchestra, "Bluebird, Sing Me a Song" (Davis) (H.M.V. EA448).  
 Foxtrot—Nat Shilkret's Orchestra, "My Man" (Pollack) (H.M.V. EA483).  
 Waltz with vocal refrain—Jack Hylton's Orchestra, "Spanish Rose" (Pearson) (H.M.V. B5481).  
 10.0: Relay of novelty entr'acte from Ritz Orchestra.  
 10.10: Foxtrot with vocal refrain—Ted Weems' Orchestra, "Me and the Man in the Moon" (Leslie) (H.M.V. EA490).  
 Foxtrot—Ambrose and his Orchestra, "Sweet Sue, Just You" (Young) (H.M.V. EA492).  
 Foxtrot with vocal refrain—George Olsen's Music, "I Faw Down an' go Boom" (Brockman) (H.M.V. EA490).  
 10.19: Baritone solo—Maurice Elwin, "There's Something about a Rose" (Pain) (Zonophone 5190).  
 Foxtrot with vocal refrain—Paul Whiteman's Orchestra, "The Calinda" (Hupfeld) (H.M.V. EA476).  
 Waltz with vocal refrain—Jack Hylton's Orchestra, "The Angelus was Ringing" (Damarell) (H.M.V. B5481).  
 Foxtrot with vocal refrain—Nat Shilkret's Orchestra, "Gotta Be Good" (Schertzingler) (H.M.V. EA489).  
 10.30: Relay of novelty entr'acte from Ritz Orchestra.

- 10.40: Foxtrot with vocal refrain—Hamp's Kentucky Serenaders, "I Fell Head Over Heels in Love" (Parsons) (H.M.V. EA492).  
 Foxtrot—Lez Confrey's Orchestra, "Jack in the Box" (Confrey) (H.M.V. EA495).  
 Waltz with vocal refrain—Hamp's Kentucky Serenaders, "Japansy" (Bryan) (H.M.V. EA476).  
 Waltz with vocal refrain—The Troubadours, "Dolores" (Grossman) (H.M.V. EA447).  
 Hawaiian—Hilo Hawaiian Orchestra, "Along Miami Shore" (Snodgrass) (H.M.V. EA415).  
 Chorus and orchestra—Victor Arden, Phil Ohman, Chorus and Orchestra, Selections from "Funny Face" (H.M.V. EB28).  
 Foxtrot—Waring's Pennsylvanians, "How About Me?" (Berlin) (H.M.V. EA473).  
 Foxtrot—Nat Shilkret's Orchestra, "I'd Rather Be Blue" (Fisher) (H.M.V. EA483).  
 Foxtrot medley—Novelty Orchestra, "Echoes of Ireland" (Zonophone 5066).  
 11.0: Close down.

**Thursday, June 27****1YA, AUCKLAND (333 METRES)—THURSDAY, JUNE 27.**

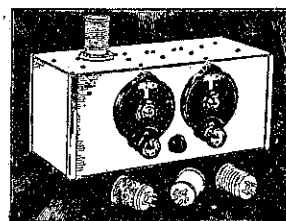
3 p.m.: Chimes.

- 3.1: Programme by Messrs. Lewis Eady, Ltd. (Pianoforte solos and accompaniment will be played on the Williams Pla-ola.)  
 4.0: Literary selection by the announcer.  
 4.8: Further items supplied by Messrs. Lewis Eady, Ltd.  
 4.25: Sports results to hand.  
 4.30: Close down.  
 6.0: Children's session, conducted by Peter Pan.  
 7.0: News and market reports.  
 7.40: Talk—Mr. N. M. Richmond, B.A., "The Provision of Credit."  
 8.0: Chimes.  
 8.1: Overture—Orchestra, "Rakoczy" (Keler Bela).  
 8.11: Vocal quartet—Madame Mary Towsey's Quartet, "Departure" (Mendelssohn).  
 8.14: Instrumental—Ingall's Hawaiians, (a) "Flower of Love" (Axt and Mendoza); (b) "Hilo Waltz" (Ingall); (c) "Kaluna Waltz" (Keoki Awa).  
 8.23: Contralto solo—Miss Edna Peace, "Winds and Trees" (Thomas).  
 8.27: Tenor and chorus—Mr. John McDougall and chorus, "Sunshine Above" (Jones).  
 8.31: Musical comedy selection—Orchestra, "Sunshine Girl" (Rubens).  
 8.41: Humour—Mr. T. T. Garland.  
 8.46: Soprano solo with violin obligato—Madame Mary Towsey (obligato by Miss Ina Bosworth), "Angel's Serenade" (Braga).  
 8.49: Orchestral—Ingall's Hawaiians, (a) "Static March" (Ingall); (b) "Tell Me"; (c) "Colonel Bogey March" (Alford).  
 8.59: Female chorus—"O, Springtide" (Max Staye).  
 9.2: Weather report.  
 9.5: Baritone solo—Mr. John Bree, "Sombre Woods" (Lully).

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- 9.8: Instrumental selections—Orchestra, (a) "Angelus" ("Scenes Pittoresques") (Massenet); (b) "Naila" (Lange).
- 9.16: Vocal duet—Madame Mary Towsey and Miss Edna Peace, "The Garden of Your Heart" (Ball).
- 9.19: Humour—Mr. T. T. Garland.
- 9.23: Vocal quartet—Madame Mary Towsey's Quartet, "Blue Bells of Scotland."
- 9.27: Orchestral—Studio Orchestra, latest novelties.
- 9.34: "Columbia" dance programme:  
March medley—H.M. Grenadier Guards Band, "Martial Moments" (arrgd. Winter) (Columbia Record 9065).  
Foxtrot with vocal chorus—Park Central Hotel Orchestra, "Golden Gate" (Jolson) (Columbia 01350).  
Foxtrot with vocal chorus—Ambassadors' Band, "Forty-seven Ginger-headed Sailors" (Sarony) (Columbia 01338).  
Vocal duet—Layton and Johnstone, "Just Like a Melody out of the Sky" (Donaldson) (Columbia 01339).
- 9.47: Tenor solo—Seamus O'Doherty, "The Pride of Tipperary" (Lockhead) (Regal 9029).  
Foxtrot—Ambassadors' Band, "I Just Roll Along Having My Ups and Downs" (Trent) (Columbia 01338).  
Foxtrot with vocal chorus—Ipana Troubadours, "S Wonderful" (Gershwin) (Columbia 01306).  
Hawaiian guitar, banjo, and ukulele trio—"My Hawaii" (Lewis) (Columbia 3606).
- 10.4: Male quintet—Singing Symphonies, "My Ohio Home" (Kahn) (Columbia 01088).  
Organ solos—G. T. Pattman, (a) "Pollu" (Zamecnik); (b) "Janette" (Williams); (Columbia 01144).  
Foxtrot—Debroy Somers' Band, "Without You, Sweetheart" (de Sylva) (Columbia 01249).
- 10.20: Tenor solo—Hubert Elsdell, "Parted" (Tosti) (Columbia 02598).  
Humoresque—Australian Commonwealth Band, "Slidin' Thro the Rye" (Hawkins) (Regal G20298).  
Pianoforte solo—Gli Dech, "Hallelujah" (Youmans) (Columbia 01205).  
Vocal solo—Ukulele Ike, "Chiquita" (Wayne) (Columbia 01265).  
Vocal duet—Jack Lumsdaine and Len Maurice, "That's My Mammy" (Perse) (Columbia 01191).
- 10.45: Orchestral—Columbia Symphony Orchestra, "March of the Toys" (Herbert) (Columbia 02651).  
Waltz—Royal Serbian Tambouritzza Orchestra, "Kosovo Waltz" (Columbia 3066).  
Male chorus—Sheffield Orpheus Choir, "There Is A Tavern in the Town" (trdtl.) (Columbia 01175).
- 11.0: Close down.

## 2YA, WELLINGTON (420 METRES)—THURSDAY, JUNE 27.

- 3 p.m.: Chimes of the G.P.O. clock.
- 3.1: Selected gramophone items.
- 4.30 and 4.55: Sports results to hand.
- 5.0: Children's session conducted by Uncle George.
- 6.0: Dinner session:  
Military Band—H.M. Coldstream Guards, "Suite Francaise" (Foulds) (H.M.V. Records B2751-2).
- 6.13: Tacet.
- 6.15: Hawaiian—(a) Gibson's Hawaiian Foursome, "Na Mo Ku Eha" (The Four Islands) (Kealoa), (b) Kalama's Quartet, "Wai O Mine-haha" (Minnehaha Falls) (Waialeale) (Parlophone Record A2603).  
Tenor solo—Gene Austin, "The Song I Love" (de Sylva) (H.M.V. Record EA512).
- 6.25: Tacet.
- 6.30: Foxtrot—Victor Orchestra, "Flapperette" (Greer) (H.M.V. Record EA181).  
Tenor solos, (a) Franklyn Baur, "At Dawning" (Cadman); (b) Bar-tington Hooper, "For You Alone" (Geehl) (Zonophone Record 5204).
- 6.40: Tacet.
- 6.45: Waltzes—Symphony Orchestra, (a) "Morgen Blatter" (Strauss), (b) "Blue Danube" (Strauss) (Columbia Record 9218).  
Band—Musique de la Garde Republicaine, (a) "Sambre et Meuse," (b) "Le Pere de la Victoire" (Ganne) (H.M.V. Record EA450).
- 6.57: Tacet.
- 7.0: News session—Market reports and sports results.
- 7.40: Lecturette—Miss Margaret O'Connor, "Dancing."
- 8.0: Chimes of the G.P.O. clock.  
Special programme by the Wellington Commercial Travellers and Warehousemen's Association Concert Party and Orchestra:
- 8.1: Overture—Orchestra (under the conductorship of Mr. J. F. Woodward) —"Morning, Noon, and Night" (Suppe).  
Soprano solo—Mrs. Amy G. Woodward, selected.  
Flute solo with orchestral accompaniment—Mr. Ainsworth and Or-chestra, "Sylvia" (Le There).  
Baritone solo—Mr. L. Bryan, selected.  
Suite—Orchestra, "Ballet Egyptian" (Luigini).  
Vocal solo—Member of Choir, selected.  
Oboe solo with orchestral accompaniment—Mr. N. Broad and Orches-tra, "Love Song" (Taubert).  
Soprano solo—Mrs. Amy G. Woodward, selected.  
Selection—Orchestra, "Belle of New York" (Kerker, arr. Godfrey).

Baritone solo—Mr. L. Bryan, selected.  
Entr'acte—Orchestra, "Traumbild" (Von Blon) (strings only).  
Vocal solo—Member of Choir, selected.  
March—Orchestra, "Grand March—Tannhauser" (Wagner).  
Close down.

## 3YA, CHRISTCHURCH (306 METRES)—THURSDAY, JUNE 27.

- 3 p.m.: Afternoon session—Selected gramophone items.
- 4.25: Sports results to hand.
- 4.30: Close down.
- 6.0: Children's session conducted by Uncle John.
- 7.0: News session.
- 7.30: Talk—Under the auspices of the Canterbury Progress League.
- 8.0: Chimes.
- 8.1: Overture—San Francisco Symphony Orchestra, "Marche Militaire" (Schubert) (H.M.V. Record ED9).
- 8.5: Vocal quartets—Melodious Four, (a) "Ladybird" (Schumann), (b) "A Flower to Me Thou Seemest" (Schumann).
- 8.12: Tenor solos—Mr. Russell Sumner, (a) "The Fuchsia Tree" (Quilter), (b) "Drink to Me Only" (Quilter).
- 8.16: Pianoforte solo—Miss Merle Miller, "Prelude in E Major" (Cesar Franck).
- 8.24: Soprano solo—Miss Frances Hamerton, "Knowest Thou the Land?" ("Mignon"—Thomas).
- 8.28: Orchestral—San Francisco Symphony Orchestra, (a) "Serenade" (Volkman), (b) "Flight of the Bumble Bee" (Rimsky-Korsakov) (H.M.V. Record ED9).
- 8.32: Baritone solo—Mr. T. D. Williams, "Song of the Flea" (Moussorgsky).
- 8.36: Monologue—Will Kings, "Jim Bludso" (Taylor-Clarke) (H.M.V. Record EA509).
- 8.39: Instrumental—Christchurch Broadcasting Trio, "Allegro and Finale—First Trio" (Beethoven).
- 8.49: Contralto solos—Miss Belle Renaut, (a) "Death and the Maiden" (Schubert), (b) "To Music" (Schubert).
- 8.54: Soprano and contralto duet—Melody Duo, "On Wings of Music" (Mendelssohn).
- 8.58: Weather report.
- 9.3: Overture—Grand Symphony Orchestra, "Merry Wives of Windsor" (Nicolai) (Parlophone Record A4083).
- 9.11: Vocal quartet—Melodious Four, "Since First I Saw Your Face" (Ford).
- 9.15: Tenor solo—Mr. Russell Sumner, "Go, Lovely Rose" (Quilter).
- 9.18: Violin and pianoforte duet—Misses Irene Morris and Dorothy Davies, "Sonata in C Minor—Allegro Molto" (Grieg).
- 9.26: Soprano solo—Miss Frances Hamerton, "Cherry Valley" (Quilter).
- 9.29: Baritone solos—Mr. T. D. Williams, (a) "Hell's Pavements" (Keel), (b) "Cape Horn Gospel" (Keel).
- 9.34: Monologue—Will Kings, "Devil-May-Care" (Taylor-Clarke) (H.M.V. Record EA509).
- 9.37: Instrumental—Christchurch Broadcasting Trio, (a) "Andante Funebre" (Svendsen), (b) "Hungarian Dance in G Minor" (Brahms).
- 9.47: Contralto solo—Miss Belle Renaut, "Loveliest of Trees" (Somerville).
- 9.51: Vocal quartet—Melodious Four, "Stars of the Summer Night" (Hatton).
- 9.55: Orchestral—Orchestra of the Opera Comique, Paris, (a) "Scenes Pittoresques—Marche," (b) "Scenes Pittoresques—Fete Boheme" (Mas-senet) (Parlophone Record A4057).
- 10.3: Close down.

## 4YA, DUNEDIN (463 METRES)—THURSDAY, JUNE 27.

SILENT DAY.

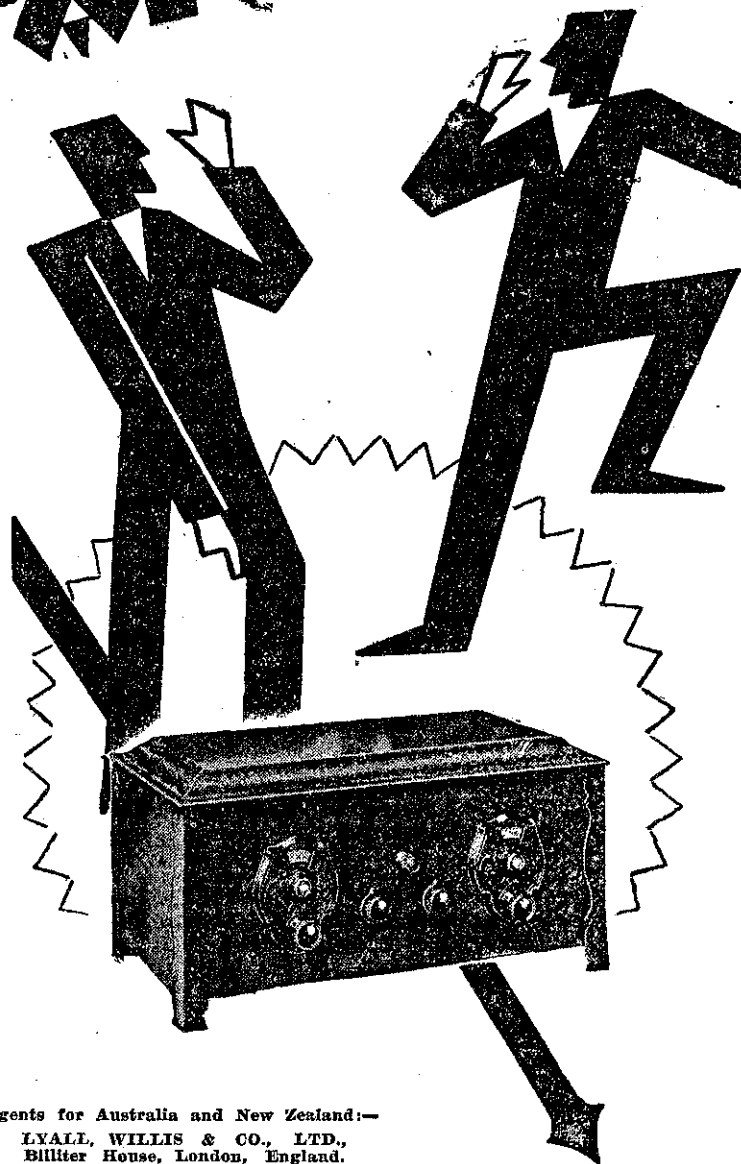
# Friday, June 28

## 1YA, AUCKLAND (333 METRES)—FRIDAY, JUNE 28.

- 3 p.m.: Afternoon session—selected studio items.
- 4.0: Literary selection by the Announcer.
- 4.8: Studio items.
- 4.25: Sports results to hand.
- 4.30: Close down.
- 6.0: Children's session, conducted by Nod and Aunt Jean.
- 7.0: News session.
- 7.40: Talk—Mr. R. Howard Taylor, "The Care of the Feet."
- 8.0: Chimes.
- 8.1: Orchestral—Vienna Philharmonic Orchestra, "Symphony No. 8 in F Major—1st Movement—Allegro vivace e con brio (Beethoven) (H.M.V. Record D1481).
- 8.9: Lecture-recital. Mr. H. Barry Coney, assisted by Miss F. Evans and Mr. Ian Barry, "The Ancient Mariner" (Barnett): (a) Bass recitative, "Alone, Alone, All, All Alone"; (b) bass solo, "O, Happy Homing Thing"; (c) contralto solo, "O Sleep, It Is A Gentle Thing."
- 8.24: Instrumental—Studio Trio, "Scherzo—Trio Op. 110" (Schumann).
- 8.34: Organ and vocal—Mr. Arthur E. Wilson and Mrs. J. Litherland: (a) "Cantata in A Minor" (Scarlatti); (b) "Funeral March of a Marionette" (Gounod) (c) soprano solo, "Hear Ye, Israel" (Mendelssohn) (d) "Gondola Song" (Lohr).
- 8.54: Tenor solo—Derek Oldham, "I Know of Two Bright Eyes" (Clutsam) (H.M.V. Record B2870).

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- 8.57: Pianoforte solo—Mr. Eric Waters, "Grenwich Witch" (Wagner).  
 9.2: Weather report.  
 9.5: Orchestral—New Light Symphony Orchestra, (a) "Triana" (Albeniz-Arbo); (b) "Spanish Dance, No. 3—Rondalla" (Granados) (H.M.V. Record C1553).  
 9.13: Talk—Mr. A. B. Chappell, M.A. "Topical Talk."  
 9.28: Organ and vocal—Mr. A. E. Wilson and Mrs. J. Litherland: (a) "Death of Ase" ("Peer Gynt") (Greig); (b) "Morning" ("Peer Gynt") (Greig); (c) "Anitra's Dance" ("Peer Gynt") (Greig); (d) soprano solo "Solweig's Song" ("Peer Gynt") (Greig)  
 9.48: Instrumental—Studio Trio, (a) "Song Without Words—in B Minor" (Mendelssohn); (b) "Tarantelle" (Heller).  
 9.56: Lecture-recital, Mrs. D. Basham and Mr. Barry Coney, assisted by Miss F. Evans and Mr. Ian Burry, "The Ancient Mariner" (Barnett); (a) tenor recitative, "I Fear Thee, Ancient Mariner"; (b) bass recitative, "Be Calm, Thou Wedding Guest"; (c) quartet, "Around, Around, Flew Each Sweet Sound"; (d) bass recitative, "Till Noon We Quietly"; (e) "Two Voices In The Air."  
 10.11: Orchestral—New Light Symphony Orchestra, (a) "Spanish Dance, No. 1—Orientale" (Granados); (b) "Spanish Dance, No. 2—Andalouse" (Granados) (H.M.V. Record C1553).  
 10.19: Close down.

## 2YA, WELLINGTON (420 METRES)—FRIDAY, JUNE 28.

- 8 p.m.: Chimes of the G.P.O. clock.  
 3.1: Selected gramophone items.  
 3.40: Relay from Messrs. Kirkcaldie and Stains' tea-rooms of music by the Trio.  
 4.30 and 4.55: Sports results to hand.  
 5.0: Children's session, conducted by Uncle George.  
 6.0: Dinner session.  
 Overture—Berlin State Opera Orchestra, "Martha" (Flotow), (H.M.V. record C1506).  
 String quartet—Virtuoso String Quartet, "Mignon" Gavotte (Thomas), (H.M.V. record B2784).  
 6.12: Tacit.  
 6.15: Cello solo—Arnold Foldes, "Kol Nidrei" (Bruch), (H.M.V. record C1411).  
 String quartet—Virtuoso String Quartet, "Orientale" (Glazounov), (H.M.V. record B2784).  
 6.27: Tacit.  
 6.30: Vocal duet—Lombardi and Galeffi, "Il Trovatore," Act 4 (Verdi), (Columbia record 04224).  
 Violin, flute and harp—Neapolitan Trio, "Serenade or Olden Time" (Silvestri), (Zonophone record EE79).  
 6.42: Tacit.  
 6.45: Concerted—D'Oyley Carte Opera Company, (a) "We're Called Gondoliers"; (b) "Are You Peeping?" ("The Gondoliers"), (Sullivan), (H.M.V. record D1336).  
 Concerted—D'Oyley Carte Opera Company, "Now Let the Loyal Lieges Gather Round" ("The Gondoliers"), (Sullivan), (H.M.V. record D1345).  
 6.57: Tacit.  
 7.0: News session, market reports and sports results.  
 7.40: Lecture—Mr. Dan McKenzie, "The Laws of Rugby."  
 8.0: Chimes of the G.P.O. clock.  
 Special programme by "The Strollers" Radio Party, assisted by the Studio Orchestra.  
 8.1: Overture—Orchestra, "The Gondoliers" (Sullivan).  
 8.9: Soprano solo—"Only a Rose" ("The Vagabond King"), (Friml).  
 Baritone solo—"A Bachelor Gay" (Simpson).  
 Humour—"I Need Love" (Bennett).  
 Tenor solo—"I Heard You Go By" (Haydn Wood).  
 Soubrette—"Waiting For Something to Happen" (Ellis).  
 8.29: Selection—Orchestra, "Pirates of Penzance" (Sullivan).  
 8.37: Chorus—"Going Up" (Hirsch).  
 Soubrette—"Pretty Babe" (Kerker).  
 Soprano solo—"Indian Love Call" ("Rose Marie"), (Friml).  
 Tenor solo—"Rose Marie" (Friml).  
 Patter.  
 8.57: Selection—Orchestra, "Veronique" (Messenger).  
 9.5: Weather report.  
 9.7: Orchestral—Dajos Bela Orchestra, "Electric Girl" (Helmburgh), (Parlophone record A4009).  
 Bass-baritone solo—Peter Dawson, "Lorraine, Lorraine, Lorree" (Capel), (H.M.V. record B2759).  
 Hawaiian—Kolomuku's Serenaders, "Three O'Clock in the Morning" (Robledo), (Zonophone record EF23).  
 Medley waltz—The Troubadours, "Popular Songs of Yesterday" (H.M.V. record EB33).  
 9.25: Selection—Orchestra, "Merrie England" (German).  
 9.35: Humour—"My Revolver" (Stirling).  
 Soubrette—"Love Nest" (Harbach).  
 Soprano and tenor—"A Paradise for Two" (Simpson).  
 Sketch—"Wanted a House" (Original).  
 Baritone and chorus—"The Song of the Vagabonds" (Friml).  
 9.51: Musical comedy selection—Orchestra, "Firefly" (Friml).  
 10.5: Close down.

## 3YA, CHRISTCHURCH (306 METRES)—FRIDAY, JUNE 28.

- 8 p.m.: Afternoon session—Selected gramophone items.  
 4.25: Sports results to hand.  
 4.30: Close down.  
 6.0: Children's session, conducted by Storyman.  
 7.0: News session.  
 8.0: Chimes.  
 8.1: Overture—Grand Symphony Orchestra, "Der Freischutz" (Weber) (Parlophone Record A4072).  
 8.9: Part song—Beckenham Male Quartet, "The Long Day Closes" (Sullivan).  
 8.13: Bass solo—Mr. F. S. Jackson, "Because" (d'Hardelot).  
 8.16: Cello solo—Mr. Harold Beck, "Boat Song" (Rowley).  
 8.20: Mezzo-soprano solo—Miss Merle Miller, "She Is Far From the Land" (Lambert).  
 8.24: Part song—Beckenham Male Quartet, "An Evening Lullaby" (Shaw).  
 8.28: Monologue—Will Kings, "Not Understood" (Bracken-Barnard) (H.M.V. Record EA508).  
 8.31: Instrumental—Christchurch Broadcasting Trio, "Larghetto and Allegro" (Raff).  
 8.41: Tenor and baritone duet—Messrs. K. G. Archer and E. R. Pitman, "The Rivals" (Hastings).  
 8.45: Part song—Beckenham Male Quartet, "When Pa Shaved Off His Whiskers" (Hall).  
 8.49: Instrumental trios—Christchurch Broadcasting Trio, (a) "Intermezzo" (Mathias); (b) "Valse No. 6" (Coleridge-Taylor).  
 8.59: Weather report.  
 9.4: Baritone solo—Mr. W. H. Odell, "Lighterman Tom" (Squire).  
 9.8: Waltz—Orchestra Mascotte, "I'd Like to Kiss the Ladies" (Lehar) (Parlophone A2650).  
 9.11: Part song—Beckenham Male Quartet, "Old Mother Hubbard" (Wheeler).  
 9.15: Cello solo—Mr. Harold Beck, "Harlequin" (Popper).  
 9.19: Soprano solo—Miss Merle Miller, (a) "Serenade" (Schubert); (b) "Vaivika's Song" (Wishaw).  
 9.24: Part song—Beckenham Male Quartet, "Dreamy Swancee Lullaby" (Vandersloot).  
 9.28: "Columbia" dance programme: March—H.M. Grenadier Guards Band, "Twist and Twirl" (Kottann) (Columbia 0987).  
 Foxtrot—Denza Dance Band, "Dance of the Blue Danube" (Fisher) (Columbia 01151).  
 Foxtrot—Biltmore Hotel Orchestra, "Sweet Sue—Just You" (Columbia 01249).  
 Foxtrot with vocal refrain—Paul Whiteman's Orchestra, "Just a Sweetheart" (Dreyer) (Columbia 07015).  
 9.40: Tenor solo—Alfred O'Shea, "Love's Garden of Roses" (Haydn Wood) (Columbia 04117).  
 Vocal duet—Layton and Johnstone, "Because My Baby Don't Mean 'Maybe' Now" (Donaldson) (Columbia 01339).  
 Pianoforte duet—Constance Mering and Muriel Pollack, "High Hat" (Alter) (Columbia 01224).  
 Foxtrot—Piccadilly Revels Band, "Dolores" (Kassel) (Columbia 01157).  
 Waltz with vocal refrain—Paul Whiteman's Orchestra, "Where Is The Song of Songs For Me?" (Berlin) (Columbia 07015).  
 9.57: Soprano and male quartet, Norah Blaney and The Ramblers, "Just Like a Darby and Joan" (Leslie) (Columbia 01170).  
 Pianoforte solo—Gil Dech, "Sometime's I'm Happy" (Youmans) (Columbia 01205).  
 Foxtrot with vocal refrain—Paul Whiteman's Orchestra, "Roses of Yesterday" (Berlin) (Columbia 07014).  
 Novelty foxtrot—Debroy Somers' Band, "Laughing Marionette" (Collins) (Columbia 01341).  
 Waltz with vocal refrain—Paul Whiteman's Orchestra, "The Side-walks of New York" (Lawlor) (Columbia 07014).  
 10.14: Tenor solo—Alfred O'Shea, "Love, Here Is My Heart" (Ross) (Columbia 03589).  
 Kylo-rimba orchestra, "Along Miami Shore" (Warren) (Regal G20328).  
 Marimba orchestra—Rio Marimba Orchestra, "My Isle of Golden Dreams" (Blaufuss) (Columbia 02685).  
 10.24: Humour—Flotsam and Jetsam, "Optimist and Pessimist" (Hilliam) (Columbia 0995).  
 Hawaiian—South Sea Islanders, "Dreamy Hilo Bay" (Clark) (Columbia 01162).  
 Hawaiian—King's Hawaiian Players, "Hilo March" (Berger) (Columbia 01226).  
 Pipe organ solo, with vocal chorus—Milton Charles, "Are You Happy?" (Ager) (Columbia 01184).  
 10.38: Tenor solo—Chas Hackett, "The World is Waiting for the Sunrise" (Lockhart) (Columbia 03596).  
 Vocal solo—Vaughan de Leath, "I Just Roll Along" (de Rose) (Columbia 01136).  
 Waltz—Kylo-rimba Orchestra, "My Sweetheart" (Nelson) (Regal G20328).  
 Vocal solo—Vaughan de Leath, "Watching for the Boogie Man" (Johnson) (Columbia 01136).  
 10.51: Piano-acordion solo, Guido Deiro, "Toselli's Serenade" (arrgd. Deiro) (Columbia 01168).  
 Vocal duet—Layton and Johnstone, "Good News—The 'Varsity Drag" (de Silva) (Columbia 01308).

Vocal duet—Jack Lumsdaine and Len Maurice, "Good-night" (Wood) (Columbia O1191).

11.0: Close down.

#### 4YA, DUNEDIN (463 METRES)—FRIDAY, JUNE 28.

3 p.m.: Town Hall chimes.

3.1: Selected gramophone items.

4.25: Sports results to hand.

4.30: Close down.

6.0: Town Hall chimes.

6.1: Children's session, conducted by Big Brother Bill and Aunt Sheila.

7.0: News session.

7.30: Lecturette—Mr. H. Greenwood, "Book Review."

8.0: Town Hall chimes.

8.1: Overture—National Symphony Orchestra, "Die Fledermaus" (The Bat) (Strauss) (Zonophone Record EF25).

8.9: Contralto solos—Miss Irene Horniblow, (a) "Stars of the Earth" (Raff); (b) "Page's Road Song" (Novello).

8.16: Instrumental—4YA Broadcasting Trio, "Valse in B Flat" (Godard).

8.24: Baritone solos—Mr. Arthur Lungley, (a) "Mother Carey" (Keel); (b) "To Anthea" (Hatton).

8.27: Pianoforte solo—Mrs. Ernest Drake, "Noel" (Gardiner).

8.32: Tenor solo—Mr. H. Drew, "Questa o Quella" (This One, or That One) ("Rigoletto") (Verdi).

8.39: Relay from Ritz of special classic interlude by Orchestra.

8.49: Recitals—Miss Nellie Osborn, (a) "Marguerite" (Whittier); (b) "Laugh and be Merry" (Masefield).

8.56: Chorus—Royal Opera Chorus—"Spinning Chorus—The Flying Dutchman" (Wagner) (H.M.V. Record D1517).

9.0: Weather report.

9.3: Instrumental—4YA Broadcasting Trio, (a) "Hungarian Dance No. 3" (Brahms); (b) "Hungarian Dance No. 5" (Brahms).

9.11: Soprano and chorus—Florence Austral and Royal Opera Chorus, "Senta's Ballad—The Flying Dutchman" (Wagner) (H.M.V. Record D1517).

9.15: 'Cello solo—Mr. P. J. Palmer, "Serenade Espagnole" (Glazounov).

9.20: Contralto solo—Miss Irene Horniblow, "Summer Rain" (Willeby).

9.24: Violin solo—Miss Eva Judd, "Romanze" (Kreisler).

9.29: Recital—Miss Nellie Osborn, "The Soldier" (Brooke).

9.35: Relay of special classic interlude from Ritz Orchestra.

9.45: Tenor solo—Mr. H. Drew, "Ah, Moon of My Delight" (Lehmann).

9.50: Orchestral—Marek Weber's Orchestra, "Potpourri of Waltzes" (Robert) (H.M.V. Record C1544).

9.58: Baritone solo—Mr. Arthur Lungley, "You Along o' Me" (Sanderson).

10.2: Solo and chorus—Zonophone Light Opera Company, vocal gems from "The Pirates of Penzance" (Sullivan) (Zonophone Record A332).

10.10: Close down.

10.10: His Master's Voice dance programme:

Overture—Symphony Orchestra, (a) "Love, the Magician" (De Falla); (b) "Spanish Dance" (De Falla) (H.M.V. D1453).

Fox-trot, with vocal refrain—The Troubadours, "Some Day, Somewhere" (Pollack) (H.M.V. EA421).

Fox-trot, with vocal refrain—Hamp's Kentucky Serenaders, "Blue Grass" (De Sylva) (H.M.V. EA407).

Fox-trot—Geo. Olsen's Music, "Who?" (Harbach) (H.M.V. EA79).

Waltz with vocal refrain—The Troubadours, "Neapolitan Nights" (Kerr) (H.M.V. EA421).

10.30: Waltz—Hilo Hawaiian Orchestra, "Lou'siana Lullaby" (Zoeller) (H.M.V. EA374).

Hawaiian—Hilo Hawaiian Orchestra, "Hawaiian Nights" (Roberts) (H.M.V. EA310).

Fox-trot—Hilo Orchestra, "My Bird of Paradise" (Berlin) (H.M.V. EA374).

Violin and kinema organ—Elsie Southgate, "I Hear You Calling Me" (Marshall) (Zonophone 5109).

Fox-trot—Geo. Olsen's Music, "Sunny" (Harbach) (H.M.V. EA79).

10.53: Vocal and guitar—Harry McClintock, "The Big Rock Candy Mountains" (McClintock) (Zonophone EE125).

Fox-trot—Harry Reser's Banjo Boys, "Down South" (Myddleton) (H.M.V. EA353).

11.0: Close down.

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## Saturday, June 29

### 1YA, AUCKLAND (333 METRES), SATURDAY, JUNE 29.

2.45 p.m.: Relay description of Rugby football match from Eden Park.

4.30 p.m.: Close down.

6.0: Children's session, conducted by Cinderella.

7.0: News and market reports.

7.40: Talk—Mr. G. D. Rutter, "The Flower Garden."

8.0: Chimes.

8.1: Overture—Orchestra, "Snacks in Bars" (Egerer).

8.17: Vocal novelty—Bohemian Duo, (a) "Flower of Love" (Riley); (b) "Rainbow 'Round My Shoulder" (Jolson).

8.25: Hawaiian—Kolomuku's Serenaders, "Aloha-Oe" (Liliuokalani) (Zonophone record EF23).

Tenor solo—John McCormack, "The Far Away Bells" (Gordon) (H.M.V. record DA914).

8.33: Recital—Mr. A. J. Dreaver, "A Little Boy's Lament."

8.36: Flute solo—Mr. A. A. Dunn, "Fantasia—Masaniello."

8.40: Soprano solo—Miss E. Langmuir, "Pierrot" (Rybuier).

8.45: Suite—Orchestra, "Le Roi's Amuse" (Delibes).

8.55: Humour—Mr. D. McKevitt.

8.59: Baritone solos—Mr. F. Baker, (a) "I Am Fate" (Hamblin); (b) "The Admiral's Yarn" (Reubens).

9.6: Weather report.

9.8: Selection—Orchestra, "Wildflower" (Youmans).

9.18: Vocal novelty—Bohemian Duo, (a) "Dream River" (Rogers); (b) "Kingdom Coming" (Yellen).

9.26: Soprano solo—Lucrezia Bori, "Il Bacio—The Kiss" (Arditi) (H.M.V. record DA900).

9.29: Recital—Mrs. Dreaver, (a) "Old Sunshine"; (b) "Maudie's Birthday."

9.37: Baritone solo—Mr. F. Baker, "Banjo Song" (Homer).

9.41: Piano solo and monologue—Miss E. Langmuir, (a) "Caprice" (Sibelius); (b) "Philosophy" (Emmell).

9.48: Vocal duet—Hardy Williamson and Robt. Rowe, "The Flowers that Bloom in the Spring" ("The Mikado") (Sullivan).

Baritone solo—Robt. Rowe, "Rising Early in the Morning" ("The Gondoliers" (Sullivan) (Parlophone record A2544).

9.54: Humour—Mr. D. McKevitt.

10.0: Instrumental—Orchestra, (a) Waltz, "Tales from the Vienna Woods" (Strauss); (b) March, "The Friars" (Boehnlein).

**2YA, WELLINGTON (420 METRES)—SATURDAY, JUNE 29.**

- 3 p.m.: Chimes of the G.P.O. clock.
- 3.1: Relay description of football match from Athletic Park.
- 5.0: Children's session conducted by Uncle Toby and Aunt Gwen.
- 6.0: Dinner session:  
Orchestral—Frank Westerfield's Orchestra, "Lilac Time" Selection (Schubert—Berte) (Parlophone A2543).  
Vocal solo with violin, guitar, and ukulele accompaniment—Sidney Burchall, "The Blue Room" (Rodgers) (Parlophone Record A2409).
- 6.12: Tacet.
- 6.15: Novelty—Honolulu Strollers, (a) "Red Wing" (Mills), (b) "Mighty Lak' a Rose" (Nevin) (Parlophone Record A2554).  
Band—Black Diamonds, (a) "Funeral March of a Marionette" (Gounod), (b) "Punjaub March" (Payne) (Zonophone Record 2798).
- 6.27: Tacet.
- 6.30: Band—H.M. Grenadier Guards, (a) "Turkish Patrol" (Michaelis), (b) "The Smithy in the Woods" (Michaelis) (Columbia Record 4111).  
'Cello solos—W. H. Squire, (a) "Songs My Mother Taught Me" (Dvorak), (b) "Spinning Wheel" (Dunkley) (Columbia Record 03611).
- 6.43: Tacet.
- 6.45: Foxtrots—(a) Geo. Olsen's Music, "A Precious Little Thing Called Love" (Davis); (b) Nat Shilkret's Orchestra, "When Summer is Gone" (Harrison) (H.M.V. Record EA507).  
Wurlitzer organ solos—Jesse Crawford, (a) "A Dream" (Bartlett), (b) "Amapola" (Poppy—Lacalle) (H.M.V. Record EA488).
- 6.57: Tacet.
- 7.0: News session—Market reports and sports results.
- 7.40: Lecturette—Mr. A. E. Wilson, of the Government Tourist Department, "Tourist and Holiday Resorts."
- 8.0: Chimes of the G.P.O. clock.
- 8.1: March—Orchestra, "High School Cadets" (Sousa).
- 8.5: Vocal quartet—Melodie Four, "Comrades in Arms" (Adam).
- 8.9: Novelty—Mrs. Mildred Kenny's Mandolin Orchestra, (a) "Love's but a Dream" (Paroletti), (b) "Salome Intermezzo" (Kennedy).
- 8.16: Bass solo—Mr. W. W. Marshall, "Mountains of Mourne" (Collinson) (by request).
- 8.20: Soprano solo—Mrs. Ethel Wilman, "Friend" (Davies).
- 8.24: Descriptive selection—Orchestra, "The Three Bears" (Coates).
- 8.32: Humour—Mr. Frank Moran, "The Vicar's Fancy Dress Ball" (Weston and Lee).
- 8.39: Saxophone solo—Arnold Brilhart, "Fascination" (Bernie) (Parlophone Record A4676).
- 8.42: Male voices—Salon Group, "Jeannine, I Dream of Lilac Time" (Shilkret) (H.M.V. Record EB35).
- 8.46: Tenor solo—Mr. Frank Bryant, "Eleanore" (Coleridge-Taylor).
- 8.50: Vocal duet—Messrs. Sam Duncan and W. W. Marshall, "Larboard Watch" (Williams) (by request).
- 8.54: Novelty—Orchestra, "Lightning Switch" (Alford).
- 9.2: Weather report.
- 9.4: Novelty—Mrs. Mildred Kenny's Mandolin Band, (a) "Serenade d'Amour" (Von Blon), (b) "Bells of Gold" (Rae).
- 9.11: Baritone solo—Mr. R. S. Allwright, "A Perfect Day" (Bond).
- 9.15: Soprano solos—Mrs. Ethel Wilman, (a) "The Beautiful Land of Nod" (Greene), (b) "Love, Here is My Heart" (Slesu).
- 9.22: Musical comedy selection—Orchestra, "Tiptoes" (Gershwin).
- 9.30: Humour—Mr. Frank Moran, "My Poor Old Mother's Shawl" (Rickaby).
- 9.37: Saxophone solo—Arnold Brilhart, "Caprice Futuristic" (Malneck) (Parlophone Record A2676).  
Wurlitzer organ solo—Chas. W. Saxby, "Dance of the Blue Danube" (Fisher) (Zonophone Record 5123).
- 9.43: Tenor solo—Mr. Sam Duncan, "Off in the Silly Night" (traditional).
- 9.47: Vocal quartet—Melodie Four, "Honey, I Wants Yer Now" (Coe).
- 9.51: Instrumental—Orchestra, Dance Novelties.
- 10.0: "His Master's Voice" Dance Programme:  
Medley waltz—The Troubadours, "Popular Songs of Yesterday" (H.M.V. EB33).  
Foxtrot with vocal refrain—Nat Shilkret's Orchestra, "Dusky Steve-dore" (Razaf) (H.M.V. EA452).  
Foxtrot with vocal refrain—Shilkret's Orchestra, "Just a Sweetheart" (Shilkret) (H.M.V. EA464).  
Foxtrot—Shilkret's Orchestra, "When Sweet Susie Goes Steppin' By" (Kaufman) (H.M.V. EA452).
- 10.13: Tenor solo—Lewis James, "Roses of Yesterday" (Berlin) (Zonophone EE122).  
Hawaiian—Hilo Hawaiian Orchestra, "Honolulu Sweetheart" (Davis) (H.M.V. EA415).  
Waltz with vocal refrain—Troubadours, "Was It Love?" (Caesar) (H.M.V. EA464).  
Foxtrot with vocal refrain—Goldkettes' Orchestra, "That's what put the 'Sweet' in 'Home, Sweet Home'" (Lowry) (H.M.V. EA487).
- 10.25: Tenor solo—Barrington Hooper, "For You Alone" (Geehl) (Zonophone Record 5204).  
Foxtrot with vocal refrain—Goldkettes' Orchestra, "Sweethearts on Parade" (Lombardo) (H.M.V. EA487).  
Waltz with vocal refrain—The Troubadours, "Another Kiss" (Schertzinger) (H.M.V. EA489).

- Foxtrot with vocal refrain—Jack Hylton's Orchestra, "In the Woodshed She Said She Would" (Johnson) (H.M.V. EA480).
- 10.38: Male trio—Melody Three, "Remember Me to Mary" (Green) (Zonophone EE133).  
Foxtrot with vocal refrain—Shilkret's Orchestra, "Jimmy Valentine" (Madden) (H.M.V. EA475).  
Selection—New Mayfair Orchestra, "This Year of Grace" (Coward) (H.M.V. EB37).
- 10.48: Bass with chorus—Paul Robeson, "Plantation Songs" (H.M.V. C1585).  
Foxtrot—Rhythm Band, "Teach Me to Dance Like Grandma" (Coward) (H.M.V. EA471).  
Foxtrot with vocal refrain—Shilkret's Orchestra, "Gotta Be Good" (Schertzinger) (H.M.V. EA489).  
Foxtrot—Rhythm Band, "A Room with a View" (Coward) (H.M.V. EA471).  
Foxtrot with vocal refrain—Jack Hylton's Orchestra, "In the Shadows" (Finck) (H.M.V. EA480).
- 11.0: Close down.

**3YA, CHRISTCHURCH (306 METRES)—SATURDAY, JUNE 29.**

- 3 p.m.: Afternoon session—Selected gramophone items.
- 4.25: Sports results.
- 4.30: Close down.
- 6.0: Children's session conducted by Aunt Pat and Peterkin.
- 7.0: News session.
- 7.30: Sports results to hand.
- 8.0: Chimes.
- 8.1: Rebroadcast of 2YA, Wellington (Vaudeville Programme).
- 10.0: Dance Programme.
- 11.0: Close down.

**4YA, DUNEDIN (463 METRES)—SATURDAY, JUNE 29.**

- 2.45 p.m.: Relay description of Senior Rugby football match from Carisbrook Ground.
- 5.45: Close down.
- 6.0: Town Hall chimes.
- 6.1: Children's session conducted by Uncle George.
- 7.0: News session.
- 8.0: Relay of 3YA, Christchurch (rebroadcast of 2YA, Wellington—Vaudeville Programme).
- 10.0: "His Master's Voice" Dance Programme:  
Foxtrot with vocal refrain—Arcadians' Dance Orchestra, "Bluebird, Sing Me a Song" (Davis) (Zonophone 5201).  
Foxtrot with vocal chorus—Bert Firman's Dance Orchestra, "'Cause I'm in Love" (Donaldson) (Zonophone EE123).  
Foxtrot with vocal chorus, Jack Hylton's Orchestra, "Forty-seven Ginger-headed Sailors" (Sarony) (H.M.V. EA448).
- 10.10: Tenor solo—Franklyn Baur, "At Dawning" (Cadman) (Zonophone 5204).  
Foxtrot with vocal chorus—Bert Firman's Orchestra, "I'm a Broken-hearted Blackbird" (Fields) (Zonophone EE123).  
Foxtrot—All Star Orchestra, "There's a Rainbow 'Round My Shoulder" (Alson) (H.M.V. EA436).  
Waltz with vocal refrain—Arcadians' Dance Orchestra, "Nicolette" (Batten) (Zonophone 5201).
- 10.13: Male chorus—"Over There" Medley (H.M.V. EB33).  
Hawaiian—Hilo Hawaiian Orchestra, (a) "Kawaihau Waltz" (Keala-kai), (b) "My Hula Love" (H.M.V. B2799).  
Male voices—Salon Group, "Sonny Boy" (Jolson) (H.M.V. EB35).
- 10.25: Bass-baritone solo—Peter Dawson, "Lorraine, Lorraine, Lorraine" (Capel) (H.M.V. B2759).  
Wurlitzer organ solo—Jesse Crawford, "A Dream" (Bartlett) (H.M.V. EA488).  
Foxtrot—All Star Orchestra, "She Didn't Say Yes, She Didn't Say NO" (Strong) (H.M.V. EA436).  
Waltz with vocal chorus—Waring's Pennsylvanians, "Just Another Night" (Donaldson) (H.M.V. EA462).  
Male voices—Salon Group, "Jeannine, I Dream of Lilac Time" (Shilkret) (H.M.V. EB35).  
Wurlitzer organ solo—Jesse Crawford, "Amapola" (Poppy) (Lacalle) (H.M.V. EA488).  
Foxtrot—Waring's Pennsylvanians, "I'm Sorry, Sally" (Kahn) (H.M.V. EA462).  
Waltz—Arcadians' Dance Orchestra, "Couldn't You Have Waited?" (Mitchell) (Zonophone 5215).
- 10.50: Male trio—Melody Three, "Pals, Just Pals" (Dreyer) (Zonophone EE133).  
Wurlitzer organ solo—Reginald Foort, "Just Like a Darby and Joan" (Gilbert) (H.M.V. B2775).  
Foxtrot with vocal refrain—Arcadians' Dance Orchestra, "Juanita" (Flynn) (Zonophone 5215).
- 11.0: Close down.

**Sunday, June 30****1YA, AUCKLAND (333 METRES), SUNDAY, JUNE 30.**

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

- 4.8: Studio items.  
 4.30: Close down.  
 6.0: Children's session, conducted by Uncle Leo.  
 6.55: Relay of church service.  
 8.30 (approx.): Relay of Band Concert from Whangarei.  
 9.45: Close down.

## 2YA, WELLINGTON (420 METRES)—SUNDAY, JUNE 30.

- 3 p.m.: Afternoon session—Selected gramophone items.  
 4.30: Close down.  
 6.0: Children's song service conducted by Uncle George.  
 7.0: Relay of service from St. John's Presbyterian Church (Preacher, Rev. J. R. Blanchard, B.A.; Organist and Choirmaster, Mr. C. W. Kerry).  
 8.15 (approx.): Relay from His Majesty's Theatre of recital by the Wellington Municipal Tramways Band under the conductorship of Captain T. Herd.  
 Close down.

## 3YA, CHRISTCHURCH (306 METRES)—SUNDAY, JUNE 30.

- 3 p.m.: Relay from Wesley Church, Fitzgerald Avenue, of the Annual Choir Festival. The sacred cantata "The World's Redemption" (Valentine Hemery) will be rendered by the choir. Soloists: Soprano, Mrs. J. Salkeld; contralto, Miss E. Vass; tenor, Mr. Ernest Rogers; bass, Mr. W. J. Spratt. Organist, Mr. A. M. Owen. Musical Director, Mr. J. Chaplin.  
 4.30: Close down.  
 5.30: Children's song service.  
 6.15: Hymn tunes.  
 6.30: Relay of service from Wesley Church, Fitzgerald Avenue (Preacher, Rev. W. Greenslade; Organist, Mr. A. M. Owen; Musical Director, Mr. J. Chaplin).  
 7.45 (approx.): Studio programme.  
 Soprano solo—Mrs. Lucy O'Brien, "Ave Maria" (Cooper).  
 7.49: Vocal quartet—Valencia Quartet, "O Gladsome Light" (Sullivan).  
 7.53: Piano and orchestra—Ignaz Friedman, "Concerto in A Minor"—Second and Third Movements (Grieg) (Columbia Records 02704-5).  
 8.8: Baritone solo—Mr. E. J. Johnson, "The Lord is My Light" (Allitsen).  
 8.13: Instrumental—Christchurch Broadcasting Trio, "Allegro Vivace—Trio in D Major" (Beethoven).  
 8.23: Contralto solo—Miss Mary Taylor, "A Song of Thanksgiving" (Allitsen).  
 8.27: Lecture-Recital—Mr. W. H. Dixon (Professor of Music): A Short Story of Negro Slavery and the Origin of Negro Spiritual Songs.  
 8.59: Weather report.  
 9.3: Contralto and tenor duet—Valencia Duo, "O, Lovely Peace" (Handel).  
 9.7: Soprano solo—Mrs. Lucy O'Brien, "Heart of Gold" (Manney).  
 9.11: Tenor solos—Mr. W. Bradshaw, (a) "Be Thou Faithful Unto Death" ("St. Paul"—Mendelssohn), (b) "How Vain is Man" ("Judas Maccabæus"—Handel).  
 9.20: Grand organ solo—Arnold Greir, "Agnus Dei" (Bizet) (Zonophone Record 5229).  
 9.23: Baritone solo—Mr. E. J. Johnson, "The Praise of God" (Beethoven).  
 9.27: Vocal quartet—Valencia Quartet, "Evening's Pastorale" (Shaw).  
 9.30: Close down.

## 4YA, DUNEDIN (463 METRES)—SUNDAY, JUNE 30.

- 3 p.m.: Town Hall chimes.  
 3.1: Selected gramophone items.  
 4.30: Close down.  
 5.30: Children's song service conducted by Big Brother Bill.  
 6.30: Relay of service from St. Andrew's Street Church of Christ (Preacher, Pastor W. D. More; Organist, Miss Stokes).  
 8.5: Relay from His Majesty's Theatre of concert by the Dunedin Tramways Band.  
 9.45: Close down.

## A Friction Melting Metal

AN alloy, or rather, an amalgam which melts by mere friction, and without the application of external heat, is a very useful material for the radio experimentalist to possess. Not only is such an amalgam of great service for cementing delicate crystals in their cups, but it is also obvious that there are a hundred and one other uses to which the amalgam may be put, especially by the experimenter.

Mackenzie's Amalgam, for such is the name of the metal, contains three ingredients—lead, bismuth, and mercury. Two separate crucibles are needed for its preparation. In the first of

these is placed a mixture of 2 parts of bismuth and 4 parts of lead.

### Making the Amalgam.

THE crucible is then heated over a spirit lamp or gas burner until the contents have just melted. Immediately after this, the molten contents of the crucible are poured into a waiting crucible which contains 1 part of mercury (by weight, of course, and with reference to the weight of the molten mass of bismuth and lead).

The contents of the second crucible are stirred as rapidly as possible. When solidification of the amalgam occurs, the contents of the crucible may be removed by giving the latter article a slight tap. The amalgam will present a silvery grey appearance. It

# Our Mail Bag

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

### News from 2YA.

I CONSIDER the news from 2YA practically nil. The real important news is kept back, and we read whole columns of matter which could keep till the daily arrives, and much of which is unsuitable for the air, requiring careful reading, and often rereading. We get also three or four prices from different firms, all prices in complete agreement, and from 1YA we get prices of fat stock from three or four firms, and again practically the same prices. The report of sales of stock at Johnsonville, given by 2YA on Thursday evening should satisfy any ordinary farmer or dealer.

Living 200 miles from Wellington, we do not feel like making a special trip to that city to attend a Radio Society meeting to protest against any ridiculous motion someone may choose to move. 2YA broadcasts football matches about 50 hours in one year, and I presume the great majority of city listeners, and 90 per cent. of country enthusiasts, will have something to say, if these hours are lessened. If the antiquated few who carried the motion would like more jazz and light music let a two hours breakfast session be started. I consider the concluding remark, "For the present, good evening, or good afternoon, everybody" preferable to the "drawing-room" thank you.—D.M.

I HAVE noticed during this last few weeks that the Australian stations have been broadcasting a good programme of old-time music and songs. I would like to suggest that the YA's do the same. I am sure we all appreciate old-time songs. I note in your last "Record" that the Shannon enthusiasts seem to want a special foxtrot programme while they are dining. Personally I think your dinner music session is first-class. The Shannons could get plenty of foxtrots from 2BL or 2FC if they don't like their own stations. On Wednesday, the 12th instant, I tuned in to 3YA just before 3 p.m. to wait for the chimes, and I was surprised to hear a song, "Old Folks at Home," it sounded like a quartet. Was this 3YA?—Satisfied (Westport).

### Delay in Presenting "Caractacus."

A CORRESPONDENT in the last issue of the "Radio Record" complained about the delay which occurred when 3YA broadcast "Caractacus." This was a public performance given in the Christchurch Municipal Theatre by the Royal Christchurch Musical Society under its new conductor, Mr. W. E. Dixon. The twenty minutes' delay which ensued before the performance commenced was due to the fact that the ushers required that time to find seating accommodation for an audience which crowded out the theatre.

### Altered Programmes.

WHY doesn't the announcer state the reason when it is not possible for an item that is put in the programme to be sung or played.—E. Morris (Dunedin).

[Any one of a thousand small mishaps possible may occur, such as "Boat late, record not arrived," "Mrs. Grundy has had to return to a sick mother." Listeners are not interested and do not seek such trivialities. When of importance some announcement is made.—Ed.]

### The Musical Menu.

I WAS very surprised and amused at the reason you advanced to the question, "Why does the Company not give us a few more dance numbers" in the dinner session. I suppose the Company's next move will be to reduce the dinner session to half an hour so that we will not linger over our tea and be tempted to eat too much, because the "medical fraternity" say it is very harmful to eat to excess. We had the set going to-night, Wellington's popular night, mind you, and endured it till somebody started to sing a piece of grand uproar (opera), then at the earnest request of everyone at the table I went to the set and switched it off. Please give us a few snappy jazz numbers, but for heaven's sake let them be popular ones. I do not know who has been drawing up the programmes lately, but he seems to have as much idea of what is popular as the conductor of a symphony orchestra. Can you tell me why the

will be soft—almost plastic—to the touch. And the act of rubbing it along a stone, metal or other surface, will cause it to melt, or at the very least, to become as plastic as freshly-made putty.

### Necessary Precautions.

THERE are a few practical details which must be carefully observed if success is to be attained in the preparation of Mackenzie's Amalgam. First of all, the proportions of metal (all of them are by weight) must be strictly adhered to. Again, in heating up the mixture of lead and bismuth, too high a temperature should not be reached, otherwise the bismuth would oxidise, and thus its proportional quantity in the metallic mixture would be reduced.

Further, before pouring the molten metals into the mercury, stir the contents with a small clean wooden stick, in order to ensure perfect mixing of the metals.

And finally, before you attempt to fuse the metallic ingredients, be sure to see that their surfaces are perfectly clean, otherwise the final product will be contaminated with all kinds of impurities, and very unsatisfactory results will be obtained from it.

Care must be taken when handling the mercury, as it has a great affinity for metals, and if it comes into contact with metal the mercury will quickly amalgamate with the former, and will spoil it for future use if it happens to be a valuable piece of cutlery or other household article.

hinner music starts with the crash of the Wellington clock as a background, and why the announcer butts into the music with the station call instead of in between items? I might say in closing, your sports service is great.—**HOPEFUL (N.D.P.).**

#### Continuance of Football.

**I** HAVE just been talking to several of the local listeners here, and they are all strongly in favour of a continuance of the relay of matches. Situated as we are in the backblocks, we all look forward to the Saturday afternoons and their most excellent descriptions of all the important matches in the big centres, which is much more interesting than just listening to the results at night. I would also like to take this opportunity of expressing our keen interest in Mr. McKenzie's lectures on the laws of Rugby. Trusting that your station will still continue to broadcast football and other sports.—**L. C. ARTHUR (Motu).**

#### May Fair Relays.

**I**N your issue of May 31 I noticed a letter from one "Diogenes" (Cromwell) re "Southland Radio." I hasten to congratulate him on a really fine attempt at humour. By fine I infer the idea of subtlety. At a first reading one is inclined to think that he means what he says. The obvious ridiculousness of his assertion that bad reception in Southland is due to poor aerials leads one to believe that he is indulging in a piece of sarcasm. In other words, he is merely echoing

"there is nothing wrong with our service, your receiver must be at fault."

There is also a letter from "Disgusted" (Invercargill) re May Fair relay. At the time in question I was in Timaru and can state that 4YA is received there just as indifferently as in the south, which shows that it is not the location but the station that is at fault. Strong comments were made by many of the leading radio men I had an opportunity of conversing with on the paucity of preparation evidenced by 3YA's attempt at relaying the May Fair. Why the station did not do its experimenting during the day or even in the 20 minutes available between the finish of the news session and 8 o'clock of that evening is past all understanding. No reference was made in the "Radio Record" to the failure of the relay. It stated that the Mair Fair "was successfully relayed by 4YA and sometimes by 3YA," thus giving the impression that it was a success from both stations. In fairness to 4YA I must state that the relay itself was handled excellently, but the modulation and volume of the station defied any pretence on the listeners' part at good reception. 4YA has decreased in volume since it has shifted to its new location. The old trouble of blasting has arisen again. The trouble does not appear to be due to over-modulation but to the inability of the amplifier tubes to carry the load. The sooner the new station arrives the better.

Radio Broadcasting Company officials have been taxing their brains as to why Australia has such a large proportion of listeners. The difference

may be indexed one of service. New Zealand stations at the end of the news session close down until 8 o'clock. The Australians go right until the clock chimes. As an example, on Thursday, May 30, 2FC finished their news session at about 7.50 and immediately commenced a short musical programme. At one minute to eight an item finished, but the announcer said, "While waiting for the clock we will commence a pianoforte solo by Grainger." That is what I call service.

The programmes from the New Zealand stations are generally more enjoyable, however. There is no doubt that the New Zealand stations are technically superior to the Australian, who do not bring the bass notes through sufficiently to give that roundness of tone essential to realistic reproduction. The only exceptions are 4QG and 3DB.

I do not agree with "Disgusted" regarding gramophone items. They are more acceptable than some of the would-be artists. The type of music in the dinner session appears to be meeting with approval, but why "Tacet"? I hope a quartet will never be inflicted upon us as suggested by a correspondent. Listening to a quartet would soon become monotonous, as such a combination is totally unable to give that variation in rendition required by the very nature of a majority of compositions.—"SHIELDED GRID" (Invercargill).

[Much of what difficulty occurred over the May Fair relay was due to lack of organisation in connection with the fair, which was not attributable to

either 3YA or 4YA. Our correspondent can ascertain the facts perhaps from the fair officials in Invercargill.—**Ed.]**

#### Take a Choice.

**I** NOTICE several letters in the "Mail Bag" referring to the volume of 2YA. I find the power the same. Ever since the gale blew down the aerial at 2YA we have noticed loss of power. We appreciate the programmes, and relays, but it seems some people are never satisfied. Some wanted dinner music, and got it; now some do not want it. Well, let them tune in to the other stations from 6 to 7. If they do not like the dinner music, perhaps the children's session will help. I send my thanks to the management and good wishes to Mr. Announcer, 2YA, also to the "Radio Record."—**RGE-PUR1**

#### Go and Help the Curate.

**I** HAVE noticed recently several complaints concerning the monopoly given football on Saturday afternoons, and I wish on the other hand to congratulate the Broadcasting Company for seizing these opportunities of broadcasting sporting events. Compared with Australia, I consider there is a dearth of sporting events suitable for broadcasting in New Zealand, and no opportunity should be missed of broadcasting the high-class Rugby football that is played in the cities on Saturday afternoons. The splendid word-pictures painted by the capable announcers at these football matches cannot fail to enthral everyone except those ignorant of New Zealand's national pastime, who, perhaps, when all is said and done, are those loudest in condemnation. "Edenite" may be quite right in that only 10 per cent. listen to football in his district on Saturday afternoons, the other 90 per cent., I am game to wager, are actually at the match, either playing or looking on, according to their respective ability. So, growlers, hands off the Broadcasting Company's organisation. Turn off the set for an hour or two, and go and help the curate decorate the church, or something. Remember we can all find something in broadcasting that we could willingly dispense with.—**H.M. (Okania).**

#### Pure Selfishness.

**I**N several of the later issues of the "Record," there have been protests against the broadcasting of football matches on Saturdays. Now, to my way of thinking, these protests only denote pure selfishness. Music lovers surely get their money's worth throughout the week. There are seven days in the week, and on every day except one there is music on the air, so surely one afternoon can be spared to its football enthusiasts. Football is the national game of New Zealand, and I feel sure if a vote were taken on the subject that football would win. As to the rest of the programmes there are often items and whole programmes that I do not care for, but unlike the people who don't want football I am not complaining. I think the R.B.C. split up their offerings in a very creditable manner, and anyone who is not satisfied must be pretty hard to please. Just a word or two for Mr. Announcer at 2YA. We are all agreed here that he is absolutely the best ever, and on the rare occasions when he is absent from the "mike" we feel as though something were wrong.—**"NO COMPLAINTS" (Waverley).**

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# N.Z. RAILWAYS

# Notes and Comments

By  
"SWITCH"

THOSE distant listeners who contend that reception of 2YA Wellington has decreased in volume as compared with that of last winter, will probably admit that reception of the Australian stations this winter is not to be compared with their reception last winter. Then, again, listeners who have not changed their valves since last winter would probably find if their valves were tested that they have deteriorated considerably. A thousand working hours is a fairly average life for the best make of valves.

THE forthcoming radio exhibition promises well. The Town Hall, with its extensive floor, is an ideal place for an exhibition, and there should be ample room for large attendances of the public. This will be the first separate radio exhibition held in New Zealand, previous displays having been conducted in connection with the Winter Show.

WELLINGTON listeners who tune in 3LO Melbourne and enjoy band music, will be interested to learn that the 32nd Battalion Band won the 3LO trophy shield as the winners of the third military band contest at Melbourne. Mr. Percy Code, whose beautiful cornet solos have occasionally been played in Wellington, acted as adjudicator.

A MUSICAL enthusiast who is a broadcast listener, expressed his entire approval of the remarks published by "Switch" in last week's notes regarding inappropriate music played on the banjo, mandolin, and other instruments. He said that there were other incongruities to be heard on the air occasionally, and not the least of these was the transposition of key of some of the finest musical compositions, including grand opera. He mentioned that there are numerous compositions which should be played only in the key in which they were originally written, otherwise they lose their character. A chapter could be written on this subject alone.

NEW ZEALAND listeners will be pleased with the cabled news that the Commonwealth Government has let tenders for the erection of two "A" class broadcast stations of considerably greater power than the existing Australian "A" class stations. The proposed locations of the new stations are not disclosed. If they are placed anywhere near the eastern coast of the Commonwealth, New Zealand listeners will derive much advantage from them. At present static and weak reception frequently plays havoc with the Australian stations when New Zealanders endeavour to tune them in.

CRITICS should be sure of their ground when embarking upon an attack on the pronunciation of studio announcers. A radio acquaintance stopped "Switch" the other day to tell him of the "bad slip" perpetrated by an announcer in pronouncing "Wurlitzer" as "Yurilitzer." He lost his enthusiasm over his imaginary discovery when informed that "Wurlitzer" was a Teutonic name, and in Teutonic languages the "W" was pronounced like our "V." The announcer had ample justification in using "Yurilitzer," although there is no great harm in adopting an Anglicised pronunciation of the name.

"If there is one instrument that sounds really excellent over the air it is the harp!" exclaimed a listener to "Switch" a couple of days ago. Unfortunately harpists are scarce in this community, and the harp is not easily transportable, but the said listener suggested that possibly a performer on this instrument may be induced to offer delight to a large number of listeners by giving some items from 2YA, Wellington. He thought as a substitute some records of harp soloists could be "dug up."

A GENTLEMAN who is interested in the preservation of the English language from the noxious intrusion of Yankee pronunciation and intonation, suggested recently that the Wellington Radio Society should pass a resolution condemning the "awfulness" of the American speech in the new "talking pictures." The subject, however, does not come within the scope of the Radio Society, and so nothing came of the suggestion.

"D.H.H." (St. Kilda) writes to "Switch":—"I notice that in last week's 'Record' you advise an Island Bay listener that interference from trams, wires, rails, etc., cannot be eliminated. I apologise, as a

merest amateur, with differing from an expert, but I am of opinion that the difficulty may, to a great extent, be overcome. The following is my experience: Our house is situate on damp ground, on a tramcar corner, with a transformer station a few hundred yards up the street. My earth is seven copper pipes each over six feet in the ground. Hence you can readily see that tram interference has been our bane, and when trams were within a quarter of a mile or more on frosty nights, reception of low-wave stations such as Christchurch, 2BL, etc., was practically impossible, and was always a nuisance on all stations even as high as 3AR, and when we occasionally heard Hobart. Feeling certain that the trouble was mainly the earth, I have erected a counterpoise exactly similar to my 4-wire aerial, about 15 feet from the ground. For New Zealand stations the trouble is at an end, though of course we have some noise. In order to still maintain my distant reception I have not cut out my earth, but a two-way switch gives me earth or counterpoise as required. Now, about volume. It has affected New Zealand stations very little, but Australia is very weak with the counterpoise, and still needs the earth wire. But as with us, we do not, as a rule, switch on to Auckland until after 10 o'clock, and as we have no Sunday trams, that is not much of a drawback."

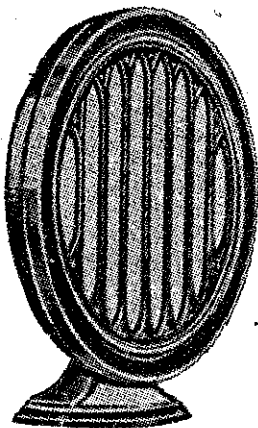
IT will be noted from the above letter that despite the use of a counterpoise by "D.H.H." (St. Kilda) he still has some noise when listening to outside New Zealand stations, though "the trouble is mechanically at an end." Then he admits that the volume of the New Zealand stations is affected, although "very little," but "Australia is very weak with the counterpoise." The Island Bay listener has gone to the trouble of trying out a counterpoise, but, while it reduced tram interference considerably, it spoilt reception of the outside New Zealand stations, and practically eliminated the Australians.

THE demonstration by Mr. Firth at the Wellington Radio Society's recent general meeting showed that the up-to-date combined all-electric radio set and gramophone is as easy to operate as the ordinary gramophone. For a long while the radio trade had to contend with the shyness of the public towards radio owing to the more or less skill required in tuning, and the trouble of connecting up batteries and attending to them. The three-coil regenerating set which was popular a few years ago required not a little skill, on the part of its operator, to tune it, and radio traders who were in the business then recall with a shudder the trouble they had in teaching purchasers to work those sets.

A WELLINGTON listener has asked "Switch" whether it is desirable to go to considerable trouble to erect a special aerial for use with a short-wave receiving set he proposes to construct, or whether his ordinary broadcast receiving aerial, which is a good height, would serve for short-wave reception. It is quite unnecessary to put up a special aerial, as the present aerial will act efficiently. By the way, the said listener should notify the chief radio inspector by letter that he is adding another set to his equipment. No extra license fee is charged.

A NEIGHBOUR asked "Switch" to hear his set, to which he had added a third audio transformer and audio valve to "boost" up reception from Australia. He was disconcerted owing to the profusion of parasitic sounds which defeated his object. The fact of the matter was that the addition of the third stage of transformer-coupled audio amplified the internal action of the preceding valves, so that the noise was almost unbearable. Acting on "Switch's" advice he discarded the third audio stage, substituted a power valve in the second stage, greatly increased the "B" and "C" battery potential on the second stage, and the result desired was successfully achieved.

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# A Cheap Eliminator for Small Sets

## Minimum Cost with Maximum Power

By "PENTODE"



HERE are many who, having purchased a crystal set, have later added a small one or two valve amplifier and are now on the point of looking round for some small, in expensive device to further improve their results. They have heard that an increase of B and C supply will allow of greater undistorted volume, but the idea of buying batteries to give, say, 150 volts, and their added maintenance does not appeal to many. Besides, the average experimenter derives most of his pleasure from the actual making of small devices, and any improvements afterwards is all the more pleasurable. A small one, two or even three valve set, when correctly designed, should take no more than 8 to 10 milliamperes from the B battery, and a small eliminator to give this output can be constructed for quite a moderate outlay. The eliminator derives its power from the A.C. mains, and the actual running costs are negligible. As very high voltages are not required, the smoothing condensers need not have a very high test voltage, and the price will be correspondingly low.

One or two valve amplifiers have been mentioned, but the eliminator described is quite suitable for small receivers employing a valve detector. Slightly more smoothing may be necessary, and this will be dealt with later. First of all the principle will be briefly dealt with and the functions of the individual components described. In

this way the constructor will be able to tackle the job with a better understanding.

### The Theory.

An eliminator can be divided into four essential parts. Each of these different operations have to be done properly to ensure a steady and sufficient direct current output. In the first place there is the power supply. In the case under consideration the supply is derived from the A.C. mains and a power transformer is employed to step the 230 volt mains either up or down to suit requirements. After having the correct voltage available the current is rectified, and a valve is employed for this purpose. This direct current is not yet suitable to be applied directly to the amplifying valves, as it is made up of a series of direct current impulses which, if used in this state, would produce a loud hum in the speaker. The next process is the smoothing out of these ripples and is accomplished by a series of iron-cored chokes and large capacity condensers. The direct current should now be quite smooth, but of one voltage only. As

the detector or first audio valve requires less voltage than the final power valve, some form of voltage divider will have to be used. This constitutes the fourth essential in the working of an eliminator.

Commercial power transformers are available, but for the amateur who wishes to construct his own we shall spend some time describing the manufacture of one. For the sake of economy the rectifying valve used is one of the ordinary general purpose valves of which there are two or three makes as low as 2s. 6d. each. A current of 10 m.a. can be drawn quite safely, and the valve can be expected to last quite as long as a set of "B" batteries.

### The Power Transformer.

To begin with a description of the power transformer. Winding will be given for both the 110 and 230-volt supply, or the 230 winding can be divided and used for the 110-volt mains by following the directions given. The core is of stalloy, and this will have to be bought in the stampings cut to size. The diagram shows the sizes and shapes of the different pieces. As stalloy is usually of 1.64in. thickness, 64 pieces of each size will have to be used. The quantities and sizes to be obtained are as in the list of components.

Each of these stampings will have to be given a coating of shellac dissolved in methylated spirits and allowed to dry. While these are drying the preparation of the spool can be commenced. Obtain a piece of wood about 6in. long and just over 1in square, tapering very slightly towards one end. Over this wind a strip of brown paper 2 inches wide and about 12 inches long, so that three or four thicknesses form the basis of the spool.

### List of Components for Eliminator

Stalloy stampings, 128 pieces, 3in. x 1in.; 128 pieces 1½in. x 1in.  
 1lb. 32 s.w.g. enamelled wire.  
 1lb. 38 s.w.g. enamelled wire.  
 1lb. 24 s.w.g. enamelled wire.  
 Valve and valve socket.  
 2 burnt-out audio transformers.  
 5 x 2 mfd. condensers.  
 Resistor and clip 100,000 ohms (wire wound or carborundum).  
 Panel, terminals, insulated sleeving, etc.  
 128 pieces 3in. x 1in.  
 128 pieces 1½in. x 1in.

The paper should be of a fairly heavy type and glue or secotine painted on between each layer. The spool ends can be made out of ¾-inch fibre or formica. Each end is 2½ inches square and has a square hole cut in the centre of each, so that it fits tightly over the brown paper spool centre already mentioned, forming the two ends of the spool. Glue or secotine should be used liberally to fasten these two ends tightly, otherwise the ends will be likely to bulge when the wire is wound



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on. To prevent any possibility of this small blocks of wood can be nailed to the centre spindle so that the end pieces cannot possibly move. When the whole is dry we are ready to commence winding.

### Winding the Transformer.

**FIRST** comes the primary, consisting of 1850 turns of 32 s.w.g. enamelled wire. To do this successfully some form of winding jig will be necessary. Details have already been given

quickly burn out if just one turn became short circuited.

Finish off with another short length of flex wire passing through a hole in a convenient end. As an insulator is to be applied while winding, shellac is not to be recommended, as it is liable to dissolve the enamel where adjacent turns touch, and instead of improving destroy the insulation. Moltan pitch is the insulator used commercially, but, providing the wire has been wound reasonably tight to prevent any turns slipping, there is no need to apply any form of liquid insulation. The melted tops of old dry cells make a good insulator.

### Primary for 110 Volts.

**IT** would be just as well to mention here the procedure to adopt if the transformer is to be used for the 110 voltage. Two methods are available. The one in which the transformer is permanently wound for the 110 volt mains and the one in which, by a simple alteration, it can be used for either the 110 or 230 voltage. In the first case, half the number of turns will be needed, as specified for the 230 volt winding, namely, 925 turns. As the lower voltage winding takes more amperage it will have to be wound with a heavier gauge wire. Number 28 S.W.G. enamelled wire is quite suitable and should be wound on as for the higher voltage winding separating each layer by a turn of paper.

The second method in which the transformer can be altered makes use of two windings which, when connected in parallel, can be used for the lower voltage supply and connected in series are suitable for the higher voltage mains. To do this, proceed as with the 230 volt winding already described, using the same (32 S.W.G.) gauge wire. When the 925th turn has been put on, cut the wire, bringing the lead out of one end of the spool. Mark this lead number 2. Commence again with a lead (mark it 3) and wind on another 925 turns, marking the final turn No. 4. The first turn to be put on mark as No. 1 connection. And now we have the primary divided into two equal separate halves, all the leads being marked as follow:—

Input of first half, No. 1; output of first half, No. 2; Input of second half, No. 3; output of second half, No. 4.

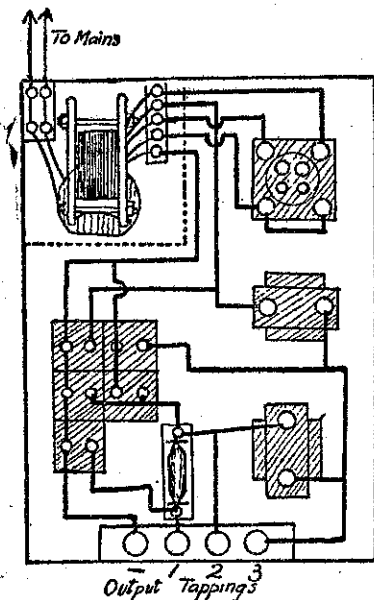
The following connections should be used for either supply voltage. For

former will have to be slightly higher than that needed at the output. One hundred and eighty to 200 volts proves quite OK, and to obtain this the secondary will need about 1800 turns of number 38 s.w.g. enamelled wire. Wind these on exactly as for the primary winding, taking just as much care over the insulation. For either main voltage, the secondary turns remain the same; any adjustments being made are done to the primary only.

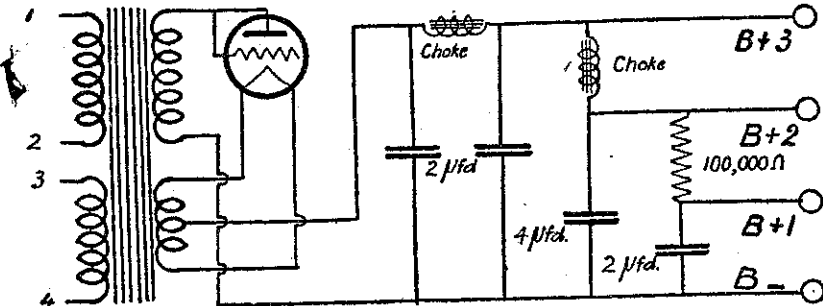
Finally there remains the filament voltage for the rectifier valve, and this

winding must be carefully insulated from the previous high voltage winding. If a six-volt valve is to be used, then 52 turns of 26 s.w.g. enamelled wire will be necessary. This winding should be centre-tapped at the 26th turn, and a lead brought out to one end.

If a two or four-volt valve is available for the rectifier, the number of turns should be in proportion, and the winding tapped at the centre turn. All the leads of each winding should be clearly marked to avoid any mistakes.



in previous issues for the construction of a simple winding jig, and the reader is advised to refer to either these, or the current issue of the "New Zealand Radio Listeners' Guide," a chapter on "Small Power Transformers from A to Z," gives a wealth of information on the subject. It is well worth the slight expense involved. But this is incidental. A short length of heavier flex wire should be soldered to the beginning of this fine wire to pass through a small hole in one end of the spool. Begin by winding on one layer of wire, taking care to not have any adjacent turns cross any of the preceding ones. As this gauge wire allows of 87 turns per inch, there ought to be room for approximately 150 turns per layer. Between each layer wind on a turn of thin paper. As there will be about



18 layers in the primary only, this paper will have to be of the thinnest kind yet thick enough to provide insulation between layers. Over this turn of paper continue the winding of the next layer, and so on until the whole eighteen or nineteen layers have been wound on. Care should be taken to see that none of the turns of wire slip down either of the spool ends between the fibre end and the wire already on, as the transformer would

the 230 volt main connect 2 and 3 together and feed to 1 and 4.

For the 110 volt main connect together 1 and 3, also 2 to 4, and lead the supply wires to No. 1 and 3.

Having completed the primary wind on two or three turns of empire cloth or brown paper, over which is to be wound the high-voltage secondary.

As the fine wire used and also the rectifying valve used has a fairly high resistance, the a.c. output of the trans-

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When finished either empire cloth or electricians' tape should be wound round the whole, and the spool finished off ready for assembling the core.

The core is built up by placing a short and long strip alternately. The next section of stampings should be arranged so that the joints cover those of the previous layer. Four pieces of wood  $3\frac{1}{2}$  inches long,  $3\frac{1}{8}$ -inch thick and  $\frac{1}{4}$ -inch wide will provide means for clamping the whole core together. Bolts, two inches long, are arranged as shown. Having got this far the most tedious part of the work is finished, and we can proceed with the eliminator itself.

Full details of transformer assembly are given in the "Listeners' Guide," and any constructor in doubt as to arranging the laminations should refer to that publication.

#### Assembling the Unit.

FOR simplicity the whole has been arranged upon a board with a special screening box for the power transformer, but there is no reason why the ingenuity of the constructor could not be called into play to design a container, in which the whole is enclosed. Unlike a radio set, the actual

positions of the components does not matter greatly so long as the point to point connections are adhered to.

When constructing apparatus to work from the a.c. mains, it is essential to include a fuse in the input leads so that in the case of an electrical error or breakdown, no damage will be done. A small ebonite or fibre strip carrying four terminals answers the purpose quite well, and is to be seen on the diagram fixed close to the power transformers.

The board on which the whole is fixed needs to be about 12in. x 8in., and the transformer screwed by two small brass brackets close to one corner. The small connecting strip containing five terminals or soldering lugs, is screwed to the board on the opposite side of the transformer to the fuse block. Slip short lengths of insulated sleeving over the leads from the transformer, and connect to the five terminals (see diagram). A cover of sheet-iron or aluminium to protect the transformer can be made with flanges round the base to fasten to the board. The dotted line shows the position this will take. "U"-shaped pieces will have to be cut in this screen corresponding

to the terminals where the leads are to be brought out.

#### Chokes and Condensers.

THE next components to be considered are the chokes. These can be purchased ready for use, but if the amateur has a couple of old audio-frequency transformers these can be rewound. Dismantle the old transformer and construct a bobbin in which the core can be assembled. Wind this bobbin full of 38 or 40 s.w.g. enamelled wire winding straight on with no further attempts at insulation than that between the core and the wire. The two ends of the wire can be brought out to two terminals and when the core is assembled the choke is ready for use. Old transformers having the greatest amount of iron should be chosen, and if two similar makes are available the iron from each can be used to make one core. Discard the wire in the old transformer, as besides having a high resistance it would not carry the current.

Proceed to arrange the condensers in one block on the board, and screw the various components in place as shown. The resistance used to cut down the "B" supply for the detector valve should preferably be of the wire wound variety and valves of 50,000 to 100,000 ohms should be tried, depending upon the voltage required for the detector.

By following the diagram the wiring will be comparatively simple, and is carried out throughout by lengths of copper wire insulated with sleeving. It will be noted that the grid and plate terminals on the valve holder have been connected together. A slightly greater output is obtained when this is done. Check over carefully before plugging into the light and when in use it is as well to turn on the amplifying valves before the eliminator and to turn off the eliminator before turning off the set. The output taps are as

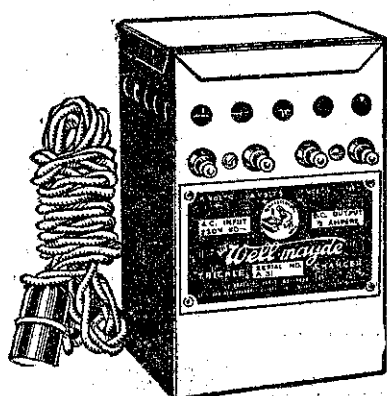
### Interference Elimination

I CONSTRUCTED the stalloy core transformer, wound to give 180 volts output. The results by test on a voltmeter drawing approximately 25 milliamps is 220 volts. Besides the ordinary primary and secondary windings, I put on a filament winding for the power valve and also a second filament winding and secondary tapped at every hundred turns to provide voltage for grid bias gear later on.

When I first connected the eliminator to the set, electrical interference was very bad, only very loud reception being possible, so that by reducing power to make the broadcast volume comfortable, the interference was reduced. Other set owner in the district complained of the same type of interference. We therefore arranged a set one night in a car with a loop aerial and went trouble tracking. The result was rather surprising, as instead of finding one source of interference we found many. After some discussion, etc., we came to the conclusion that in every case of interference it emanated from a house or building which did not have the water service inside the house, but merely a tap in the garden. We considered from this that the lighting circuit would be earthed merely on to a short pipe driven into the ground instead of as usual on the water mains.

I may mention that quite a number of houses in this district are of the old type described above, having been rushed up in the hectic days of the dredging boom. Coupled with this is the fact that this is a very difficult district in which to obtain a satisfactory earth for any purpose. You will therefore, realise that interference is very prevalent.—R. MCINTYRE.

follow:—B—, B+1 (detector voltage), B+2 (first audio stage), B+3 (last stage only).



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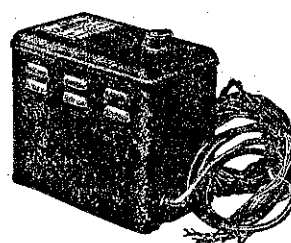
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**The Well-known Trickle Charger.**

THE Well-mayde trickle charger (Johns Ltd.) has been tested and has been found to give perfect satisfaction. The charger is substantially constructed and encased in metal, its dimensions being about 8in. x 4in. x 4in. Voltage taps at 6, 4 and 2 are provided, so that any type of "A" battery may be charged. Rectification is accomplished by the British Westinghouse units—a metallic rectifier having the distinct advantage that it will not give trouble by burning out, nor does it require constant attention, as does an electrolytic. Thus, perfectly silent rectification results. Although while under official test the charger was left charging during very long periods, there was absolutely no sign of heating, the top of the charger becoming not even becoming slightly warm at the end.

The charging rate is stipulated at  $\frac{1}{2}$  ampere. It was found that it is slightly above this, approximately .55 amperes. This renders it suitable for certain types of dynamic cone speakers which require  $\frac{1}{2}$  ampere to energise the field coil. When not charging a battery it was connected to such a speaker and gave perfectly satisfactory results, there being only a very slight hum in the speaker. This can be explained by the fact that the speaker required .65 amperes and the charger supplied .55. This hum, however, was not sufficient to be distracting.

It was found that the charger would operate for about 85 hours on a unit of electricity, which, in the Wellington district, costs 2d. This means that it can be operated at a cost of less than a thirtieth of a penny per hour.

**PR Light Steel Masts.**

THE light steel masts supplied by the Domestic Vacuum and Radio Company, Limited, Auckland, should appeal widely to listeners who require a light but substantial mast.

These English masts are obtainable in 34ft. and 42ft. sizes, built up of several lengths of light steel which slip into one another in a telescopic fashion; each tube is secured to the next by a bolt. This is preferable to a screwed mast, as threads are liable to weaken the joint. At each joint, that is, at approximately each 7ft., a steel ring allows of connection of guy wires. These are supplied with the masts already cut to size. Assembling the parts is quite a simple task, and if the instructions are followed no difficulty will be encountered in erecting. Having erected a pair of the 42ft. masts ourselves, a few points of special interest have arisen.

With the New Zealand climate, it is absolutely essential that the guy wires be taken out to at least 9ft. from the mast. Where conditions are very trying, such as in Wellington, the guys could be carried to a much greater distance with advantage. By staying out the guys to this length, the masts will stand up to the severest atmospheric conditions. Already the masts in question have weathered without the slightest signs of moving several of Wellington's severe gales, so that it can be claimed that under these conditions they give every satisfaction. On properly tightening the stays, it was found impossible to move the masts, even when in a heavy gale. They are certainly very neat and businesslike in appearance, and as a good aerial is worth an extra valve, it can be claimed that good, high masts such as these are really worth while. If the halyard supporting the aerial is of stranded wire, a pulley with less play than those provided will have to be used. Those supplied are intended for special tarred rope which forms an excellent halyard.

**The Cossor Melody Maker.**

DURING the last week we have had the opportunity of testing the "Cossor Melody Maker" supplied by Radio Ltd., Auckland, who are the North Island distributors for Cossor products.

This 3-valve set has given very fine results both as regards tone and volume. The circuit is a slight adaptation from the normal regenerative.

but is, generally speaking, straight-out. The screen grid valve for radio frequency is shielded by a screen between it and the remainder of the circuit. The whole is shielded by a metal case, and this is finished in a dark brown enamel which gives a very pleasing appearance.

The coils plug into valve sockets. Regeneration is controlled by a midge variable condenser, which is particularly smooth in its operation. There are two tuning dials controlling the condensers tuning the radio frequency and the detector coils. Two other controls remain on the panel, the filament switch, and the adjustable rheostat for the filaments.

The valve combination is good, and sufficient volume to listen to in comfort can be delivered at will from a local station without distortion. This, however, can be very easily controlled by the filament rheostat. During our test, this method was resorted to in controlling the output from 2YA without detriment to the quality, which was excellent. The voltages recommended are: B+1 (screening grid) 80 volts, B+2 (valve plates), 135 volts, grid bias 9 volts, as provided by a small battery which fits inside the cabinet.

The most outstanding features of the test have been 1YA, 3YA, at good strength daylight reception, and three Japanese at full speaker strength. The two New Zealand stations received during the daytime were brought in while Wellington was operating; but a wave trap was used. It was found by the use of this small attachment these two stations could be relied on during the early evening, and later 2BL, while yet Wellington was operating. Under these conditions, it was found possible to log very many of the Australian stations.

The full log of stations received at speaker strength is as follows: 1YA, 2YA, 3YA, 4YA, 2YB, 2ZF, 2BL, 2FC, 2UE, 2KY, 2GB, 3LO, 3UZ, 3AR, 4QG, 5CL, JOFK, JOGK, JOHK.

A very interesting evening was spent with the Japanese. On this occasion it was possible to tune-in all three on the dynamic speaker. So clear and distinct were the signals that they could be heard plainly in a room some 25 yards from the speaker. Actually the five high-powered stations were received, but these only loud enough to hear easily.

The aerial and earth used in conjunction with this test were very good, comprising an aerial 40ft. high, and

**Laboratory Jottings****Cossor Melody Maker, P.R. Steel Masts  
The Well-mayde Trickle Charger****Messages to Byrd**

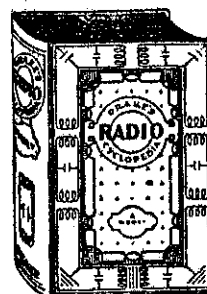
MORE than 3000 personal messages from Great Britain, Canada, Germany, and South Africa have been transmitted to the North and South Polar regions during the past winter in the series of "Arctic-Antarctic" broadcasts staged by the Canadian Westinghouse Company, says a Montreal message.

The stations participating were KDKA Pittsburgh, KFKX Chicago, WBZ Springfield, and WBZA Boston, Mass. The addressees included members of the Canadian Mounted Police, Commander Byrd's Antarctic Expedition, trappers, traders, and missionaries.

**With the Adapted S.G.B.D.**

I have received a few more stations with my adapted S.G.B.D. (writes H. Jacob)—New Zealand stations 1, 2, 3, and 4 Y.A.'s, 2ZM, 2ZF, 3ZC, 4ZL, 4ZM, 1ZB; Australian stations 2BL, 2FC, 2UE, 2GB, 3AR, 3LO, 4QG, 7ZL, 3MZ, 5CL; JOBK, Japan, and also a Californian station. I heard him say California, but could not get his call, KNX, I think it was, as it is just about 2ZF's wave-length. I have not been able to pick it up since.

120ft. long, and a Pearce earth system. The laboratory is situated some four miles airline from 2YA. The voltages used were those recommended. Two speakers were tried out, an ordinary cheap cone, and a dynamic cone. All the stations logged could be received well on this latter speaker.

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# Short-wave Jottings

Mr. Sellens, our short-wave correspondent, writes:—

A correspondent asks the call of the Java station re-broadcasting PH1, Holland, on Thursday, May 30. This was, according to an Australian radio paper, ANE, on 37.5 metres, changing over to about 67 metres later. The same station re-broadcasts PH1 every Thursday from 11.30 p.m. till 1.30 a.m. on 37.5 metres. The high-powered short-wave Dutch station works on 18.4 metres between 10.30 p.m. and 4.30 a.m., and on 38.8 metres from 2.30 a.m. till 12.30 p.m. daily. 3AN, Sourabaya, Java, on 38.5 metres, is on the air as follows:—

Sundays, 12.15 a.m. till 3.15 a.m.  
Tuesdays and Sundays—11.15 p.m. till 1.15 a.m.

Thursday—11.15 p.m. till 3.15 a.m.

All New Zealand times.

Mr. Morrison, Brooklyn, advised me that he had heard W8XAL, the short-wave transmitter of WLW, Cincinnati, Ohio, working on about 50 metres, several evenings during the past week from about 10.45 p.m., transmitting music, market reports, etc.

I tried for them on receipt of this information, and found them a fair strength, but badly jammed by one, and at times two more stations.

CJRX, Winnipeg, are going to broadcast each Sunday, at 4.30 p.m. (New Zealand time) a special programme on 25.53 metres.

My log for the week does not show many stations, but several interesting items were recorded.

Saturday, June 8.

AS usual, 5SW opened just before 5.30 a.m. with their "tuning note," a high-pitched whistle. After Big Ben had struck the hour of 7 (5.30 a.m. here), a "dramatic criticism" was heard. This was R8, and 100 per cent. readable. A piano recital and further talk followed.

PCJ started at 5.30 a.m. at fine strength, R8-9, the usual fine selection of records being heard.

KGO, A lady was talking when first tuned in, strength R2-3, readability poor, but strength increased to R5 by 7.30 a.m.

PCJ was listened at intervals from 1.30 p.m. (R7) till 5.30 p.m. (R8). Maximum volume being from 3.30 till 4 p.m.—R9. The early part of the programme was for Central America, while Australia and New Zealand were called during the last hour and a half.

2XAD, also, was received at good speaker strength. Senator Metcalf was heard during "Half-hours with the Senate." From 2.30 p.m. a "National Grange" programme was broadcast from Washington, D.C. This "National Grange" appears to be a form of farmers' union. Political talks and music were heard.

KDKA were not quite as strong as the above, being about R8, at their best. They concluded with the latest baseball scores, signing off at 3.37 p.m.

3ZC, Christchurch, was testing on short wave, being received very well.

RFM, with what seemed lessons in Morse, a few words spoken, then a few letters on the key, came in at R9.

Sunday, June 9.

AT 10.15 a.m., 2XAD was first tuned in, when an hotel orchestra from Albany was received at R5, quite good volume for an hour so early. This increased to R7-8 at 1 p.m. Soon after this they were R9, and remained at that till 3.31 p.m., when they signed off.

The "Lucky Strike" Orchestra, from 1.30 till 2.30 p.m., followed by dance music from the Rainbow Room of the New Kenmore Hotel, Albany, N.Y., till closing time, was broadcast.

2XAF was transmitting the same programme, but were not so well received.

KDKA put on another special programme for the Byrd Expedition. In reply to a query from the station as to what class of music they would like, a request had been made for some Harvard College songs, as several members of the expedition had attended that well-known college. Some of these songs were heard. Messages, as usual, were sent from friends.

An attempt was made to rebroadcast Morse signals from the South, but as the signals were very weak, this was not a great success.

A surprise was promised. This proved to be a rebroadcast of the Canadian shortwave station at Winnipeg, CJRX.

The band of Princess Pat's Light Infantry, at the Crystal Ballroom, Royal Alexandra Hotel, Winnipeg, Manitoba, was heard at full speaker strength through KDKA, and at a little less volume direct from CJRX. The announcements re broadcasts every Saturday evening (Sunday afternoon here) mentioned earlier in these notes, was made by the Canadian. KDKA stated that they would be glad to co-operate with them again.

WLW was heard, but were too weak and noisy to listen to for more than a few moments. RFM, at R8, was spoilt, as usual, by static. ZL2AX, Palmerston North, and ZL2GH, Wanganui, were the only amateurs heard.

Monday, June 10.

THIS morning 3LO was not on the air. RFM was the only station heard this day. Plenty of talk by man and woman. R8-9.

Tuesday, June 11.

ON about 22.3 metres at 5.15 a.m., some music was heard, but too weak to get any call. This station closed down or faded out soon after.

5SW was R8-9, with a rapid fade. The opening announcement was 100 per cent. readable, but the talks following were not so clear. At 6.15 a.m. the musical programme commenced with an item by the B.B.C. dance orchestra.

Wednesday, June 12.

AT 5.15 a.m., 5SW was very poor, volume being weak and rapid fading. Conditions improved by 6 a.m.

W6XN (KGO) was tuned in at 5.45

p.m., when a play was in progress. At 6 p.m. the "Spotlight Revue" commenced. One of their items was a play called "Sailors' Travels." From 6.30 till 7.30 p.m. the Trocadarians' dance programme was heard. Volume was R9 at first, going off in strength later.

Thursday, June 13.

THIS morning 5SW was extra bad. Strength fair at R7, but rapid fading was very severe, spoiling speech and music. KGO at 5.45 a.m., was R8, increasing to R5 by 7 a.m. RFM was very good, except for static. On about 17 metres some talk was just audible, but not readable.

Friday, June 14.

AGAIN 5SW was very poor, clearing up a little by 6.30 a.m. PCJ also was below their usual standard. Strength was even at R8 all through, but very unsteady, with slight slow fading.

W2XO was just audible at 5.25 a.m.

RFM: An orchestra came through in fine style at R9. Static, though bad, was less troublesome than usual. They were received at R5 on their first harmonic.

W8XAL (WLW), were tuned in at 10.45 p.m. on about 49 metres. Some music was heard, but was spoilt by Morse, QRM.

## Radio for Aviation

### The Latest Invention

ANNOUNCEMENT has just been made of the development of a new method, employing a simple radio receiving apparatus utilising a radio broadcast beacon, for detecting speed and location of a 'plane in its relation to the earth with absolute accuracy irrespective of atmospheric conditions. The present aeroplane speed indicators give the speed of the ship through the air and not in relation to the earth.

The method, it is claimed, will overcome the greatest difficulties with which aviation has had to contend to date—that is, dangers of misdirection in storm, fog, and night flying. In addition to giving a pilot his actual ground speed at all times, the employment of the system will enable him to determine his location at all times and the direction and speed of the wind.

### Requires Two Stations.

FOR operation the system requires the employment of two or more radio transmitting stations, each operating on the identical frequency of wave-length. For illustration, it is assumed that a 'plane is travelling on a straight line between two broadcasting stations called A and B, and both of which are operating on a frequency of 100,000 cycles. As the 'plane approaches station A the radio receiving set installed in the plane will record the fixed broadcasting frequency, plus the additional frequencies caused by acceleration as the 'plane intercepts more waves in the course of its flight toward the broadcasting transmitter.

On the other hand, as the 'plane gets further away from station B the frequencies are less and therefore sub-

tracted. It is therefore pointed out that the variations in the frequencies thus indicated on the 'plane's receiving apparatus will give rise to a beat note; this beat note will thus vary in proportion to the speed of flight, and its indication recorded visually on a dial on the instrument board.

### Where Direction Varies.

WHERE the direction of flight is not in a straight line between the stations the location of the desired stations is indicated by means of an ordinary radio loop-aerial or loop-aerial means, and the station is identified by a modulator frequency, which is subsequently filtered out. The angle of flight with respect to both stations being determined, a speed correction can easily be made by the pilot to eliminate error due to deviation of flight direction. Thus the pilot can always locate his position in relation to two known broadcasting stations, his direction of flight and speed of flight.

Another advantage which the new system will bring to aviation, it is pointed out, is that the pilot can always utilise the modulator frequencies for receiving messages, in addition to having them serve as a means of identifying a broadcasting station.

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"RADIO RECORD"

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