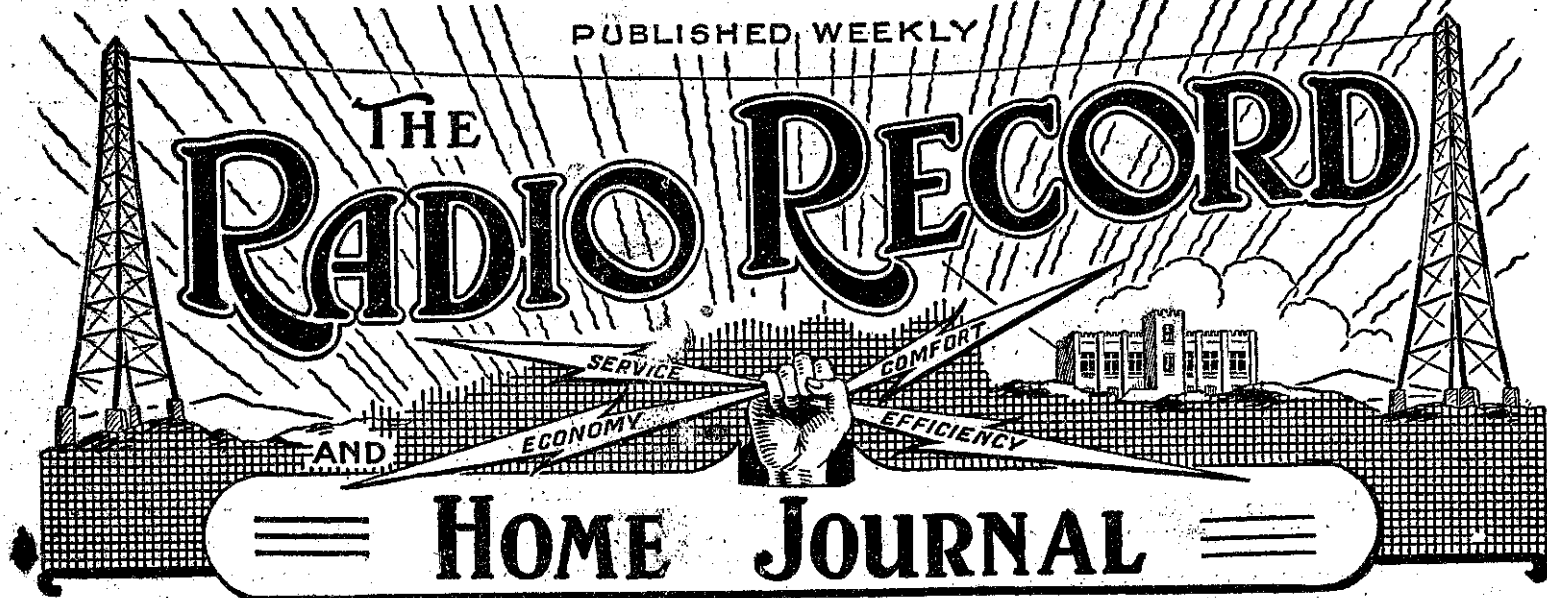


PUBLISHED WEEKLY

THE RADIO RECORD

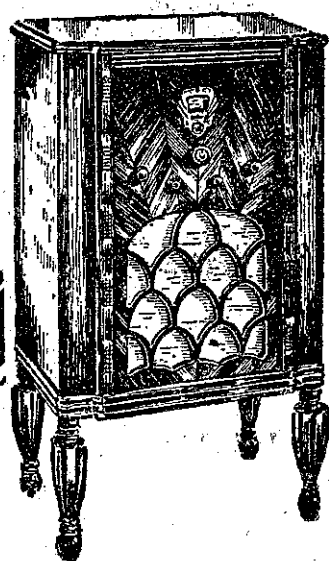


AND
HOME JOURNAL

Vol. V., No. 2.

WELLINGTON, FRIDAY, JULY 24, 1931.

Price, 3d.



45E
ALL-BRITISH

RADIOILA

Amalgamated  Wireless
P.O. BOX 830, WELLINGTON.

Sponsored by Amalgamated Wireless — New Zealand's Oldest Radio Organisation— offered at a price very little higher than you would pay for an ordinary midget set— is it any wonder that there is a phenomenal demand for Radiola 45E!

A British-built all-electric screen-grid Console Receiver with the new tone-control feature.

N.Z. and Australian reception; full-power Dynamic Speaker; high degree of Sensitivity and Selectivity; elimination of hum. Easily convertible into a Combination Set by means of the AWA Phono Unit.

Beautiful butt-walnut cabinet with richly-patterned panels and delicately carved moulding.

Hear and see this wonder set.

Agents:

Manoia: JEROMSON BROS.
Opunake: RICHARDS & McKINLEY
Stratford: KLEEMAN & BISHOP
Hawera: LAIDLAW'S MUSIC STORES
Feilding: TREASURE CYCLE CO. AND VULCANISING CO.

Tips and Jottings

NEVER throw away an old valve holder, coil holder, or similar piece of apparatus, without stripping it of nuts, terminals, etc., which may come in handy in the future.

IF a high negative grid-bias voltage is suddenly removed from the grid of a power valve the sudden increase of anode current cannot fail to affect adversely the emission.

A PRE-DETECTOR volume control is desirable on a set employing powerful radio-frequency amplification if it is used near a high-power station. Otherwise detector overloading may take place.

ONE of the commonest cases of "mysterious" faults is faulty contact due to a defective or broken flex lead.

ONE of the greatest foes to good reception is metal dust, so be sure to keep the newly-built set free from this while filing terminals, etc.

AS pentode valves are much more easily overloaded than ordinary power valves, they should, as a rule, be used with sets with one stage of low-frequency amplification only.

ONE of the simplest ways of preserving the life of your power-valve is to remember that never under any circumstances should the grid bias plugs be readjusted unless the set is switched off first.



THE transmissions from Radio Algiers, especially those programmes intended for the Arabs, are to be interrupted frequently in future so that medical bulletins can be transmitted giving instructions for the combating of malaria.

ON October 1 there were 3,241,725 licensed radio listeners in Germany to compare with 2,843,569 on the same date of 1929. The postman collects a monthly licence fee of two marks (about two shillings) from each home equipped with a radio receiver.

WIRELESS classes for policemen are the latest innovation in Prague. The classes have been formed to enable every officer to work the police radio apparatus which is to be adopted throughout Czecho-Slovakia for the suppression of crime. The students are given practical lessons with an up-to-date transmitter and receiver.

APPARENTLY the man who buys a wireless licence in India is assured of lasting fame. The "Indian Radio Times" "acknowledges with pleasure the receipt of Rs. 10 as a donation from W. G. A. Bourne, Esquire, of Jamnagar, Nawanganar State, towards his Licence Fee," and expresses the hope that other listeners will follow his example.

IN France commercial and tourist aeroplanes are being fitted with radio receivers, enabling passengers to listen to concerts during their voyage. The inauguration took place recently on the Paris-Berlin route, when passengers on two aeroplanes were able to don headphones and enjoy a concert en route.

"IT may be hard for some to conceive of New York being second to Europe in anything," stated Mr. Weir, Director of Radio for the Canadian National Railways, recently. "Nevertheless in the production of radio drama and in educational broadcasting, America is undoubtedly in second place. Production methods for radio dramas in Great Britain are definitely ahead of those in America."

THE "curfew" law in many French towns, forbidding the use of loud speakers after 10 p.m., has recently been described as illegal, but the councillors of Bourg (Aisne) have parried with the interesting discovery of a curious local Order of 1885. This forbids citizens after seven in the evening to "practise on trumpets, horns, cor-

nets, drums, and similar instruments," and the councillors consider that wireless falls under the same ban, "inasmuch as it reproduces all the offending instruments!"

TO be operated on by a "radio knife" is a privilege in store for American hospital patients. At the Atlanta Surgical Congress, Mr. H. C. Lowry, of Chicago, recently explained that the radio knife may be used in any type of surgery, with bloodlessness and quick healing as its chief advantages. Technical details are not available, but Mr. Lowry, we read, stated that the patient "serves as the antenna of the set and the vacuum tube locates the radio frequencies generated over the desired area."

THE Soviet Government is showing legitimate pride in the huge increases in the number of Russian listeners. In a new statement by the Commissariat of Commerce, the figure is given as 2,764,000, and it is believed that the four-million mark will be reached by the end of next year, when the "45-station plan" is completed. Listeners, on their part, are not altogether satisfied with the existing programmes and have had the temerity to form a "Club of the Friends of Radio" with the idea of bringing about an improvement.

THE recent opening of the first high-powered Swiss station at Sottens brings to mind the growth of radio in Switzerland. The first transmissions were made in 1923 at Lausanne, Geneva, and in 1924 the Radio Telegraphic Society of Zurich took up regular transmissions. Then in 1925 and 1926 the stations at Berne and Basle were erected. Three years after the first attempts at broadcasting were made there were 51,000 licensed receivers, and this had increased to 101,000 at the end of 1930. This means a proportion of 25 receivers to every 1000 inhabitants, a wonderful number when one considers the mountainous country, so unpropitious for low-powered transmitters. At the commencement of broadcasting most of the listeners were to be found in, or in the vicinity of, towns where good reception of the local station was possible, but now listeners are widespread owing to the great increase in the number of larger and more powerful sets.

"DX" CLOCKS.

No radio enthusiast should be without the "Radio Record "DX" CLOCK, as it correctly gauges the time as compared with ours in every part of the world.

By using the "DX" CLOCK, the right time to tune in for overseas stations may be obtained, and with use it will be found to be of permanent value to all radio receiver owners.

Send for Your Copy To-day. Price 9d.

"RADIO RECORD," P.O. Box 1032, WELLINGTON.

A BIG RADIO TIME-TABLE AND STATION LIST

Printed on good strong paper that will stand folding, this complete list of New Zealand, Australian, American and other stations is wonderful value for the amount asked.

Of each station is given the call sign, the location, the frequency, the wave length and the power. Never before has such a list been offered to New Zealand radio enthusiasts.

There is only a limited number available. We advise you to get your copy to-day, from your bookseller or by sending direct to our office. Price 4d. plus 1d. postage.

Get One To-day. Only a Limited Number Available

RADIO RECORD, Box 1032, Wellington.

Please send me your Radio Time-table. I enclose 5d. in stamps.

Name

Address

R.R. 2.

Simplify DX-ing.

DX CLOCK 9d.

DX VERIFICATION FORMS—

1/6 for 2 doz.; 8d. doz. over 6 doz.

Booksellers, Dealers, or Box 1032, Wellington.

Bright Future for Radio Prophesied

Some very interesting sidelights upon radio were discussed during an interview with Mr. David Cody, director of the Charles Haines Advertising Agency, on his return from a four months' visit to the United States. The following records his impressions on radio and television, particularly with regard to their tremendous possibilities, which, even at the present day, are to a great extent undeveloped.



Mr. David Cody.

"THE radio industry," said Mr. Cody, "is probably the most active single industry in the United States to-day. Ample evidence of that was

furnished by the country-wide Radio Exhibition held in Chicago in June. This was an exhibition of extraordinary interest and impressiveness. It showed that one of the latest developments is the mass production of radios for motor-cars—special radios that will be properly built in and concealed. Already fourteen leading makes of cars are factory equipped with a radio aerial. When driving in the street it is not uncommon already, on meeting with a stoppage at an intersection, to hear music come from a near-by motor-car!

"In the homes, radios are infinitely more generally used than they are here in New Zealand. Wherever I went—in hotels, private homes, or in apartments—I found the radio installed. In many cases equipment was installed in a number of rooms—for instance, a home would have not one radio, but one in each of several rooms, and in one case I found a man with a radio installed even in his bathroom! Amusement has been caused when I have mentioned this, but it simply meant that that man was a devotee of his "daily dozen" in his bathroom, or desired to start the day aright by a little bright music from a suitable station. Prices, of course, are naturally cheaper than they are here, and this has led to the installation of really good type machines. To mention a crystal set would simply be to provoke laughter. The general set used is of good power, and a really handsome article of furniture.

"At the Chicago Exhibition I saw a television camera, and was interested to hear the comments of leaders in the radio industry. David Sarnoff, for instance, president of the Radio Corporation of America, thinks that next year will see a tangible realisation of this phase of radio. Some television sets are already in operation, but the business is still in the chrysalis stage, although it was reported to me that there were some thousands actually in operation in Chicago. I, however, could secure no guarantee or confirmation of this report.

"While television at the Radio Manufacturers' Trade Show at Chicago was only a side-show, prediction is confidently made that it will be one of the chief attractions in the near future. Furthermore it is asserted that it will be one of the big selling features of next year's radio. More, television is ready to step from the laboratory, not as a scientific toy, but as a practical means of providing entertainment in the home. It appears that a rather remarkable development, called the cathode ray scanning tube, has brought about this amazing advancement in television. This scanning tube gives much better results than are obtainable with the scanning disc, and it does not possess its mechanical disadvantages.

"THE cathode ray is silent in action, is capable of giving greater detail in the picture and can readily be synchronised with the transmitter. The actual manufacturing cost is considerably less than the cost of a small electric motor scanning disc and the neon lamp, whose places it takes. It has no mechanical parts and requires no mechanical adjustment. The scanning disc seems to bear much the same relation to television as did the crystal detector to radio, and just as the valve has displaced the crystal, so it is believed that the cathode ray will displace the disc.

These comparisons are made from the information of the radio dealers exhibiting at this show. They most decidedly assert that any equipment which employs the scanning disc or its mechanical equivalent is already out of date.

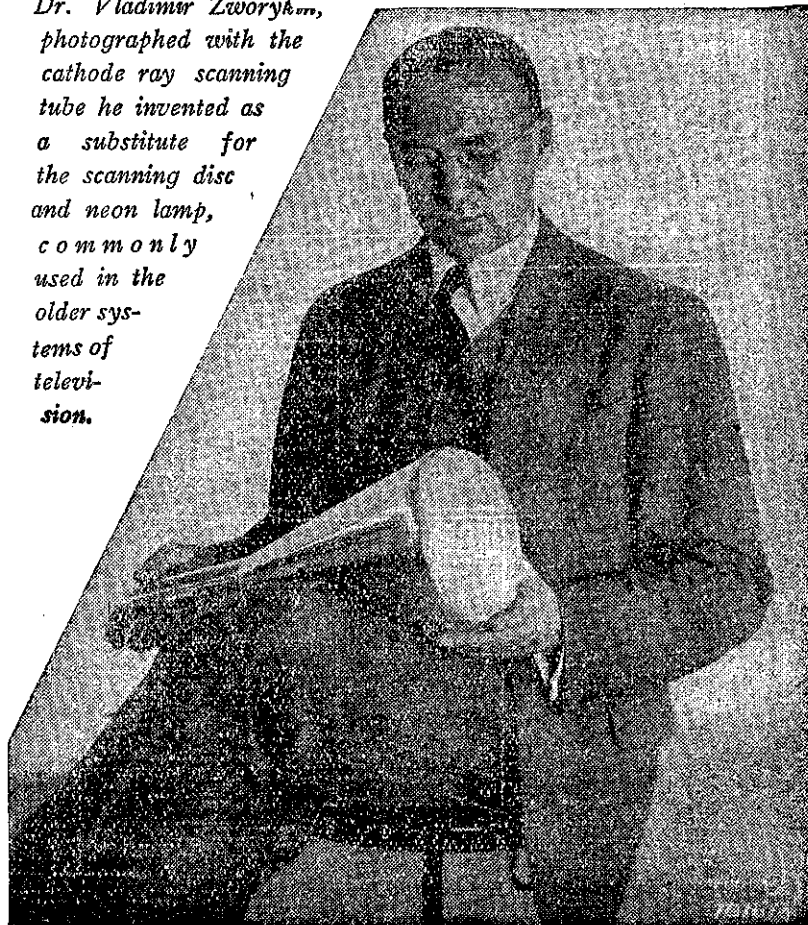
"One instrument can produce a brilliant picture one foot square, and it is understood that the commercial products will be similar to this. The receiver is maintained in synchronism with the transmitter by means of a non-interfering signal transmitted over the same channel as are the picture signals. It is quite likely, although television can be broadcast on the broadcast band, that it will be sent down to the short waves, probably into the region of the five metres' band, where only experimental transmitters have their place at the present time.

"The cost of converting this experimental art into commercial practice is in the hands of experienced radio manufacturers, and the buying public is eager for 'radio movies,' as they term it.

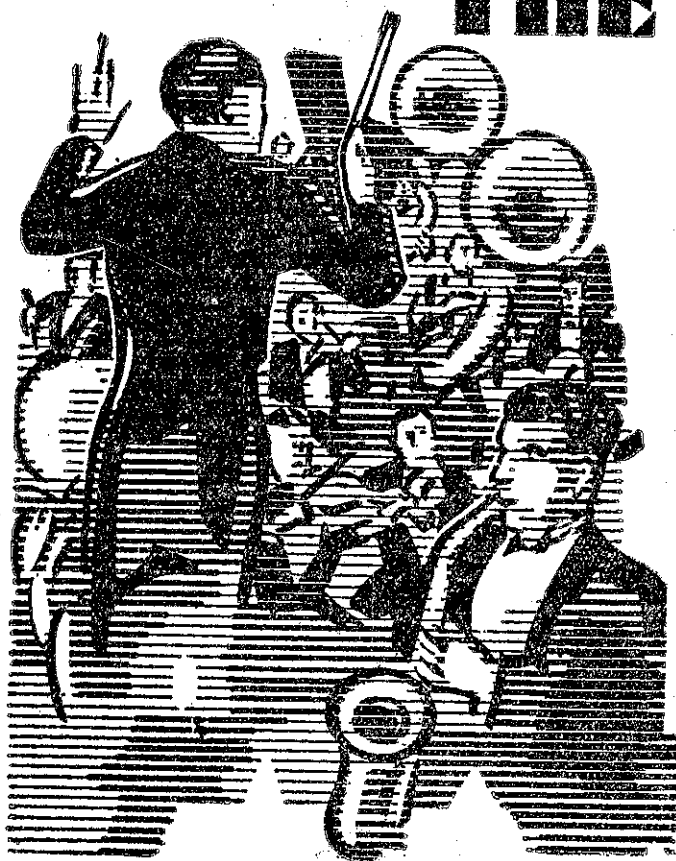
"When television comes about there will be no talk about a depression. The radio industry, now one of the foremost in the country, will very rapidly assume tremendous proportions.

"In New York I went through the National Broadcasting Company's studio, which, like Columbia studios, (Concluded on page 9.)

Dr. Vladimir Zworykin, photographed with the cathode ray scanning tube he invented as a substitute for the scanning disc and neon lamp, commonly used in the older systems of television.



MUSIC AS IT LEAVES THE STUDIO!



Radio music should be real music. Fit Mullard valves and you will get music as pure as it leaves the studio. String, wood, brass, percussion—every instrument comes through both individually and welded into a perfect ensemble. The whole gamut of sound is reproduced with exact balance. The treble is not sacrificed to the bass. The bass notes can be heard easily, but they do not drown the upper register. There is no secret about good reception. Fit Mullard valves and you are sure of it.

Mullard

THE MASTER VALVE

Obtainable from all good Radio Dealers in 2, 4 and 6-volt UX and English bases.

Sole New Zealand
Selling Agents:

SPEDDING LTD.

1 Anzac Avenue,
AUCKLAND.

"The Dominion" Building,
WELLINGTON.

214 Madras Street,
CHRISTCHURCH.

42 Crawford Street,
DUNEDIN.

Advt. The Mullard Wireless Service Co., Ltd., Mullard House, Charing Cross Road, London, W.C. 2.

How the Radio Valve Grew Up

An intimate story of the development of the radio valve from the first crude rectifiers to the modern multi-mu valve of to-day, told by that great pioneer of radio

Dr. Lee de Forest



Lee de Forest, Ph.D., from whose researches two decades ago modern radio evolved.

WITHOUT the audion, or three-element valve, there would be no radio industry. At least, the radio industry would not be catering to the public at large, supplying millions of radio sets and tens of millions of radio valves each year, and maintaining over six hundred broadcasting stations pouring forth a steady stream of entertainment and enlightenment—and considerable advertising. Rather, there would be a relatively small communication business for the handling of marine and trans-oceanic traffic. In the final analysis, it is the valve that has brought about simplified and practical radio. Hence, in the production of valves—the veritable footlights of the world's stage—is reflected the rapid progress of the radio art, science and industry.

The giant valve industry of to-day came about through an accident. Many of my readers may recall the story. However, for the newer members of the radio fraternity, I may be permitted to repeat the brief details.

Back in 1904, while engaged as associate editor of "The Western Electrician," I spent my spare time in wireless experiments. Among my possessions was a large jump-spark coil. One evening, I noticed that each time the spark jumped the gap, the near-by Welsbach mantle flickered. It occurred to me that the Hertzian or wireless waves must have some influence on the particles of heated gas in the Welsbach mantle. Perhaps, after all, this might be the basis for a new wireless detector, which was sadly needed in those days of crude co-herers. And so I looked into the proposition.

The first gaseous detector took the form of a standard Bunsen burner, with a trough-like electrode containing common table salt

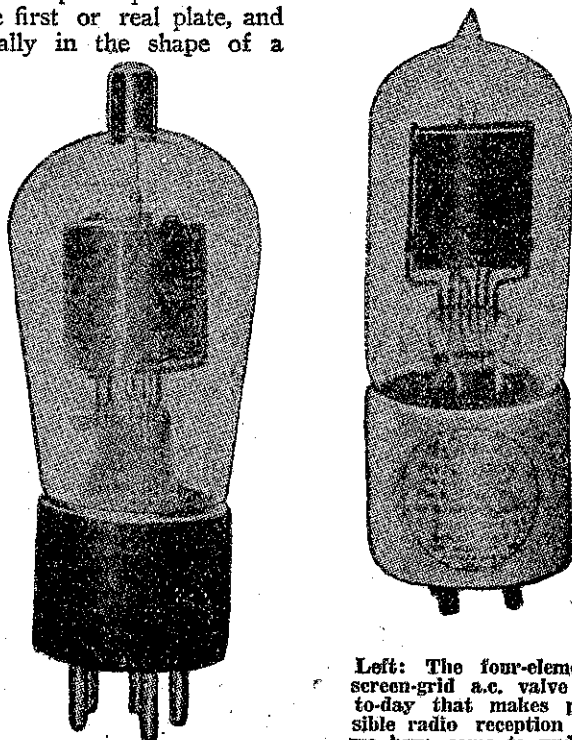
and a piece of platinum wire about it, placed in the blue flame of the burner. A battery and headphone were shunted across the flame, through the electrodes. The salt was used to improve the action. The antenna and ground were connected to the two electrodes. Fair results were obtained from this detector.

However, marine wireless was our main consideration in those days. And since there was no illuminating gas available on shipboard, I decided to use a glass bulb filled with gas, and a heated filament as the source of heat, operated entirely by batteries. One discovery led to another. The fact that much of the signal energy passed through the battery and headphone instead of through the gaseous medium led to the idea of a separate and distinct path for the wireless signal, and in turn the third element made its appearance, first as a metal band around the outside of the glass bulb, then as a second plate quite close to the first or real plate, and finally in the shape of a

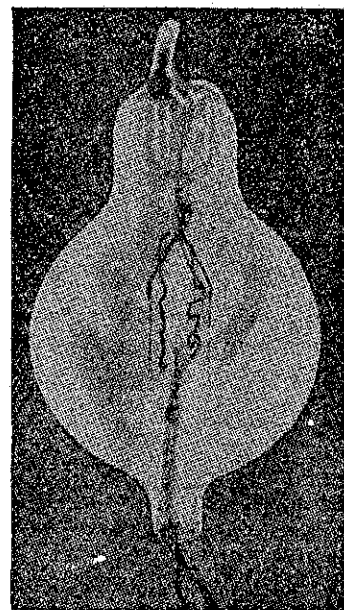
zigzag length of wire which, for want of a better name, I called the grid. So by 1906 I had developed the audion or three-element valve, in all respects similar to the standard radio valve of to-day.

The next step was to manufacture the audion. At first I tried to interest the large lamp companies, since the audion was very much in their line, being a modified electric lamp. But to no avail. The lamp companies had no time to bother with this fantastic experiment. Somewhat of a contrast, to be sure, with present-day conditions when so many lamp companies have rushed into the valve business.

I succeeded in interesting one McCandless, a producer of miniature electric lights, located on Park Place, New (Continued on p. 29).



Left: The four-element, screen-grid a.c. valve of to-day that makes possible radio reception as we have come to understand it.



Three stages in the growth of the valve. Above: One of the original audions of 1912 or thereabouts, hand-made and of fragile construction, gassy, non-uniform and short lived. The valve of 1924 (centre) illustrates the intermediate period. We can see in it the modern valve taking shape.

The New Zealand Radio Record

—AND—

Home Journal

(Incorporating the "Canterbury Radio Journal.")

P.O. BOX, 1032, WELLINGTON.

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

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

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 last insertion.

RADIO PUBLISHING COMPANY OF NEW ZEALAND, LTD.
P.O. Box 1032, WELLINGTON.

WELLINGTON, FRIDAY, JULY 24, 1931.

EDITORIAL NOTES.

A VERY cheering and optimistic view of the future of broadcasting is given by Mr. David Cody after his return from a comprehensive tour of the United States and Canada. His impressions are outlined in detail in another column, and will be read with interest. In brief, he finds that radio plays a tremendous part in the regular life of the citizens of the United States and Canada, and on that foundation he predicts that a marked expansion will take place in New Zealand in the course of the next five years. Television is now reaching a stage of practicability, and already some few thousands of sets are said to be in operation in Chicago on a commercial scale. It will naturally be some time before New Zealand participates in that development, but it is, at any rate, an interesting field to which to look forward. The expansion that is taking place at the present time carries its own assurance of continued growth in the future.

THIS week will witness the birth of a new radio monthly paper under our auspices, the title chosen being "The Radio Log." This is designed to serve the interests of D.X. enthusiasts and Short Wave enthusiasts. Owing to the distance of New Zealand from world centres, a special romance attaches to overseas reception, and there has grown up in this country a band of enthusiasts who specially seek to receive overseas stations. Their performances in this field are of definite importance, and indicate that the future development will

be impressive. In the short wave realm there are immense possibilities, as on those waves reliance must be placed for the most effective reception of European programmes. It is interesting, therefore, to watch the growing interest in this field. So marked is this that one outstanding New Zealand manufacturer has concentrated upon producing a combined short and long wave receiving set of remarkable capacity. This lead will doubtless be followed, and indicates a special line upon which growth in New Zealand may be expected to proceed. We feel that the new magazine launched this week will progress steadily, and widen the interest of radio listeners in the special romance attached to reception from overseas stations.

Radio Control

Policy Requested

"IT is a matter for regret that the Postmaster-General has not yet stated what action he is contemplating regarding radio broadcasting," said Mr. H. G. R. Mason (Lab., Auckland Suburbs), in the House last week.

Mr. Mason said the present position was causing a great deal of dissatisfaction, particularly in regard to the B class stations, some of which gave rather better service than some of those stations to whom all listeners' fees were given. Unfair treatment had been meted out in return to these stations. He would like to know to what extent the restrictions which were being imposed with ever-increasing severity on the B class stations were dictated by the newspapers. He had noticed a great tenderness on the part of newspapers of all kinds toward the Government, and wondered whether this was due to the way in which the Government obliged the newspapers by imposing restrictions on the B class stations.

The Postmaster-General, Hon. J. B. Donald: The interests of the newspapers have never been considered as far as I am concerned.

Mr. Mason said he was glad to know that, and expressed the hope that other members of the Ministry would be able to make a similar reply. In any case the House was entitled to have from the Government a clear statement of its policy on the broadcasting question.

Government Control

Present System Satisfactory

THE Dennistown Radio Society, at a special meeting held on Tuesday evening, July 14, carried the following resolution unanimously:—

"That this society, in common with other radio societies in New Zealand, is in favour of the present system of broadcasting remaining, with the proviso that a committee be set up of representatives of the Government, listeners, and dealers to work in conjunction with the present company, and that this be a recommendation to the Buller District Society for its support."

Duty On Radio Goods

Argument for Reduction

CORRESPONDENCE has recently taken place between the Postmaster-General and certain trading interests on the subject of the high duty to which radio goods and apparatus imported into New Zealand are subject.

When the recent alteration took place in the Customs tariff, the duty on radio sets from the United States was increased from 32 per cent. to 35 per cent., plus 9/40ths, a total of 42 and 7-8ths per cent. This has necessarily been reflected in increased prices to consumers.

In correspondence, the Postmaster-General claimed that the object of the increased duties was to grant a preference to Empire products, and in certain cases to afford protection to local industry.

In discussing this point, the trade correspondent takes the view that, regrettable as it might be to admit it, the plain fact is that receivers from the United States are the most suitable for New Zealand conditions. In addition, apparently certain English manufacturers of sets were asking prices which enabled them to pay dividends of up to 100 per cent.

The Minister was referred to a report in the "Wireless and Gramophone Export Trader" of June, 1931, in which information was given of two English radio firms paying dividends of 100 per cent. on their last year's trading operations. It was contended that, in view of this high dividend rate, the prices being asked by the firms were unduly high, and such as to make them ineligible for continuance of Empire preference in New Zealand.

The duty imposed by reason of the Government's tariff in respect of mid-get sets amounts to 65 per cent. on American prices, in the case of consoles to about 75 per cent., and in the case of combination models to about 80 per cent. These figures are regarded as tending to affect the rate of expansion of radio in New Zealand.

MR. G. ROBERTSON, manager in New Zealand for Amalgamated Wireless, was a passenger for Sydney on Friday last. He will be absent in Australia on business for about a fortnight.

ILLUSTRATE Your Goods and SELL Them

Those who buy for the home, farm, office or factory have one thing in common. They usually buy the things that look best for the price. Whether their buying is influenced by newspaper advertisement or catalogue they purchase the goods pictured and described to the best advantage.

Your product can be successfully pictured if you use "Dominion" illustration blocks. Made by craftsmen who know how to produce the best results for every class of printing, they give unusual satisfaction. Let us help you with your illustration problems.

"The Dominion" Process Engraving Dept.

WELLINGTON

Day and Night Service



Mullard
THE MASTER VALVE

Embodies all improvements
known to Valve Manufacturers.

Broadcast Jottings

STATION 3YA will begin the broadcasting of the international programmes on Thursday, July 30. The series, which is now running at 1YA and 4YA, is proving extremely popular and is certain to be greatly enjoyed by 3YA listeners. The lecturer for the evening will be Dr. P. Stanley Foster, chairman of the International Relations Committee of the Rotary Club. He will speak on "Personal Observations in Other Countries."

THE Rev. L. B. Fletcher, who was the first minister in New Zealand to conduct a service before the microphone and who has been an enthusiastic broadcaster ever since, returned to the Dominion last week after a very successful evangelical mission in the Old Land. The Rev. Fletcher is one of the most popular preachers "on the air" and he is equally popular as a radio uncle—"Uncle Leo." Next Sunday, Mr. Fletcher's service in the Beresford Street Congregational Church, Auckland, will be broadcast by 1YA.

SINCE 1865, which ushered in the days of gold on the West Coast, no part of New Zealand has had a more interesting history. This is to be told from 3YA in a series of talks under the title of "The Story of the Golden Coast." The lecturer will be Mr. E. Iveagh Lord, formerly of the West Coast and now of Christchurch. He is steeped in his subject, wields a facile pen, and is an excellent speaker.

BRAHMS



Will be the Subject
of a

Lecture Recital

From

2YA Monday,
July 27

Featuring

Mrs. Wilfred Andrews

Mrs. Amy Woodward

Nora Grey

Gordon Short

Arthur Clark

Sidney Bernard

and

2YA Orchestra.

The first talk will be broadcast on College Hall and will be broadcast by 1YA.

ON a date yet to be definitely fixed, Dr. Beishaw, Professor of Economics at the Auckland University, will discuss the Niemeyer Report. His address is to be given in the University

FOLLOWING on the relay of programmes to Palmerston North, Masterton, Hamilton and Invercargill, the Broadcasting Company has received a request that a 2YA programme

should be relayed weekly to Napier and broadcast by Mr. T. B. Hansen's station there. The Broadcasting Company is agreeable, provided that the necessary relay line is available.

A LADY is to act as judge in a debate on the question "That the bachelor is happier than the married man." This debate is to be broadcast by 3YA on Wednesday, July 29, between teams representing the W.E.A. (Messrs. A. Dingwall and A. Robson) and the Canterbury College Dialectic Society (Messrs. A. G. A. Baigent and C. F. Jones). Mrs. T. E. Taylor will be the adjudicator.

FOR some weeks past listeners throughout the Dominion have been receiving an illustrated brochure describing the New Zealand broadcasting service. This is a very interesting souvenir and all listeners should see that they get one. According to announcements made from the YA stations, the Broadcasting Company invites all who have not, for one reason or another, received a copy, to write for one to the General Manager, Radio Broadcasting Company of N.Z., Ltd., P.O. Box 1079, Christchurch.

RADIO SETS WANTED.

ADVERTISER, operating in Wellington territory, is prepared to buy Electric Radio Sets of all types for cash. Only replies giving full details, illustrations, quantities available, guarantees and best prices, etc., will be considered. Write—

"CONFIDENTIAL,"
C/o "Radio Record."

A GOOD SPEAKER

DESERVES

A GOOD AMPLIFIER

TO APPRECIATE THE REAL MEANING OF

TRUE RADIO REPRODUCTION

EMPLOY

PUSH PULL AMPLIFICATION

WITH

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N.Z. AGENTS:

ARTHUR D. RILEY & CO., Ltd.,
Wellington Auckland

Essential for Best
Results with a
MOVING COIL
SPEAKER

List WB412
Tells You
ALL ABOUT IT

The VALVE--What it Is--and Does

Characteristic Terms Explained



SINCE valves are very different from one another, we must have some means of illustrating the points of difference, so with each valve is a set of characteristics. A typical one accompanies this article.

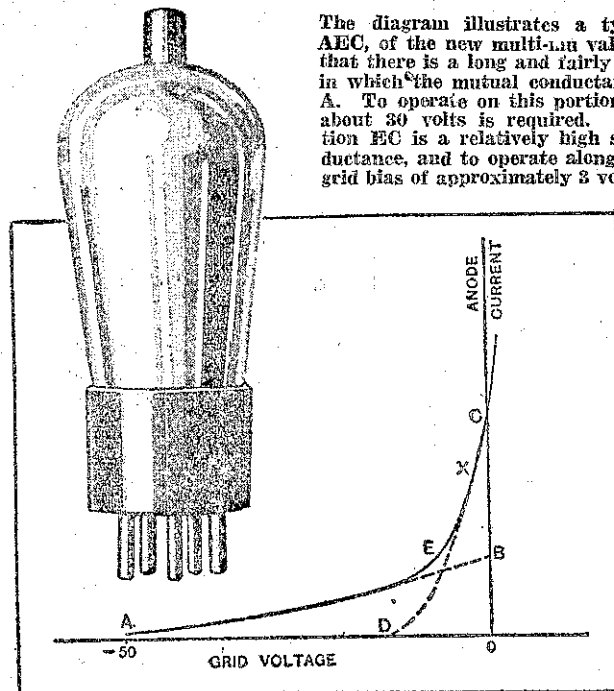
Let us go through the items and see what they all mean. The most important undoubtedly is the filament or heater volts. If we do not know this we can ruin our valve in a fraction of a second. In the "filament" in the case of battery valves and the "heater" in the case of a.c. valves is the first of the three elements in the average valve. It is a piece of fine wire which, when hot, emits electrons--they are the little things that do all the work in the valves. In battery valves the electron emitting substance is heated directly with the current. With the a.c. valves the substance is close by the wire that carries the heating current. This body is known as the "cathode," whereas the wire carrying the current is known as the heater. It is the same as the filament of the ordinary valve. The filament in the ordinary valve, remember, incorporates both cathode and heater. This filament or heater has a certain resistance and if a higher voltage is used than the manufacturers recommend, more current will flow through than is supposed to, but it will only carry a certain current with the result that it burns out and the valve is useless.

Plate Voltage.

THE plate (anode) voltage is that which is applied to the third electrode, the plate or anode. As the direct current has to pass from the plate to the filament, across the vacuum, while not as critical as plate voltage, the maker's recommendation should not be greatly exceeded.

Grid Volts.

THIS relates to the number of negative volts (usually small in comparison with the plate voltage) that are applied to the third element or grid of the valve in order to keep it charged negatively. By so doing we can control the electron flow. This is im-



The diagram illustrates a typical characteristic AEC, of the new multi-lu valves. It will be seen that there is a long and fairly straight portion AE in which the mutual conductance decreases toward A. To operate on this portion a high grid bias of about 30 volts is required. The short steep portion EC is a relatively high slope or mutual conductance, and to operate along this portion a small grid bias of approximately 3 volts is required. If an orthodox double characteristic is obtained by combining the electrodes of a high new valve BD, with the slope of a low new valve AC, the general characteristic is then AEC.

multiply the amplification factor by a million and divide by the impedance. This is sometimes referred to as transconductance.

Amplification Factor.

THIS is the ratio of a set of grid and plate voltages to plate current. For instance, referring to the curve, we see that at no grid volts and 150 plate volts our valve takes 16 mamps of current. If now we add 5 volts bias, we reduce the plate current to 8. This is the same as 100 volts without bias. In other words, 5 grid volts are equal to 50 volts on the plate, therefore the amplification factor is 10.

Impedance.

THE impedance of a valve is ascertained by the ohm's law, which states that the value of current flowing in a circuit measured in amps is equal to the voltage dropped in that circuit divided by the resistance (in ohms), or, putting it down more clearly, $C = E \div R$.

This can be applied to the valve, but we must take figures relating to changing current. It will be seen that at zero grid volts an increase of 50 volts on the plate (for 100 to 150 volts) brings about an increase of 8 mamps. (8 from 16), so from rewriting our formula we get $50 \times 1000 \div 8$, which gives us an impedance of 6300.

Screen Grid Volts.

THIS relates to the voltage to be used on the extra grid in the special screen grid, variable mu or pentode valves. It is sometimes referred to as the auxiliary grid. It, like the plate, completes the circuit through the vacuum of the valve.

Plate Resistance.

THIS refers to the resistance or impedance the valve offers to current passing between the plate and the filament. The impedance of a valve can always be found by dividing the change in the plate voltage with the change in plate current.

Plate Current.

THIS indicates the amount of current that the valve will pass from the

Mutual Conductance.

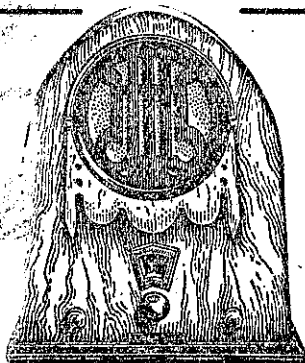
AS the grid of the valve is made more negative with respect to the filament, the plate current decreases, and vice versa, and it is the ratio of changing grid voltage to plate milliamperes which denotes the mutual conductance.

Let us refer to the characteristic curve reproduced on the next page. The vertical lines represent current flowing in the plate circuit and the horizontal lines grid bias volts. Thus with this valve when there are 8 volts bias five mls will pass if there are 150 volts on the plate, and one ml if there are only 100 volts on the plate. From the 150-volt curve we see that by applying 4 volts bias we reduce the plate current from 16 (at 0 bias) to 10 (at 4). Thus 4 volts bias reduces the current by 6 mls. Therefore the mutual conductance in $6 \div 4 = 1.5$. It is expressed in milliamperes per volt, or ma/v.

The Americans use the term micromhos. The mho, which is the reciprocal of an ohm, is measured by dividing the amplification factor by the impedance. It is usually expressed in micromhos—a millionth of an ohm. To calculate conductance in micromhos

Choosing a Valve.

HAVING briefly dealt with the main characteristics of the valve, it is necessary now to consider the points one has to bear in mind when a valve has to be chosen. First, there is the filament voltage, and this depends entirely upon the means at our disposal. If we have a six-volt accumulator we will use 6-volt valves. If we have a 2.5 power transformer we will use 2.5 a.c. valves. The next is the filament current. This is not at all important in a.c. valves providing the secondary of the power transformer is wound with sufficiently heavy wire to carry the current required. With d.c. valves one has to depend upon an accumulator and a dry cell, therefore it is important. Especially if dry cells are to be used, valves taking more than .06 to .1 should not be used. The .1 valve will place a very heavy drain upon dry cells if more than two are used. There are very many valves now with characteristics below .03 filament amps. The last valve is rarely a .06 type, and almost invariably requires at least .1 (.06 type valves can be obtained in 2, 4, and 6-volt filament voltages, and of English, Continental, and American makes). It



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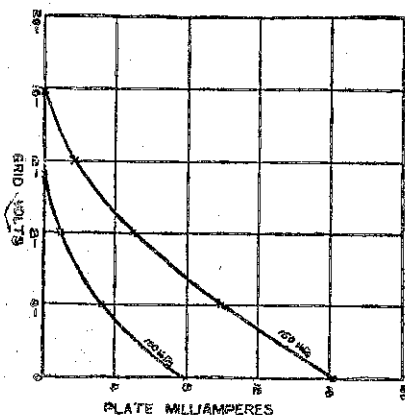
WHY?

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

BURGESS RADIO BATTERIES

might be mentioned here that in replacing the 201's in an American set it is not a bad plan to use the 221 valves, which take much less current than the 201A. A 201A can always be placed without any other changes in the circuit.

The next consideration is plate voltage, and this again is governed by the B voltage available. Try to get as near as possible to the manufacturers' recommended voltage. Some valves, particularly the battery valves, can be



Characteristic Curve of a Valve.

worked on very low plate voltage. A detector valve will work quite well, and sometimes better on 22½ than on the higher voltages. A power valve and other audio valves will require very much higher voltage, and if you can give them 120 or 185 volts from batteries, so much the better.

It is not a bad plan in a set using screen grid r.f. valves to apply the same voltage to the plate of these as to the plates of the power valves. It is also possible to apply this high voltage to the plate of the first audio valve, providing, of course, that it is suitably biased.

If it is not biased there will be too great a current flowing through the primary of the second audio transformer, and it is likely to burn it out.

Amplification Factor.

DO not imagine because a valve uses a high amplification factor that it can be used with safety in your circuit to give a bigger lift. It must be matched into the following circuit; that means to say, the valve impedance must be at least at half of the impedance of the circuit in which it is being matched. Impedances, however, vary for different frequencies, and it is always a good plan to match at the low frequencies. It is interesting to note here that the average dynamic resistance of a good coil at about 720 kc. is about 50,000 ohms, and the better the coil the higher the impedance. From this it is quite clear that low loss circuits should be used in conjunction with valves such as the screen grid type, which have a very high internal resistance. Increase in gain will also increase the selectivity.

Power Valves.

IT is the function of a power valve to convert the audio voltages applied to its grid into variations of plate current of sufficient strength to work satisfactorily the type of speaker connected to it. A power valve rarely gives a high lift, and very often putting a power valve in a circuit will actually lessen the amplification obtained.

The performance of a power valve is indicated by its rating in watts. Two power ratings are applied to a power

valve, the plate input being the produce of the plate voltage, and the plate current in amps and the undistorted output.

The calculation of the first is easy, but that of the second necessitates consulting the characteristics curve of the valve. When tuning a power valve the first thing to consider is the amount of battery power available.

It is useless using a good power valve requiring, say, 200 volts, and expect it to be satisfactory when you only have a small battery delivering, say, 100 or 120. Furthermore, power valves require a heavy plate current, and if you use this in conjunction with a light battery that battery is going to have its life shortened considerably.

Probably the best valves for the small sets to use are 605 type, with about a quarter watt output. These can be worked satisfactorily on 100 volts, and require plate current of about 6 amps.

Characteristics of the New Variable-mu Valves

Heater volts	2.5	..	2.5
Plate volts	180	..	250
Grid volts	1.5	..	3
Screen grid volts	75	..	90
Plate resistance, ohms	350,000		350,000
Mutual conductance (micromhos)	1,100		1,050
Mutual conductance at —40 volts bias	5	..	15
Mutual conductance at —50 volts bias	—		1 or over
Plate current, m/as.	5.8	..	6.5
Screen grid current, m/as.	2.5	..	2.5
Amplification	385	..	370

Furthermore, they have a high amplification factor, which is also of a great advantage when using batteries.

New and Better Valves

The Variable Mu

SINCE the very first days of broadcasting the aim of radio engineers has been toward high amplification before the detector, and when the screen-grid valve was introduced it was hailed with delight for it enabled much greater sensitivity than was hitherto possible. The use of the s.g. valve brought about the improvement in selectivity, improvement in tone, and the use of automatic volume control and these advantages led to the almost universal use of this valve for high-frequency amplification.

In using the screen-grid valve, however, there are certain disadvantages, the most important of these being the cross talk and modulation distortion on powerful signals, resulting from the high amplification provided by the valves. Furthermore, the screen-grid valve can be easily overloaded. It is a valve with high mutual conductance and high amplification. However, it cannot handle a big signal without cross modulation and harmonic distortion. For this reason the control of volume on a powerful local station is somewhat of a difficult problem. Local distance switches and pre-selection circuits are only two of the various methods that have been employed to overcome this.

If power valves could be employed in the first stages of the set we could
(Concluded on page 31.)



Why ?

The Wonderful Popularity of Arcturus Valves This Year

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The results obtained by a growing number of satisfied users for the past two years have proved the extraordinary performance and reliability of the

ARCTURUS BLUE VALVE

These satisfied users have spread the news, and owners of radio receivers throughout the Dominion are turning to Arcturus Valves for better performance.

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LONG LIFE—Arcturus Valves have established an unchallenged world's record for long life.

LIFE-LIKE TONE—Comparison in any receiver shows the improved tone of Arcturus Blue Valves.

BLUE VALVES—This distinctive colour assures you of receiving the genuine Arcturus.

ARCTURUS BLUE VALVES

Use them in YOUR Receiver. All good Radio Dealers stock them.

"The Valves With the Life-Like Tone."

Thrilling Midnight Broadcast of City Fire

At about 11 p.m. last Saturday night, listeners to 2YA were thrilled to hear the announcement that the New Zealand Loan and Mercantile Agency Company's building, a block away from the station studio, was on fire, and that 2YA would stay on the air to broadcast a commentary. The description which followed, given by Mr. Clive Drummond, station announcer, was above criticism, and must have kept thousands of listeners from their beds.

A MICROPHONE was placed on the parapet of the main studio window, and by leaning out over it the announcer could command an excellent view of the burning building—about fifty yards away and on the opposite side of the street.

The building, which occupies the greater portion of a roughly triangular-shaped block, was soon surrounded by a mass of theatre-goers and others who had seen the fire from a distance and had driven or walked to its location. With characteristic promptitude, the fire brigade was soon on the scene, but it appeared to the onlookers that the hold the fire already had, coupled with the high wind which was blowing, would render hopeless any attempt to save the building.

The broadcast commenced to the accompaniment of the shrilling sirens of the fire brigade engines, and the excited hubbub in the street below of people and cars hurrying to the scene of the fire. A fascinating description was given of Featherston Street—a fairyland of motor lights and, near the fire, a seething mass of curious spectators.

Though the fire broke out on the side most remote from the studio, the flames could be seen leaping into the air above the building. Early in the broadcast, two of the station staff were given roving commissions to collect any possible news and report at intervals to the studio.

Thus listeners were able to hear how firemen with hoses were raised on the ends of telescopic ladders above the level of the blaze, and how from these vantage points hissing streams of water, under terrific pressure, were directed in the centre of the

holocaust beneath. Because of the heat of the advancing flames and the thick billowing clouds of smoke, which often completely enveloped the fire-fighters, it was necessary from time to time to shift the ladders with their burdens to less precarious positions.

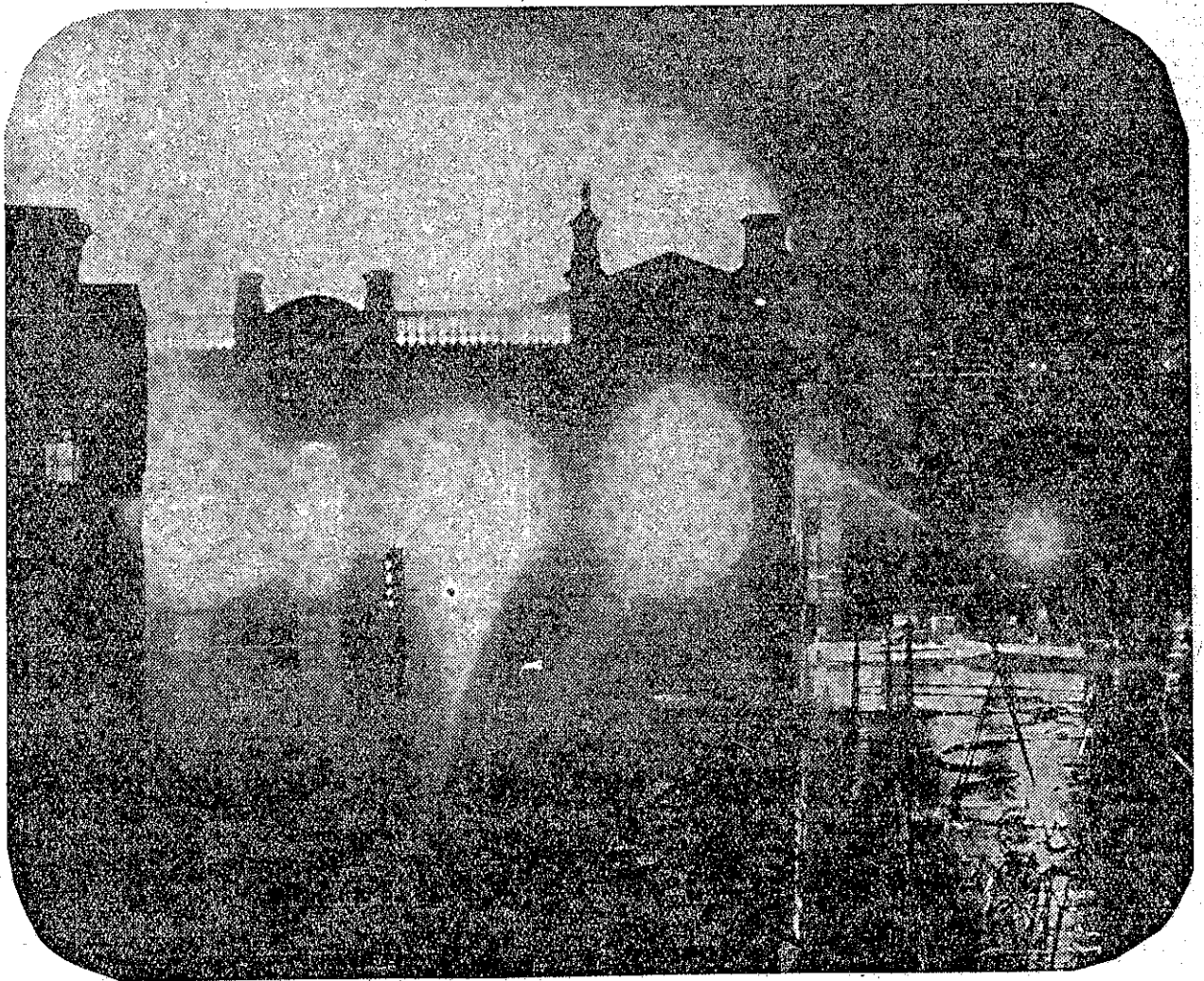
As the outside walls of the building are of brick, these fortunately were in no danger of collapsing, but their presence, assisted by the strong northerly wind, caused such a draught that the flames ferociously licked and roared skywards.

The bitumen streets, wet and glistening

black, were, as Mr. Drummond commented, criss-crossed by a maze of hose leads, and over all was a thin haze of spray, forced out at minute crevices in the joints by the terrific pressure within.

AT about 11.35 p.m., the position seeming to be unchanged, the sporting summary was presented, and a few minutes later the announcer once more took up his position at the studio window.

By this time the flames, despite all efforts, had spread toward the front of the



A view of the fire taken shortly after 11.30 p.m. on Saturday night. On the right, in Ballance Street, can be seen a telescopic ladder from which firemen can be seen directing a hose through one of the upper story windows. "Dominion" photo.

building, and shortly afterwards listeners heard that great tongues of flame were licking through the upper story windows. From his vantage point, Mr. Drummond could see the flames were shooting perilously close to the power lines, and warned listeners that if the station went off the air it would be due to a power shortage. The station operators in preparation for this contingency brought out the emergency battery gear.

The shouted orders of the firemen, the hiss of the hoses, the roaring of the fire supplemented by intermittent explosions, combined with the sight of huge gouts of flame silhouetted against red-glowing clouds of smoke and accentuated by the darkness of the night, formed the basis of a superb commentary by the 2YA announcer.

To broadcast off-hand a description which would convey in full to listeners every feature of such a scene was undoubtedly a difficult task, but Mr. Drummond proved fully equal to the occasion. His picturesque, vivid account was as thrilling to listeners as if they had been eye-witnesses of the spectacle.

Later it was announced that the Miramar Fire Brigade was on its way to assist, and within a few minutes the engine siren was heard in the street below. The engine pulled up almost underneath the studio window, and the hoses run out, as the announcer aptly described, like motor tyres which appeared to shrink as they rolled along.

Throughout the broadcast the street noises and the shouts of the firemen formed a realistic background to the commentary.

Toward midnight a subdued red glow showing through the second story windows indicated that the fire was eat-

ing its way downward. The glow however, did not increase, and soon died away, for firemen within the building had succeeded in controlling this new outbreak.

Excitement was caused among the crowd when an unconscious fireman, evidently overcome by smoke, was carried by several of his comrades from the burning building. Restoratives were applied, and under the influence of these, and of the fresh air, he soon revived.

As the fire was spreading, the pumping engine was commissioned and fresh hoses, spouting water at the rate of hundreds of gallons a minute, could now be brought to bear on the conflagration.

On one occasion listeners were told how a fireman at the back of the building was playing a hose on the furnace within, and how several times the water spouted through the blazing front windows to the discomfort of those onlookers directly in its path, but to the amusement of the more fortunate.

Shortly after it was apparent that the blaze was diminishing, and that the firemen in their fight against enormous odds were, as the announcer put it, "winning out." The crowd began to disperse, and once more Featherston Street became a maze of traffic and people—homeward bound. And thus ended one of the most thrilling "stunt" broadcasts ever put over the air.

The following curious incident, which occurred during the evening, is worthy of mention. An employee of the Loan and Mercantile Agency, who lives at Karori, a suburb of Well-

ington, was called from his bed at about 11.30 p.m. by a long-distance call from the head of the Blenheim branch of the firm. The latter, who had heard the broadcast commentary, wanted further particulars from a man who lived in Wellington, and who knew nothing of the fact that his firm's building was on fire!

On another occasion one of the operators at the transmitter on Mount Victoria, a mile away, phoned the studio to say the transmitting room was hazy with smoke. In addition to numerous phone rings from local listeners, distant calls were also received at the studio from listeners in Auckland and Christchurch, remarking that the broadcast was coming over well, and was one of the most thrilling ever heard.

Youthful Traveller

A Letter to Aunt Pat

AUNT PAT, of 3YA, Christchurch, was surprised to find in her mail the other day an envelope bearing Norwegian postage stamps. The letter was from Helga Kirby, one of Aunt Pat's many willing helpers, but now on a visit to her grandparents in the land of the Vikings. Helga, who is between 8 and 9 years old, was a delightful little radio performer. She frequently sang French songs and her voice has a most fascinating lilt.

Writing on June 4, her letter reads as follows:—

"Dear Aunt Pat,—Here we are in Norway and enjoying ourselves fine. On our way we have called at many places. One place interested me very much—that was Pompeii. It is a ruined city now and has been for two thousand years. There is not one standing building to be seen, all of it is broken down. In London we went to see changing the guard at Buckingham Palace. It is very nice to see them all standing at attention. We next went to Petticoat Lane, which is known nearly all over the world. On Sunday night we went to Hyde Park to hear many speakers, talking about different places of the world. We also went into St. Paul's Cathedral, where the King and Queen go to church once a year. Inside the church some great people are buried.

"We stayed in London three or four days, then went to Sheffield. After staying there for a night we took another train to Newcastle, where we boarded ship for Bergen. We did not have any time to waste in Bergen for the boat reached the shore at 7 a.m. and the train left at ten past eight the same morning. Coming to Oslo we saw beautiful scenery. I am sure the scenery there is better than the whole of New Zealand's scenery put together.

"We went through 184 tunnels and arrived in Oslo at half-past nine. On Sunday we went to see the 17th May celebrations; that is a great day in Norway. After the procession we went for a walk around the King's Palace and many other places in Oslo. At night it does not get dark at all. Love from Helga."

Future for Radio

(Continued from page 1.)

have a network of hook-ups right throughout the United States. Wherever I went I found the broadcasting studios open to the public, and the companies quite interested in showing visitors through their equipment. The broadcasting is naturally carried out on a big scale, and the studios are conducted with the most up-to-date efficiency. One programme follows another with absolute speed and accuracy, this being effected by light flashing from one studio to another as soon as a programme is finished.

"One thing that greatly impressed me was the splendid English spoken by the various announcers. They took the utmost trouble to pronounce their words accurately, and I believe that ultimately the influence of radio and 'the talkies' on speech the world over will be very considerable. This attention to clear English diction was very pleasing. In the Paramount studios on Long Island I had the privilege of looking over the latest Western Electric equipment for recording sound. By an ingenious but simple new invention of 'buzz' in the silent parts of talkies has been effected. By the radio camera, which I mentioned earlier, it is possible to photograph by television both the subject and the sound and then later transmit both of those."

Mr. Cody returned convinced that the next five years will see an extraordinary expansion of radio in New Zealand. So far he thinks the surface only has been scratched in this Dominion. We are not nearly so radio-minded, he says, as is the population of the States. There, of course, they have a multitude of stations and the choice of a wide range of high-class artists. The programmes, generally speaking, were of a particularly high class.

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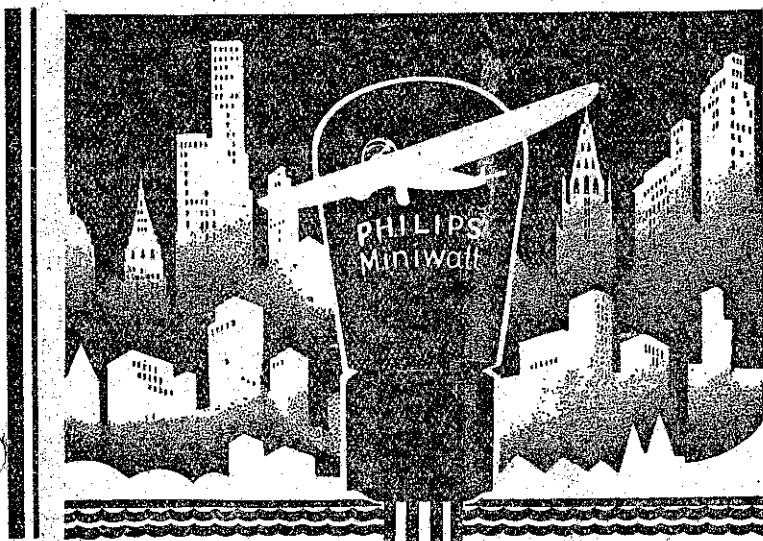
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Addresses and Addresses Wanted

OUR posted acknowledgement of the receipt of an application from Mr. F. E. Rodgers (Palmerston North) to join the DX Club has been returned as insufficiently addressed. We would be grateful if he would communicate with us concerning this.

"SCALPER" (Ohakune Junction): Address of 3KU, Ronald A. Hipwell, Campbell Street, Swan Hill, Victoria. Three cards have been received from him, and on all of them his power is given as 10 watts.—N. Jenkins (Masterton).

WOULD P.K.B. (Oamaru) please forward his address?

DX2HB requires the address of KGL, Los Angeles.

Answers to Correspondents

"NIGHT OWL" (Peñone): Your set has an excellent reputation for efficiency on DX work.

"OCOL" (Hawke's Bay): 2AY, Albury, is now transmitting on 1460kc. (205m.).

DX12W (P.N.): The correspondent in question in applying for membership, sent his log (which was quite a fair one), and stated that he had taken an interest in the DX pages for some time, but had not contributed.

L.B. (Pahiatua): In general, the "Radio Log" will be distributed to all book-sellers who now have the "Radio Record" on sale.

F.E.K. (Ladbrook): You are in the Marlborough-Canterbury district. The conditions governing the battery set competition are identical with those of the other. These are published in the first issue of the "Radio Log."

Identification Wanted

STATION heard at 10.50 p.m. on July 1 on 1460 kc. approx. (205 m.), giving

ing call resembling 2CB. Can anyone give me the address of station KTL?—"Murihiku" (Invercargill).

AMERICAN on approximately 214 m. (1400 kc.), 1 deg. above 2AY. Announcer, who spoke very rapidly, had a broad accent. Volume R6, fading very bad at times. Announcement sounded something like KYC. Station was testing with gramophone records.—"DX9A" (Auckland).

BETWEEN 9.45 and 10.50 p.m. on July 14 I heard what was apparently a programme of community singing on a frequency above 1400 kc. (214 m.). Items included "Don't You Remember the Time," "I Miss a Little Miss," "Eileen Alannah," and "Juanita." For about an hour the strength was R8, but faded out about 10.50 p.m. (N.Z. time). Also a station heard between 10 and 10.30 p.m. (N.Z. time), on approx. 595 kc. (504 m.). Endless speech in what sounded like Chinese or Japanese, was heard.—"DX37W" (Karori).

[I believe the technical editor is publishing an article next week on connecting headphones to an all-electric set.—Ed.]

DURING the day-time a loud carrier wave is often in evidence on about 253 m. (1185 kc.). Speech or music has never been heard. The carrier is sometimes on the air for two hours, and then suddenly is cut off.—Q.R.M. (Matamata).

STATION heard at midnight on July 13 on 585 kc. (512 m.). Speech was very slow.—J.W. (Carterton).

ON the night of July 9 I heard a description of a cycle road race from Australia. Frequency reference was made to Opperman (what time and frequency? —Ed.). Also station heard about 1.15 a.m., on July 9, after 2FC had closed

News and Views of the D.X. CLUB

down. It was on the latter's frequency. Another station between 2FC and 2BL on approx. 360 m. (830 kc.), heard on July 7, between 11 and 12 p.m. Speech in what I took to be Japanese was heard for a few seconds, and then orchestral recordings were presented.—F.H. (Dunedin).

AMERICAN on approx. 1210 kc. (248 m.), heard at 5.30 p.m. on July 12. Items heard, "Springtime in the Rockies," "The Toy Maker's Dream" (guitar with male chorus), and a number played on bells with orchestral accompaniment, with two cuckoo calls at the beginning and end of the items. Station then faded

DX Notepaper

DX'ers! Write for that verification on D.X. notepaper and avoid missing out important details. Takes a quarter of the time to write out, too. Obtainable from P.O. Box 1032, Wellington, in two-dozen lots (minimum order), price 1/6, or six dozen for 4/-, post free. Special paper for club members.

badly, but came back a little later with the orchestra's trombone playing "Lazy Kid." Fading was severe.—"Impat" (Rangiora).

AMERICAN heard at 5.30 p.m. on 12th one degree below 2ZO, Palmerston, playing "Harvest Moon." At 5.35 p.m., "When Your Dreams Come True" was heard. Another heard at 7.50 p.m. on 14th, two degrees below KJR and 3YA, playing organ solos until 8.30 p.m., when they closed down. All I heard was "Radio K—... distributors of Auburn motor-cars, ... California." Two items heard were "Hold Me Close to Your Heart" and "Souvenir."—"Universal" (Ladbrooks).

AMERICAN station heard on July 9 at 4.15 p.m. Two items were, "One More Hour to Love" and "The Rose of Tralee." They closed down at midnight (5.30 p.m., New Zealand time). Dial reading just below WLAC, Nashville, on 91½ and 94½. I have been eagerly watching for the identification of "1, 2, 3, 4," etc., for I have heard him several times.—H.H. (Whitianga).

STATION heard about 11 p.m. on May 25 on 1290 kc. (232.5m.). Call sounded like 2MB or 2MC. Orchestral items.—J.M.D. (Oamaru).

AT approx. 9.50 p.m. on July 14, what I took to be three stations were heard on one dial setting, 625 kc. (480m.). A recording by "Hi-wide and Handsome" was heard. One station closed down at 10.20 p.m. with "The King." Another, which sounded American, mentioned the Philippine Islands. Several short sessions, each closing with three bell chimes, were heard. Banjo band items were heard at 11.30 p.m. and "Ford Service" was mentioned.—M.A. (Chek.).

AMERICAN on 1060 kc. (283m.) heard on July 8 playing "Happy Feet." At 10.44 announcer said: "The centre of radio—Wichita, Kansas." Also foreigner heard on July 12 on approx. 920 kc. (323m.) from 9.15 p.m. until 1XA cut him out at 5.50 p.m. Announcer appeared to be talking in Spanish, and station seemed to be relaying from a ballroom,

for clapping and cheering after each item was heard.—"Wainui" (Gisborne).

Stations Identified

"DETECTOR" (Auckland).—Station on 526m. (570 kc.) is KMTR, Los Angeles. The other station is the twin of JOAK, Tokio. "Searcher" (Manana): WTIC, Hartford, Connecticut, on 283m. (1060 kc.) and KMX, Hollywood, California, 286m. (1050 kc.) "Radio" (Wellington).—The station you heard was KFI, Los Angeles, on 468 (840 kc.), relaying a programme from San Francisco, which was picked up by JOAK, Tokio. This was re-relayed by JOHK, Sendai. KFI also relayed a short programme from JOAK. The announcer at KFI remarked that the time was 30 seconds past 3.30 a.m. I received the station every evening at good speaker strength.—"Monotrad" (Chek.).

L.I. (Gisborne).—Re foreign station on 910 kc. (330m.) heard by you at 4.45 p.m. on June 17. I picked up this station about the same time on June 18, and heard several announcements in a foreign language. Finally one was given in English, and I heard the call sign, "XEW," which was repeated several times.—E.R.M. (Clevedon).

"MURIHIKU" (Invercargill).—KTOS, Shreveport, Louisiana, on 1450 kc. (207m.), with a power of 1 k.w. It is owned and operated by the "Tri-State Broadcasting Company."

G.B. BOY (Dunedin).—2ZI, Hastings, owned by Sutcliffe's, Ltd., operates on 1830 kc. (226m.), with a power of 10 watts, and transmits on Mondays and Thursdays from 7 p.m. to 10 p.m. Station closes down with the "Good-night Waltz," which commences with the "Last Post," played by a trumpet. Then the waltz follows, played by an orchestra,

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I am very interested in D.X'ing and wish to become a member of the DX Club.

I enclose herewith 2/6 for badge of the { broach } type and membership card. { screw }

I would like also to subscribe to the monthly D.X. magazine, "The Radio Log," and enclose 6/6, being 12 months' subscription, post free.

(Strike out last paragraph if not required.)

My set is a { battery, using } a.c.

values.

Name

Address

Nom de plume

(Please use block letters.)



with incidental vocal numbers. This record is followed by the National Anthem. N.K.C. (Hastings).

"WAVETRIP" (Wanganui)—4YA was on the air for a social function between 11 and 12 a.m. on the date you mentioned.—S.B. (Dunedin).

A. M. Dunedin: Station heterodyning 7ZL on 580 k.c. (517 metres) is KMTR, official broadcasting station of the Los Angeles "Evening Herald," operating on 570 k.c. (526 metres) from their new studios. "Oscar" (Marton): I have a verification from ABC, Chandler's Radio Service, Brisbane, dated March 30, 1931, congratulating me on having received their transmission, as they are operating right in the heart of the city, and asking for further reports.—"DXIT" (New Plymouth).

N. JENKINS (Masterton): KREG closes down at 10.30 p.m. P.S.T. (6 p.m. N.Z.S.T.): I logged him on April 14 between 7.36 and 8.30 p.m. Although I have not been listening-in for the last three weeks, for a month prior to that I received KDB regularly on 1500 k.c. (200 m.). He announces his call every fifteen minutes (on the hour and onward), after this fashion: "This programme is coming to you over the Columbia — Broadcast System — station KDB, St. Barbara, California." Although the station comes in very well, I have found the call difficult to catch.—"Seven Kicker" (Okoroire Springs).

W. CROSS (Wellington): Station heard on June 14 was 6WF, Perth. "Red Bird" (Wellington): 3UZ is owned by Oliver J. Nilsen, not "Milsen" (possibly a printers' error). "G.B. Boy" (Dunedin). [For an answer to your technical queries see Questions and Answers column.—Ed.]

"DXSHB" (Napier): American on 59 is WGN, Chicago, 720 k.c. (416 m.). "Howler" (Marton): WLW, Cincinnati, Ohio.—N. Jenkins (Masterton).

"DX70C" (Dunedin): American on 8WR, Wangaratta, is KFOX, Long Beach, California.—"Ocol" (Hawke's Bay).

G. H.A. (Richmond): On June 21 I heard station you mention, and it is WTAM, Cleveland, Ohio.—"DX23A" (Cambridge).

DX Topics

Heterodyne Interference.

SEVERAL weeks ago a number of correspondents were complaining about the heterodyning of 2YA by 50L Adelaide. Since then we have had 3YA and 3BO, Bendigo, interfering. Now I am receiving 4RK on 1YA's frequency, and if the former continues to broadcast at the strength I am receiving them, the programmes from another main New Zealand station will be spoilt. The next Australian to come on the air, will, I suppose, broadcast on 4YA's frequency. Is

DX Competition

Won by Mr. Morley Stafford

THE Cup for second period of the DX competition has been won by Mr. Morley Stafford, of Pehiri, Gisborne, with a total of over 140 stations. Mr. S. Ellis, the winner for last period, gained second place with approximately 135. At the time of going to press the precise numbers are not available, but the recount cannot affect the decision. Mr. Stafford entered 154 verified stations and Mr. Ellis 142. Mr. Stafford uses a well-known commercial receiver.

Full details will be announced in the "Radio Log" and full details in next week's "Record." The winning log will be published in next month's "Radio Log."

District Certificates were won by:—

Name.	District.	Log.
S. Ellis	T.	135
G. Inglis	H.B.	110
D. G. McMillan	O.C.	85
J. P. Cowlishaw	W.	83
R. Sutherland	A.	75
J. L. Fraser	N.W.	56

there absolutely no power to stop new stations broadcasting on frequencies already taken?—Muribiku (Invercargill).

[Every effort is made to prevent such interference, but DX-ers must be very careful before making statements concerning interference. The two stations should be definitely identified before a complaint is made. For example, regarding the complaints concerning 50L heterodyning 2YA. Solely on the reports of some five or six DX-ers who reported the interference, a complaint was lodged with the Australian Broadcasting Company. It was later discovered that the

portant alterations to U.S. broadcasting stations. KFKB, Milford, Kansas: Call changed to KFBI. This is effective from May 1. WLS, Crete, Illinois: Location changed to Downer's Grove, Illinois, power 25 k.w.; normally 50 k.w. experimentally. KFXJ, Edgewater, Colorado: Location (and address) changed to Hillcrest Manor, Grand Junction, Colorado. Power, 100 watts. KTBI, Los Angeles.

California: Call changed to KFAC. Licensee Los Angeles Broadcasting Company. KSTP, Westcott, Minnesota: Name of town officially changed to Radio Centre, Minnesota. WLEX, Lexington, Massachusetts: Call changed to WAAB. WRBT, Wilmington, North Carolina: Call changed to WRAM.—"Seven Kicker" (Okoroire Springs).

XOW Now XGZ.

A CORRESPONDENT, in a recent issue, asks if anyone has received a verification from XOW. I have one, but station is now off the frequency on which it was logged three years ago, and the call has been changed to XGZ, 606 k.c. (495 m.). Latest American loggings are: KLZ, 560 k.c. (535 m.), and KXL, 1420 k.c. (211 m.). I have heard a station operating on 910 k.c. when 1YA signs off at 4.30 to 5.0 p.m. Speech is foreign. There are three stations operating within 10 k.c. of that frequency: namely, XBG, Mexico City, 920 k.c. (326 m.), 35 k.w., and LR6, 909 k.c. (330 m.), Buenos Aires, 5 k.w. There is also another foreigner heard on 1030 k.c. (291 m.) at 4.30 p.m. It is probably LR9, Buenos Aires, power 10 k.w.—"DX5T" (Okato).

An Efficient Portable.

MY set is a four valve English commercial portable, using two-volt valves (no screen grid). I use it with 100 foot aerial 30 feet high and a triple type earth. With speaker or phones results are very good. My log includes 34 New Zealand stations, 34 Australians, 13 Japs, and 7 Americans. Incidentally the set's performance as a portable is very good. I have logged most of the main Australians with a frame aerial alone.—J.N.D. (Oamaru).

4LW Rosalie.

N. JENKINS (Masterton): Verification from 4LW, Rosalie, Queensland, gives frequency as 1500 kc. (200 m.). He broadcasts from 11.30 to 1 p.m. (N.Z. time) each Sunday. Since the DX (Concluded on page 12.)

Reception Table for Australian Stations

The following is a list showing the relative strengths (R1-10) at which the main Australian stations are received at 11.15 to 11.30 p.m. lately by "Red Bird" (Wellington):—

7ZL, Hobart	9
2BL, Sydney	9
2FC, Sydney	9
4QG, Brisbane	9
3LO, Melbourne	9
3AR, Melbourne	8
2GB, Sydney	8
2NC, Newcastle	7
3DB, Melbourne	4
5CL, Adelaide	4-5
3BO, Bendigo	3
2UE, Sydney	3

interfering station was WGY, Chicago.—Ed.]

Unanswered Reports.

HAS any DX-er received verifications from 3EF Elwood, 3KR Kurrang, Victoria, and 3WR Wangaratta? I wrote some months ago, but have received no repl. I have tried out the 300ft. aerial, and it works splendidly below 800 metres, though above that signals are weak.—"Universal" (Ladbroke).

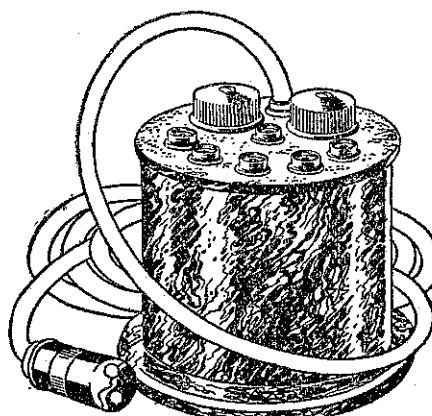
Recently-changed Calls.

FROM the March issue of "The Radio Service Bulletin," issued by the U.S. Department of Commerce, Radio Division, I have taken a few of the most im-

Cut out Battery Costs with a Lissen H.T. ELIMINATOR

A Lissen H.T. Eliminator provides your radio with a steady flow of "B" current, giving maximum voltage at all times. Eliminates the need of "B" batteries with their attendant troubles and expense.

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of **Pehiri, Gisborne**

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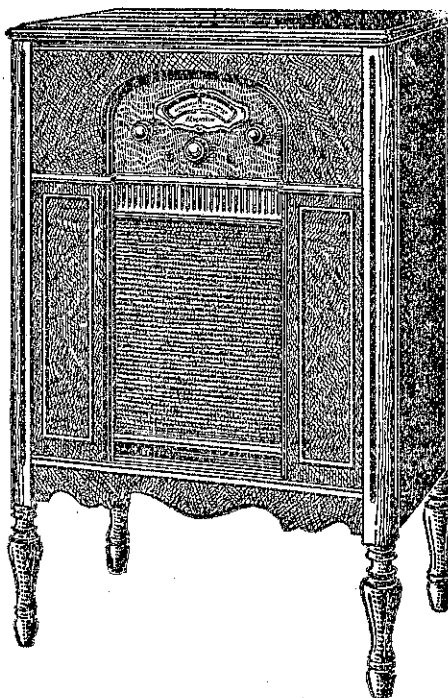
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DX Topics

(Continued from page 11.)

competition closed 2AY Albury has changed its frequency to 1460 kc. (205 m.), and 2HD Newcastle, to 1110 kc. (270 m.). KFJF Oklahoma celebrated their eighth anniversary on our July 5.—J.P.C. (P.N.).

Another New Station.

COULD any DXer give me particulars of station 2WL, heard broadcasting a musical programme on July 15. He signed off at approx. 1.50 a.m. on the 16th.—“DX3T” (New Plymouth).

KFI Permanently Increases Power.

STATION KFI, Los Angeles, is now the most powerful station on the Pacific Coast, for after testing it has now increased its power permanently to 50 kw. I am using an old five-valve B.D., with a stage of push-pull, and KFI comes in very well at 4.30. At 7 it is as loud as 1YA and 1YA.—E.A.B. (Hastings).

KFI'S Inaugural Programme.

I RECEIVED by this week's mail a verification from Amalgamated Wireless (Australasia) Ltd., and they state that there are several small ships on the Australian coast which do not carry a wireless operator, but have a wireless telephone set installed operated by the captain of the ship. These ships operate on a frequency of 1360 k.c. (220 metres), and Melbourne Radio (VIM) replies to them on a wavelength of 670 metres. On July 13 station KFI, 640 k.c. (469 m.), came on at R9 with their inaugural programme of their new 50 kw. station, and could be followed right through from 4.30 p.m. to 7.43 p.m., N.Z. S.T., when they signed off. During their tests they had received some 300 to 400 letters from overseas listeners, many being from New Zealand, and they announced that a listener in California had just picked up station 4ZO, Dunedin, New Zealand, which was rebroadcasting their opening programme. Their programme on this occasion left nothing to be desired, and I am sure must have been appreciated by the many New Zealand listeners who tuned in.—“DXIT” (New Plymouth).

A “Ranger Two” Success.

ABOUT a fortnight ago I built the “Ranger Two” with an extra stage of audio. I am using 1.5 volt valves, and my aerial is an indoor one 15 feet high and 28 feet long. I have already logged ten New Zealand stations, 13 Australians and one American.—S.B. (Dunedin). [An excellent performance with the aerial you are using.—Ed.]

DX Notes.

THE past week has been exceptional for receiving American stations. KFI and KOA came in on our four-valve receiver at full strength—equal to Auckland in volume. WFAA, KGMB, KGER and KTM were very clear. Wellington has been exceptionally good throughout the day as well as at night, whereas most wireless owners in this neighbourhood find it impossible to get Wellington at all in the daylight. Wairoa and Dunedin were both loudspeaker strength on July 9.—H.H. (Whitianga).

[The address of KGO as given in the latest call-book is San Francisco, California. They must have changed their location from Oakland to there.—Ed.]

A New Australian.

AT 1 a.m. on July 15, 4RK, Rockhampton, was heard testing on 910 k.c. (330 m.). On June 29, 2AY, Albury, announced that from July 1 they were changing their frequency from 1320 k.c. (227 m.) to 1475 k.c. (203 m.). I have since heard them on the latter. Latest loggings are: KVOO, KTM, and 2CA.—“New Chum” (Wellington).

“Night Owl” (Petone), has also heard 4RK, at a strength equal to that of 2FC.

The Romance of the Rail

WITH a fluency that was perhaps not inappropriate in dealing with fast-moving railway traffic, Mr. J. W. Fergie, on Monday evening last, gave listeners 20 minutes compact with solid information in regard to the railways. Methought he was perhaps a trifle too fluent: that he would have been well advised to apply the brake and carry his listeners with him at less pace. Nevertheless, he spoke well and vigorously.

Beyond question, the railways have played a major part in the development of the Dominion. Those ribbons of steel have backed up the pioneer's axe and added value in uncounted millions to their lands. Good and fit, therefore, that this service shall be pointed out to the people, so that they may understand how they are served, individually and collectively, by the steady, unceasing service of the railway man.

Perhaps, if a suggestion is in order, the romantic side of the service might be developed more. Figures are such dry things, effective though they be. On the other hand, there is illimitable romance about the railway—romance which still lingers, even in these days of motors. What youngster does not still thrill at the sight of the majestic engine roaring down the grade or piercing the night with its long shaft of light; he sees himself the engineer supreme on the footplate, pulsing with power. Now I think there have been one or two famous speed runs in the Dominion: did not Rous Marten, many years ago, describe a thrilling speed test in the Wellington Province? Would not that make a story? Then what about the ins and outs of safety devices: the tablet system, the Westinghouse brake, the electric impulse and automatic signal, and so on? I am always curious about the things the public does not easily see or hear anything about.

Mr. Fergie is obviously a keen and intelligent officer of the department, and I would venture to suggest that he would be rendering a distinct service to the public and the department if he could, on some future occasion, seek out the romantic side of a great service and place that before listeners. For instance, what are the actions and thoughts of the signal-man controlling the switches in a railway terminal; of

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the driver of the "Limited" as he roars into Raetihi; of the attendant on the "Limited" as he fusses over his passengers

Bird Month

I FOUND Mr. Eric Lawson very easy to listen to, and his matter quite excellent. Although condemned to city interests, I have always hankered after the country. To be free of commercial trammels and wander in the bush and study Fauna and Flora—attractive young ladies that they are—what an appeal that is! So Mr. Lawson found an immediately appreciative listener when he talked of our feathered friends.

On behalf of the Native Bird Protection Society a short series of talks is being given, to inform us of that society's aims and objects. August has been adopted as "Bird Month." Why? Because then is the help of man most urgently needed. It is the most severe and critical of all the months: the weather is the coldest, food is the most scarce, and the nesting season looms ahead. So there is bespoken for the birds a little extra care from humanity: a little extra food, such as luscious beef suet placed—and this is most important—high out of the reach of the felonious feline. Nature always knows best, and inevitably will endeavour to counteract man's vandalism and destructiveness, declared Mr. Lawson. Obviously the converse must be true that man will achieve his happiest results by co-operating with Nature. He will raise his crops easier and preserve his farm lands better by maintaining suitable forests, habited with the birds that feed upon insect pests, than by destroying that vegetation in an endeavour to "bring in," as it is termed, land that should not be "brought in," but should most decidedly be left "out" in a state of wildness and beauty.

France learned her lesson by bitter experience. She destroyed bird life ruthlessly, and Nature took her toll by unchecked crawling insects and plant disease. Now France is wiser, and her children are taught the duty they owe to birds and how to protect them. We should learn in time. Fortunately this society has undertaken the task, and is



WALTER BROUGH,
a fine baritone scheduled to sing from
2YA on August 1.
—S. P. Andrew, photo.

endeavouring to protect the birds and preserve their beneficial action and reaction upon ourselves. Our birds require forests to live in and the right insects to live on. They require imported pests to be eliminated as well as imported diseases. Research is necessary for the

discovery of harmful facts and tendencies, and to preserve justice and right determination of policies. These objects are most worthy, and I shall rise myself speedily to become a life member, for I opine that finance is always necessary for such work.

And on that point the society is so alive to the need that it is promoting an art union with which to woo the public. No cause is more worthy, and I shall abandon my vows, inspired by past disappointments, and buy tickets to my capacity for the sake of those feathered songsters that please me so when I have a chance to wander our pretty countryside. Mr. Lawson spoke well, with cultivated voice, and I shall await his further talks with pleasurable anticipation.

The International Mind

SOME interesting thoughts on the interdependence of men and nations were expressed by Mr. Frank Leonard, speaking from 1YA on Tuesday. In an arresting talk, which must have held the interest of all listeners, the speaker outlined the fallacy of countries or nations attempting to exist independently of each other.

What exactly is meant by inter-trading of nations? It must surely mean inter-trading of individuals. So that, in theory anyway, a fostering of international trading should bring about a greater knowledge of other countries and a closer international sympathy and understanding. As a direct consequence, again in theory anyway, the chances of wars and international conflicts should be largely obviated. When one stops to consider this treatment of nations by the consideration of individuals one is amazed that wars can be possible. When one firm of contractors, having tendered for a large contract, is beaten by a rival firm, does it send an ultimatum and forthwith mobilise its staff and invade the opposing camps across the street? It does not. What it does is to examine closely its estimates, attempt to ascertain in what department it is weak, and wish itself better luck next time.

Quite possibly the respective heads of the respective firms will lunch together—amicably, well, and, we hope, wisely. Why should not the same principles be carried into effect between nations?

Geographically and territorially the world is so divided as to make it possible for one group of countries to produce foodstuffs, another group timber, minerals and ore; and, a last group is better fitted to make up the raw materials into manufactured articles. The groups themselves are naturally

(Concluded on page 32.)

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A Diagnosis of Radio

The Valve

WITHOUT the valve, radio as we know it would not exist, for it has made possible not only receiving, but also transmitting as we know it today.

The valve consists of several elements, as we call them, within an evacuated glass tube. That is all, but there can be an infinite variety in the size and arrangement of the elements, and it is this variety which makes possible the large number of types of valves. Looking from the outside it appears just as a glass bulb, usually with a very light silvery coating on the inside of the globe. From underneath the glass protrude four prongs through which connections are made between the set and the internal parts of the valves.

If the glass is removed the valve would appear as is shown in the diagram. The first thing we come to would be a metal shield, and this is called the plate. The size and shape of the plate has a great deal to do with the work the valve is called upon to perform. If we remove the metal plate we see underneath a fine mesh

work of wire. This is the grid, and underneath this one sees a fine single thread known as the filament.

The plate of the valve is always connected with a high "B" voltage, while the filament is connected with a low voltage called the "A" supply. The grid is connected into a coil, the bottom of which is usually taken either to "A"—, A+, or a suitable tapping on a grid bias battery.

The uses of a valve are four. The first, amplifying. It is a peculiar phenomenon that if signals are in a certain manner imposed upon the grid of the valve they will be magnified if the valve is operating under correct characteristics, that is to say, the current which comes out from the plate is stronger than that going in to the grid.

The next function is detecting. Detecting we explained when dealing with the crystals. The detector we might call a stripper, for it strips away the high-frequency current and leaves the lower value current, which is audible when used with phones.

by The Technical Editor.

The next function is rectifying. This is similar to detecting, for it consists of ironing out or flattening half of the wave that comes from the alternating current of our mains. It turns a.c. current into d.c., and by doing such accomplishes the first big step in making

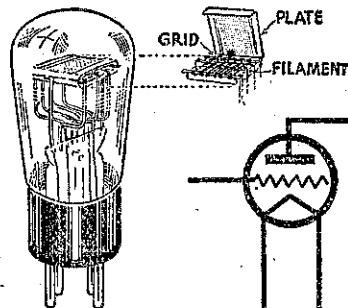


Diagram showing the elements of a three-electrode valve, with their symbolic equivalents.

flow all right. This is precisely what we do, for we connect B— to the filament. Therefore, the direct current will flow via the positives of the "B" battery to the plate through the vacuum to the filament back toward the "A" battery, and over to B—. That is the d.c. or battery flow. The electrons, remember, flow the other way—from the positive to the plate of the valve. If we put a grid in between the filament and the plate we can intercept this electron flow, and if the grid is positive it will act with the plate and attract more electrons from the filament. If, however, it is negative it will tend to retard them.

In other words, the grid is a control of the number of electrons and that control can be operated by making the grid positive or negative. The grid can be made either positive or negative by inserting in the grid return a suitable battery. If we connect a battery so that its negative will be toward the grid and the positive side to the filament then just as we completed the circuit for the plate current we will have completed a circuit for the grid current. The voltage of the grid battery is very small and, being small, can drive little current through the high resistance of the valve. The "C" battery requires them to supply very little current. The "A" battery requires the most current of all, while the "B" needs primarily a high voltage, but also it must be able to supply a reasonable current and must therefore be of sufficient size to keep up the flow.

The type of valve can be divided in two classes—ac and dc. The ac valves are such that their filaments can be run from alternating current. Now we remember that our house current is alternating so that this can in some way be applied to the filament of the valves to feed them. We cannot apply the alternating current to the plate of the valve because the ripple will be noticed in the loudspeaker. In fact, a certain amount of ripple can be transferred from the filament unless it is very heavy and rugged.

In order to overcome this a special heating device is used whereby the filament is indirectly heated. It is next to the heating elements. It is like putting sealing wax in front of a fire to melt it. You do not let the fire touch the sealing wax and so with the valve we do not let the filament touch the cathode which is the electron-emitting body.

The plate and grid of the ac valves require direct current the same as do the battery valves, and if we are not going to use batteries for this purpose we must smooth out the a.c. current.

You will remember that was one of the functions of the rectifying valve to do this smoothing out process. In the battery valve all filament current is supplied by battery.

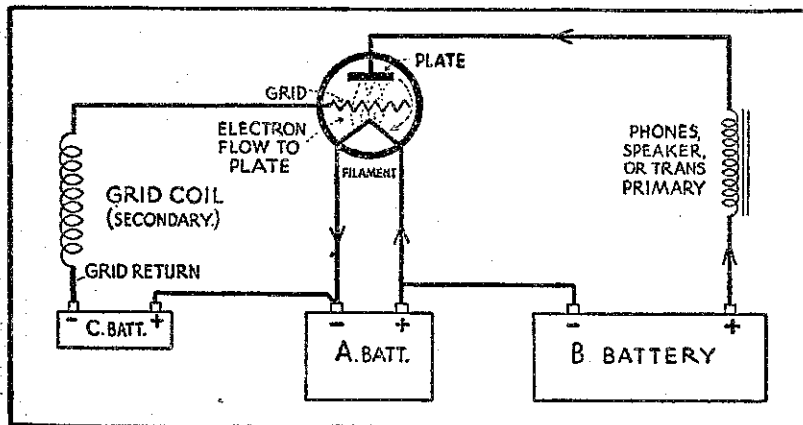
the a.c. current suitable for our radio set.

The last function is that of an oscillator. An oscillating valve is one that will send out radiations. It is the development of the valve as an oscillator that has made the wireless transmitting what it is to-day.

If you look at the sketch of the valve hook-up you will see that three batteries are employed. The "A" for the filament, the "B" for the plate, and the "C" for the grid bias. Here is the way the valve acts. The filament is a piece of wire thickly coated with thorium, an element which when heated gives off electrons or minute negatively charged particles. We need then some means of heating this thorium-coated wire. We could use a bunsen flame, but that, of course, would not be practicable, so we force a fairly heavy current through it and it glows red hot and the electron leaves the circuit.

If there is a positively-charged body in the neighbourhood it will attract those electrons, and this is the function of the plate. To charge the plate positively it must have connected with it the positive of a high voltage battery, so we connect B+ to the plate. Now, it is no good connecting B+ to the plate unless we can connect B— somewhere nearby. Without B— we cannot get current to flow, and without a flowing current we cannot get the high positive potential that is needed to attract the electron.

It is a characteristic of a vacuum that the current will bridge a small space, and so if we put the negative close to the plate the current will



RADIO DIRECTORY

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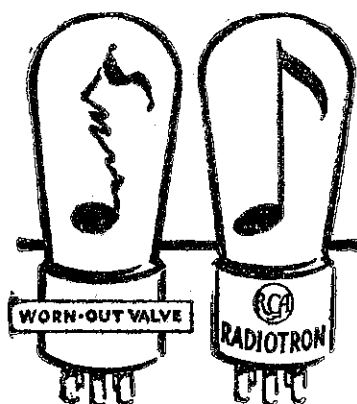
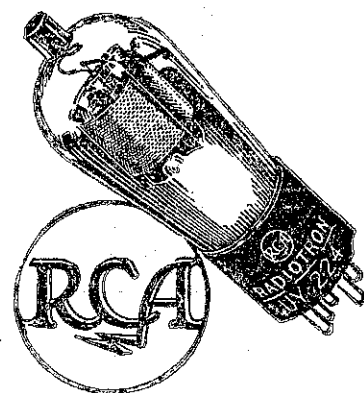
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Even a single worn-out valve in a set of new ones will cause crackles, distortion and poor tone! Besides, in order to make the worn-out valve work—you burn out the good valves. Remember—the eye can't tell the difference between a good valve and a worn-out valve. So take the valves out of your set and have your radio dealer test them. They're as easy to take out as a light bulb. New valves will put new life into your radio!

NO one knows radio valves like broadcasting engineers. *They've got to know!* Inferior valves could ruin the thousands of programmes sent out each year! Hence over 200 leading broadcasting stations use RCA Radiotrons. So far advanced are those valves that 17 leading radio manufacturers build their sets around them. Remember, a set can't work better than its valves . . . insist on RCA Radiotrons when you buy a new set . . . or when you replace worn-out valves . . . look for the RCA trademark on the red and black carton!

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The "KESTREL THREE"

By The Technical Editor.



CONSTRUCTOR walked into our office last week and left a note—or rather an ultimatum—for me, for at the time I was out. His remark was that unless the "Kestrel Three" was published this week he was going to sue me. Now, in face of that, the constructional details can be held back no longer.

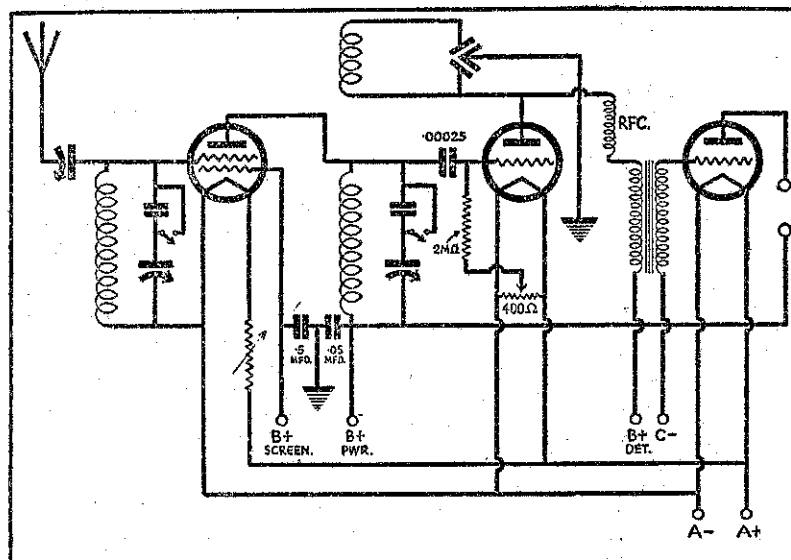
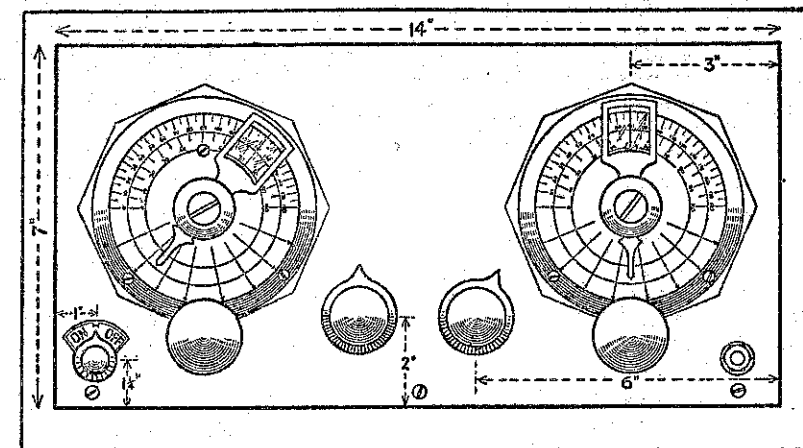
We are very sorry there has been delay with the publication of this set. It was due in the first place to the absence of differential condensers, then, on further experimenting with the set, some little troubles came to light, and we had to eradicate them. This necessitated certain structural alterations, and alterations in the circuit, with the result that the "Kestrel Three" was pulled down and rebuilt. In order to refrain from publishing a circuit that was not going to give 100 per cent. satisfaction, we again withheld publication until it was going absolutely perfectly. Now we can offer it to readers knowing that it is the best "Three" yet; that for an all-wave set, if made to specifications, it will give absolute satisfaction.

At the time of writing we are not quite satisfied with the results below 80 metres, and we are convinced that our coils can still be altered to good effect. However, we shall not hold back the description any longer, but next week, or at least when we are quite satisfied our coils are right, the complete specifications for short-wave coils will be published.

The "Kestrel Three" embodies several different ideas—we shall not call them new—and constructors are asked to follow the details minutely. Do not think because we say a connection should be made in such-and-such a way that another way is just as good. You can rest assured that it is not.

Constructing the Set.

NOW that we have told you all about what the set will do, we shall not bandy further words, but get right on to the job and tell you how to make it. In a separate panel you will find a shopping list. Get all the parts be-



fore you start and make sure the parts are as specified.

There is no real reason why two .0005 variable condensers will not do just as well as a .00035. If you like to make

alterations in the coils they will be all right. Furthermore, a larger or a smaller differential condenser will also do, but you must be prepared if you alter the specifications in condensers to juggle with the number of turns on the coils to get them absolutely right. We are publishing only one set of turns—those for the .00035 tuning condensers and for .00025 differential condensers. We know that they work, and work well. We know nothing about the others, although they will work equally as well, we feel sure.

For smooth operation we are introducing potentiometer control of grid return. This to us, seems easily the best method of bringing the grid return to the filament. It is an idea that is employed in most high-class English sets, and we can thoroughly recommend it. A proper setting of the potentiometer will give a smooth control of reaction. There is no need to be bothered with ploppy oscillation, for it can be made as smooth and silky as desired merely by adjusting this resistance. See, too, that you get a good radio frequency choke. A poor choke is one of the most common causes of poor regeneration. It should have a low self-capacity and a high inductance. You should be able to get quite a good one for 6/- or 6/6. Do not compromise on the grid condenser, as this has to act as a blocking condenser with regard to the high potential current that feeds the plate of the screen-grid valve. If it is cheap and shoddy, it is likely to break down, with detriment to your batteries and valves. Apart from these the components are not very critical. A word here concerning the baseboard will not be out of place. It is unnecessary to use a special aluminium sub-panel for this set. If the shielding recommended is employed there is no need to go to the extra expense entailed in the aluminium panel or sub-panel. A piece of three-ply will do splendidly, but it must be kept off the ground with wooden strips about 3/4 in. x 3/4 in. These are placed along both long sides, and the panel can then be fixed to the plugs along the side that will be the front. The size of the baseboard is 7 in. x 14 in. If, however, you are using biggish components, allow another inch or so in depth, 8 in. or 8 1/2 in. x 14 in.

The Panel.

IT will be seen from the diagram of the panel that the set when finished will present a quite neat appearance, and so the lay-out of the panel is quite an important part. Here are the directions.

Lay the 7 in. x 14 in. panel flat, and mark the points for the tuning condensers. These are 4 in. from the bottom and 3 in. from the end. The switch on the left is 1 1/2 in. from the bottom and 1 in. from the left-hand side, while the phone jack on the other side is in exactly the same position. The rheostat is 2 in. from the bottom of the panel and 6 in. from the left-hand end. The differential reaction condenser occupies the same position on the right-

Use English Components for "KESTREL THREE"

Ebonite Panel, 14 in. x 7 in., 5/-. Three-ply Baseboard, 14 in. x 7 in., complete, 2/-. Aluminium Screening Box, 7 in. x 5 in. x 6 in., open on two sides and top, 2/6. .00035 Variable Condensers, Formo, each 7/-. Vernier Dials, Ormond, each 6/6. .00025 Differential Condenser, Lotus, 8/-. 30 ohms. Rheostat. 400 ohms. Baseboard Mounting Potentiometer, Igranite, 3/6. Filament Switch, Ormond, 1/6. .0001 Condensers with Grid Leak Clips, T.C.C., each 1/6. .0002 Condensers, T.C.C., 1/6. 2 megs. Grid Leak with Holder, 10 megs. Grid Leak. UX Sockets or 3 UX and 2 English, W.B., each 1/3. .5 mfd. By-Pass Condenser, T.C.C., 3/-. .05 By-Pass Condenser, Standard, 2/6. Midget Condenser, Utility, 4/6. Push-Pull Battery Switch. Transformer, ratio 3:1 or 4:1, Premier, 7/6. Slug Output Jack, Igranite, 2/-. R.F. Choke, Telsen, 3/6. Terminals with short terminal strip, 1/-. Armoured Cable. Special Coils for broadcast, pair 14/-. 26 d.s.c. Wire, 2/6. 30 gauge d.s.c. Wire, 3d. Wire Battery Cable, 3/6.

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.00035 Var. Condensers 7/-
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Lighting Flex, silk covered, 23/36 6d. per yd.

Condor Valves, 4-volt, .1 amps., post free 6/6 each
Vesta 3-Volt Valves, with sprung sockets, take .06 amps. post free, 5/- Valve alone, post free 3/6

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hand side of the panel, that is, it is 6in. from the right hand end and 2in. from the bottom. Be sure you get these two last-mentioned components in this position, otherwise you will have difficulty with the screen. If you are using a big rheostat it is better to move both rheostat and differential condenser in to 6in. or 6½in. from the end. This will, to some extent, spoil the look of the set, but better do this at the start than discover, after the hole is bored, that the condenser and rheostat have to be shifted and other holes drilled.

It must be borne in mind that the shield will come exactly five inches

No. of Turns for Broadcast Coils.
.00035 Condenser. 2in. Former.
Regeneration .00025 Differential.

Radio and Detector:
Secondary 82 turns 26 d.s.c.

Detector Coil:
Secondary 78 turns 26 d.s.c.
Tickler 50, 30 d.s.c.

from the left-hand end. About a quarter of an inch at the bottom of the panel on the long side drill three holes to which the screws are to pass into the strip that is supporting the three-ply baseboard. Affix the components to the panel, noting that the tuning condensers are to be mounted at an angle of about 45 deg. with the baseboard. It is preferable to mount the rheostat with the terminals up. Now take your baseboard and lay out the components as shown in the diagram. Slight alterations in position may be necessary owing to slightly different sizes of various makes of components. Note particularly the way the valve-holders are turned round. If you do not get them round the right way, you will find that when the set is finished the wiring will be long and unsightly. Generally speaking, the valves are toward the back edge and the coils are near the front of the set. It is well, when laying out the components, to put the shielding in

Parts List of "Kestrel Three"

Ebonite panel, 14in. x 7in.
Three-ply baseboard, 14in. x 7in., with quarter-inch slats to protect under baseboard wiring.
Aluminium screening box, 7in. x 5in. x 6in., open on two sides and top.
2 .00035 variable condensers.
2 vernier dials.
1 .00025 differential condenser.
1 30 ohms rheostat.
1 400 ohms baseboard mounting potentiometer.
1 filament switch.
2 .0001 condensers with grid-leak clips.
1 .0002 condenser.
1 2 megs. grid-leak with holder.
1 10 megs. grid-leak (for short-wave).
5 UX sockets or 3 UX and 2 English.
1 .5 mfd. by-pass condenser.
1 .05 by-pass condenser.
1 midget condenser.
1 push-pull battery switch.
1 transformer, ratio 3½ or 4-1.
1 single output jack.
1 r.f. choke.
2 terminals with short terminal strip.
4in. armoured cable.
Special coils for broadcast or two four-inch lengths of two-inch former.
½lb. 26 d.s.c. wire.
8 or 9 yards of 30 gauge d.s.c. wire.
6 wire battery cable.

position and lay the components out on it as well. You can then get an idea of the set as a whole.

The shielding consists of three sides of an aluminium box 4½in. wide by 7in. long and 6in. high. Unless you have the facilities for bending the aluminium, do not attempt to do it yourself, but order it from your dealer, bent to the shape indicated. A copper box would do quite as well. It fits flush with the left-hand end with the metal end up against the panel. When it is fitted in position, hold it steady and mark the point where the r.f. condenser shaft is to go through. This can now be drilled and ringed out to the right size, and the condenser mounted. It will hold the shield in position, while the rest of the lay-out is completed. It might be as well to pierce the shield where the switch is to come through, and also to fasten it

in position. The shield will then be quite firmly held.

When the components have been fitted into position, take a scriber or similar sharp instrument and mark where the screws are to go through them to the baseboard. Move the components one by one and make sure that the drilling points are marked before the component is removed. Apart from screw holes, the point where the baseboard must be drilled to allow a wire to go through to the other side has been clearly indicated. Before mounting the midget condenser that is to go in the aerial, make certain that no part of it will touch the shield. For this reason we recommend one of the types with a bakelite base. This can then be screwed down to the baseboard without any fear of its touching the screen. (To be continued next week.)

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FEATURE PEEPS

... at ...

FUTURE PROGRAMMES

SUNDAY

Auckland Notes

THE service from the Beresford Street Congregational Church, to be conducted by the Rev. L. B. Fletcher, will be relayed. This will be the first broadcast by Mr. Fletcher since his return from England. The organist will be Mr. A. Cherry and the choirmaster Mr. William Gemmell. The instrumental portion of the after-church programme will be provided by the Orchestral Octet, under the direction of Mr. Harold Baxter.

From 2YA

THE service to be conducted in St. Paul's Pro-Cathedral will be relayed. The preacher will be Canon Percival James and the organist and choirmaster Mr. Robert Parker, C.M.G. At 8.15 p.m., approximately, a recital by the Royal Naval Volunteer Reserve Band, under the conductorship of Mr. Harry Baker, will be relayed from the De Luxe Theatre.

From Christchurch

THE service in Knox Presbyterian Church will be broadcast. The preacher will be the Rev. T. W. Armour. A relay of 4YA's concert programme will follow.

Dunedin Notes

A SALVATION Army service, conducted by Adjutant Tong, will be broadcast this evening. The band will play under the baton of Mr. A. A. Millard. A studio concert, to be given by the Dunedin Orphans Club, will follow.

Items by the orchestra, which plays under the conductorship of Orphan E. Kerr, will include the selections "For Liberty," "A Garden Dance," "Peter Schmolli," and "Student Prince." A string quintet will play Boccherini's "Minnet" and the familiar "London-derry Air."

MONDAY

2YA Features

THE lecturers from 2YA will be:— At 11.12 a.m., Miss Christian, on "Cooking"; at 11.37, a representative of the Red Cross Society.

The "Musical Portrait" to-night will be of the composer Brahms. It has been specially chosen in order to show that Brahms can be as melodious, as easily understood, and as much enjoyed as the less severe composers. Mrs. Wilfred Andrews (contralto) will sing some of his sweetest songs. A selection of Brahms' waltzes, which he wrote to disprove an accusation that he could not write as tunefully as Schubert, will be played as duets by Miss Nora Gray and Mr. Gordon Short. Mr. Short will also play some of Brahms' more characteristic work. With Mrs. Amy Woodward, Mrs. Wilfred Andrews will sing two duets, and as a solo the old favourite, "The Sands o' Dee." Mrs. Amy Woodward's solos will include songs by Sterndale Bennett, Dr. Arne and Bishop, besides the delightful "Laughing Song" (by Aufer).

Songs by Mr. Arthur Clark (tenor) will include Rimsky-Korsakoff's "Hindoo Song." The Orchestra will play some fine works. A session of dance music will follow.

3YA Notes

THERE will be two talks from 3YA. In dialogue form, Messrs. E. E. Wiltshire and F. C. Fairclough will tell "The Story of the Garden"; Mr. F. W. Saxton, F.C.S., will give a talk on "Milk."

The Christchurch Municipal Band (Conductor Mr. J. Noble) and assist-



MR. SYD. ANDREWS, tenor, who will take part in the studio concert from 3YA on August 2. —Steffano Webb Photo.

ing artists will give a well-arranged programme in the evening. The band items will include a selection of English airs arranged by Ord Hume and a minuet, Handel's "Ode to St. Cecilia's Songs." As a cornet solo, "Lead Kindly Light" will be played.

Dunedin Notes

ANOTHER of the interesting talks on "Early Otago" by Mr. John Bowie will be broadcast at 7.30 p.m.

Mr. J. Crossley Clitheroe, Lecturer on Music at the Dunedin Training College, will be the lecturer during the international programme at 4YA. His subject will be "The International Kinship of Music."

TUESDAY

1YA Notes

THE weekly health talk by Mrs. Leslie Crane will be broadcast at 3.15 p.m. At 7.40 p.m. Mr. N. M. Richmond, B.A., will give a talk under the auspices of the W.E.A. on "Modern Views on Education."

Featurettes

Brahms Evening
2YA, Monday.

Melodie Four
2YA, Tuesday.

Musical Comedy Numbers
1YA, Wednesday.

Debate

3YA, Wednesday.

Orpheus Musical Club
1YA, Thursday.

"Tricks and Teasers"
3YA, Friday.

The Bridges Trio
2YA, Saturday.

"Going Up"
3 and 4YA, Saturday.

The speaker on the international programme will be the Rev. A. B. Chappell, M.A., who has chosen for his subject, "Peoples of the Pacific."

Wellington Features

AT 11.12 a.m. a lecturette on "Fabrics and Fashions" will be given, and a representative of the Plunket Society will speak at 11.37 a.m. The weekly educational session will be broadcast from 2 to 3 p.m. At 7.40 there will be a lecturette for the man on the land by a representative of the Department of Agriculture.

The vocal portion of the evening's concert will be in the hands of the popular Melodie Four.

Mr. W. W. Marshall, bass, will sing "The Wolf," and Mr. Frank Bryant, tenor, will be heard in two popular songs, "Down the River of Golden Dreams" and "When Love Comes Stealing." Mr. R. S. Allwright, baritone, will sing the ballad "To-night." Mr. Sam Duncan's tenor solo will be "Little Town in Old County Down." The quartets will include "Juanita" and "Genevieve," two old favourites.

Messrs. Berthold and Bent, guitar duo, will be heard in popular airs. The incidental music will be supplied by the Salon Orchestra, and selected electrical recordings will be introduced into the programme.

Dunedin Features

"THE Trend of Events in the Next Century" will be the subject for the W.E.A. talk by Mr. G. McCracken at 7.40 p.m.

Liza Lehmann's songs will figure prominently on the evening's programme, practically all the vocal numbers on the musical programme being taken from the works of this very popular composer.

Irish humour and Hebrew humour will be provided by Mr. W. B. Lambert. The instrumental portion of the even-

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ing's programme will be provided by Mrs. C. Drake, pianiste, and the Kikorai Band, under Mr. W. P. Coughlan.

WEDNESDAY

1YA Notes

FROM 12.30 to 1.30 p.m. the community singing will be relayed from the Town Hall. At 7.40 p.m. Dr. Wilkie, of the Health Department, will give a talk on "Personal Hygiene."

The vocal portion of the evening's programme will be provided by Madame Humphrey-Steward, who is bringing a party of singers, performing a number of solos and choruses from "The Country Girl" and "The Geisha."

Instrumental items will be supplied by George Poore and his Orchestra. Mr. Poore is well known to Auckland musicians, both as a flautist and conductor. His orchestra is composed of members of the Professional Musicians' Union, and listeners will be pleased with the excellent renderings of the various numbers to be played.

2YA Features

A TALK on "Fashions" will be given by Miss Mann, and Miss Flora Cormack will give a lecturette on "Hollywood Affairs." At 7.40 p.m. Mr. E. A. Wilson will deliver a lecturette on "Tourist and Health Resorts."

Dr. Guy H. Scholefield will be the lecturer for the international programme in the evening.

Christchurch Notes

AN officer of the Department of Health will give a talk on "The Care of Food in the Home."

A debate between teams representing the Canterbury College Dialectic Society and the W.E.A. will be broadcast in the evening. The

subject will be "That the Bachelor is Happier than the Married Man."

The concert, which will provide the balance of the programme, will be of an operatic-classical nature. The Studio Octet will play "Hero's March," "Don Giovanni" overture, "Cuban Dance," and a suite by Foulds, "Music Pictures."

Dunedin Features

THE afternoon talk by the Home Science Extension Department of Otago University will be on "Meals on

will be heard in a number of solos and duets. Mr. Harry Woolley will be heard in piano solos, and Mr. J. Finlayson will supply humour. Dance music will follow and continue until 11 p.m.

Wellington Notes

AT 10.45 Mrs. Barrington will speak on "Cooking," and at 11.37 there will be a lecturette, "The Conquest of Tuberculosis," to be given under the auspices of the Health Department. At 2.30 p.m. Mr. A. E. Campbell, M.A.,

duets. Selected electrical recordings will be included in the programme.

Christchurch Notes

TWO orchard instructors of the Department of Agriculture, Messrs. B. G. Goodwin and J. D. Carolin, will discuss "Seasonal Orchard Work."

The first instalment of the series of international programmes will be broadcast. Dr. P. Stanley Foster, chairman of the International Relations Committee of the Rotary Club, will speak on "Personal Observations in Other Countries."

FRIDAY

1YA Auckland

AT 7.40 p.m. there will be a talk under the auspices of the New Zealand Native Bird Protection Society.

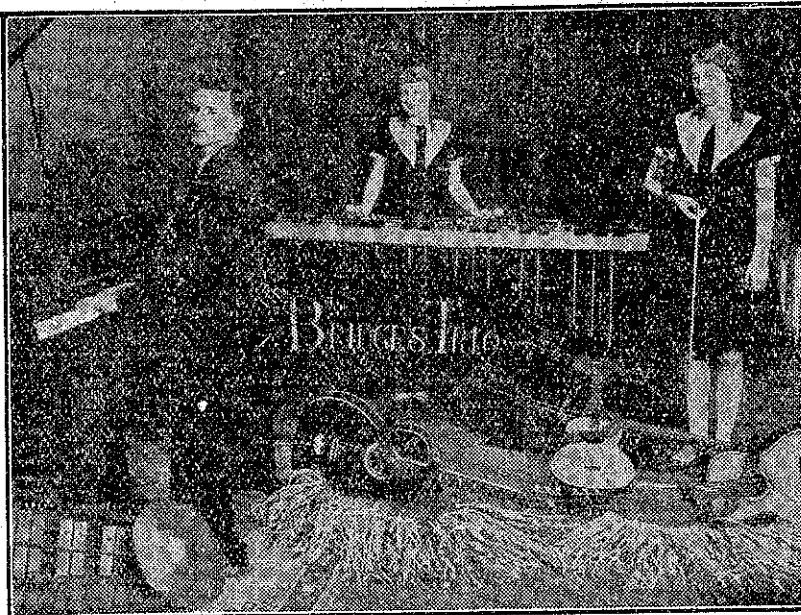
On the evening's studio programme a new artist will appear, Mr. George Pasek, who will give a number of accordion solos. Mr. Laurie Stuart, baritone, who has already been heard over the air, is making a welcome reappearance, and Mr. Trevor Binns will be heard in several humorous numbers. The Orchestral Octet, under the direction of Mr. Harold Baxter, will play among other numbers, "The Punch Bowl," "Romance," "A Creole Serenade," and a selection of "Sullivan Songs."

Wellington Features

THE morning talk will be on "Fashions."

A varied and interesting evening's programme is assured. Newcomers on the programme will be the Nelson Brothers (mandolin duo), Mr. A. Willis (baritone), and Brigadier James Imrie (English concertina). The Nelson Brothers in mandolin duets should be heard to advantage in some popular numbers. Brigadier Imrie will play a medley of "National Airs" of his own arrangement, Handel's "Largo" and "Favourite Hymn Tunes." Also on the programme will be Madame Dorothy Cronin (soprano), late of Auckland. She will sing "Just a-Wearyin' for You," "Youth and Spring" and "Laugh and Sing" and "Down Here." The Orchestral, under Signor A. P. Truda, will be heard in the overture, "Masaniello," the selection "Katja, the Dancer," and the selection, "Songs of Italy."

(Concluded on page 29.)



THE BRIDGES TRIO, a musical combination from Wanganui, whose versatility is well illustrated by the variety of instruments on which they perform. They will be heard from 2YA on July 1 and 2.

—Photo, Tesla-Denton Studio, Wanganui

a Tray." At 7.15 p.m. Mr. G. A. Holmes will speak to farmers about "Spring Manuring." Both talks will be under the auspices of the 4YA Primary Productions Committee.

A half-hour lecture recital on "Programme Music" will be featured in the evening. The speaker will be Mr. C. Roy Spackman, assisted by Mr. L. Hunter (cellist), and the recital will be given under the auspices of the Society of Professional Musicians of Otago.

On the supplementary programme will be such fine artists as Mr. W. J. Kershaw (bass), Miss Dorothy L. Stentford (contralto), Miss Evelyn Shepard (soprano), Mons de Rose (violinist), and a trio consisting of Messrs. A. H. Pettitt, de Rose and L. Hunter.

THURSDAY

FROM 1YA, 2YA and 3YA the home science talk, prepared by the Home Science Extension Department of Otago University, will be on "Metals that We Eat."

From Auckland

THE talk at 7.40 p.m., under the auspices of the New Zealand Manufacturers' Association, will be on "Bricks, Tiles and Concrete."

The whole of the programme is to be given by the Auckland Orpheus Musical Club, which has already been heard on several occasions throughout the year.

The vocalists are Miss Rewa Hipwell, soprano, and Mrs. L. E. Lambert, who



For years past the singing of "Hush! Here Comes the Dream Man" has fittingly marked the conclusion of 3YA children's sessions. The singer is "Cousin Alice" (Miss Alice Polson), who is growing up now, as young folk have a habit of doing. Though still very young, she is "old" as a broadcaster, in fact, one of the oldest in New Zealand.

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Full Programmes for Next

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Sunday, July 26

1YA, AUCKLAND (900 KILOCYCLES)—SUNDAY, JULY 26.

- 3.0 : Chimes. Selected recordings and relay of portion of Organ Recital from the Town Hall by the City Organist, Mr. Maughan Barnett.
 6.0 : Children's Song Service, conducted by Uncle Bert.
 7.0 : Relay of Divine Service from the Beresford Street Congregational Church. Preacher, The Rev. Lionel B. Fletcher. Organist, Mr. A. Cherry. Choirmaster, Mr. William Gemmell.
 8.30 (approx.): Selection—Dajos Bela Orchestra, "I Pagliacci." Mezzo-soprano—Miss Hinemoa Rosieur, "Agnus Dei" (Bizet). March—Orchestral Octet, under the direction of Mr. Harold Baxter, "Salem Aleikum" (Haberl); selection, "Norwegian Rhapsody No. 1" Baritone—Mr. Len Barnes, Recit., "And God Said"; Aria, "Now Heav'n in Fullest Glory Shone" (from "Creation") (Haydn).
 Evening weather forecast and announcements.
 Violin—Gustav Link, (a) "Saltarella" (Sitt); (b) "Swedish Airs." Mezzo-soprano—Miss Hinemoa Rosieur, (a) "Ave Maria" (Luzzi); (b) "Until" (Sanderson).
 Selections—Orchestral Octet, (a) "The Emerald Isle" (arr. Langey); (b) "Polynesian Love Song" (Geehl).
 Organ—Archer Gibson, "The Old Refrain" (Kreisler) (Zono, EF35).
 Baritone—Mr. Len Barnes, (a) "Marie" (Saenger); (b) "The Last Man" (Calcott).
 Gavotte—The Orchestral Octet, "Caprice" (Kline); serenade, "Anita." Male choir—Don Cossacks, (a) "The Red Sarafan" (Warlamoff—arr. Jaroff); (b) "March Prince Cleg" (arr. Jaroff).
 Selection—The Orchestral Octet, "Slavonic Dances, Nos. 1 and 2"
 10.0 : God save the King.

2YA, WELLINGTON (720 KILOCYCLES)—SUNDAY, JULY 26.

- 3.0 : Afternoon session of selected gramophone recordings.
 6.0 : Children's Song Service, conducted by Uncle George, and assisted by the Children's Choir from the Miramar Presbyterian Church.
 7.0 : Relay of Evening Service from St. Paul's Pro-Cathedral, Mulgrave Street, Wellington. Preacher, Canon Percival James. Organist and Choirmaster, Mr. Robert Parker, C.M.G.
 8.15 (approx.): Relay of Band Recital by the Royal Naval Volunteer Band from the De Luxe Theatre. Conductor, Mr. Harry Baker.
 God save the King.

3YA, CHRISTCHURCH (980 KILOCYCLES)—SUNDAY, JULY 26.

- 3.0 : Gramophone recital.
 5.30 : Children's Song Service by Children from Presbyterian Sunday Schools.
 6.15 : Chimes from studio.
 6.30 : Relay of Evening Service from Knox Presbyterian Church, Bealey Avenue. Preacher, Rev. T. W. Armour. Organist, Miss Victoria Butler. Choir Conductor, Mr. A. G. Thompson.
 7.45 (approx.): Musical recordings from studio.
 8.15 (approx.): Relay of programme from 4YA, Dunedin.
 10.0 : God save the King.

4YA, DUNEDIN (650 KILOCYCLES)—SUNDAY, JULY 26.

- 3.0 : Selected recordings.
 5.30 : Children's Song Service, conducted by Big Brother Bill.
 6.15 : Instrumental recordings.
 6.45 : Relay of Evening Service from Salvation Army Citadel, Dowling Street, Dunedin. Preacher, Adjutant Tong. Conductor of Band, Mr. A. A. Millard.
 8.15 : Concert by Dunedin Orphans' Club. Orchestral Conductor, Orphan E. Kerr. Pianist, Orphan Thos. J. Kirk-Burnand.
 Selection—The Orchestra, (a) "For Liberty" (Hall); (b) "A Garden Dance" (Zamecnik).
 8.27 : Solo and chorus—Members of the Club, (a) "March of the Grenadiers." Baritone—Orphan Arthur Macdonald, "Only the River Running By."
 8.33 : French horn—Orphan H. Davey, "Serenade" (Gounod).
 8.37 : Violin—Efrim Zimbalist, (a) "Orientale" (Cui); (b) "Valse Bluetie."
 8.42 : Duet—Orphans J. Davies and W. Ruffell, "The Moon Hath Raised Her Lamp Above" (Benedict).
 Tenor—Orphan J. Davies, "Land of My Fathers" (in Welsh) (Trdtl.).
 8.48 : Selection—The Orchestra, "Peter Schmoll" (Weber).
 8.56 : Bass-baritone—Orphan W. Dobby, (a) "Sunshine and Rain" (Blumenthal); (b) "Trooper Johnny Ludlow" (Temple).
 9.0 : Evening weather report and station notices.
 9.2 : Organ—Reg. Foort, "A Musical Trip Round the British Isles."
 9.10 : Tenor—Orphan D. Fogarty, "If With All Your Hearts" (Handel).

- 9.16 : Selection—The Orchestra, "Student Prince" (Romberg).
 9.23 : Chorus—Members of the Club, "The Vagabond King" (Friml).
 9.26 : Baritone—Orphan R. Duerdon, (a) "The Romany King" (Verne); (b) "Passing By" (Purcell).
 9.31 : String quintet—Members of the Club's Orchestra, (a) "Minuet" (Boccherini); (b) "Londonderry Air" (Trdtl.).
 9.38 : Bass—Orphan R. Bryant, (a) "Simon, the Cellarer" (Hatton); (b) "The Wreath" (Rae).
 9.44 : Trombone—Orphan D. Boyd, "Cradle Song" (Schubert).
 9.48 : Tenor—Orphan T. Bach, (a) "I Heard You Calling Me" (Marshall); (b) "A Song of Thanksgiving" (Allitsen).
 9.54 : Selection—Band of H.M. Coldstream Guards, "The Yeomen of the Guard" (Sullivan) (H.M.V. C3459).
 10.3 : God save the King.

2YB, NEW PLYMOUTH (1230 KILOCYCLES)—SUNDAY, JULY 26.

- 6.0 to 6.45 : Children's Sunday Service.
 8.15 to 10.0 p.m. : Concert programme.

Monday, July 27

1YA, AUCKLAND (900 KILOCYCLES)—MONDAY, JULY 27. SILENT DAY.

2YA, WELLINGTON (720 KILOCYCLES)—MONDAY, JULY 27.

- 10.0 : Chimes. Selected gramophone recordings.
 11.12 : Lecturette—"Cooking."
 11.37 : Lecturette—"Health Hints or First Aid."
 12.0 : Lunch hour music.
 2.0 : Selected recordings.
 3.30 and 4.30 : Sporting results to hand.
 5.0 : Children's session, conducted by Uncle Jeff.
 6.0 : Dinner music session (H.M.V.)—
 Cedric Sharpe Sextet, "O, Lovely Night" (Ronald) (B3429).
 Berlin State Opera House Orchestra, "A Midsummer Night's Dream" Overture (Mendelssohn) (C1883/4).
 De Groot and the Piccadilly Orchestra, "If Only I Had You" (Davies).
 Organ—Jesse Crawford, "I'll Close My Eyes to the Rest of the World."
 Kirilloff's Balalaika Orchestra, "Medley of Old-time Songs" (Zono).
 The Palladium Orchestra, "La Siesta" Barcarolle (Norton—arr. Lotter).
 De Groot Trio, "Paraphrase of Strauss Waltzes" (arr. De Groot).
 Berlin State Opera House Orchestra, "A Midsummer Night's Dream"—Wedding March (Mendelssohn) (C1884).
 Cedric Sharpe Sextet, "Chanson Napolitaine" (D'Ambrosio) (B3429).
 De Groot and the Piccadilly Orchestra, "Lolita" (Ferrete and Biessier).
 The Palladium Orchestra, "The Grasshoppers' Dance" (Bucalossi).
 Organ—Jesse Crawford, "How am I to Know?" (King) (EAG09).
 The Rhythmic Eight, "Neapolitan Nights" (Zamecnik) (Zono, EF106).
 7.0 : News session, market reports and sports results.
 7.40 : Talk—Mr. E. B. McKay, "Contract Bridge."
 8.0 : Chimes. Berlin State Opera House Orchestra, "Academic Festival."
 8.8 : Contralto—Mrs. Wilfred Andrews, (a) "Sunday," (b) "Summer Fields," (c) "The Vain Sult," (d) "Dustman" (Brahms).
 8.16 : Piano—Mr. Gordon Short, (a) "Intermezzo in E Flat," (b) "Andante and Scherzo" (from Op. 5) (Brahms).
 8.26 : Tenor—Mr. Arthur C. Clark, with orchestral accompaniment, (a) "By the Waters of Minnetonka" (Lieurance); (b) "From the Land of the Sky-Blue Water" (Cadman).
 8.31 : Violin, cello, with orchestra—Thibaud and Casals, "Double Concerto."
 8.39 : Soprano—Mrs. Amy Woodward, with orchestral accompaniment, (a) "Should He Upbraid" (Bishop); (b) "Dawn Gentle Flower" (Stern-dale Bennett); (c) "O Fair and Sweet and Holy" (Rubenstein).
 8.48 : Serenade—2YA Orchestra (Conductor, Signor A. P. Truda), "Magic Serenade" (Drigo).
 8.56 : Septette—Iwan Wassiljeff's Septette, (a) "Grandfather Pachom," (b) "Siberian Convict Song" (Trdtl.) (Poly. 20806).
 9.2 : Evening weather report and station notices.
 9.4 : Orchestral—Vienna Philharmonic Orchestra, "Hungarian Dances, Nos. 1 and 2" (Brahms) (H.M.V. B3145).
 9.10 : Duet—Mrs. Amy Woodward and Mrs. Wilfred Andrews, with orchestral accompaniment, "I was Dreaming" (Junker).
 Contralto—Mrs. Wilfred Andrews, with orchestral accompaniment, (a) "The Sands o' Dee" (Clay); (b) "Home Song" (Liddle).
 9.19 : Cornet—Mr. S. Bernard, with orchestra, "Serenade" (Schubert).
 9.23 : Piano duets—Miss Nora Gray and Mr. Gordon Short, "Waltzes."
 9.31 : Tenor—Mr. Arthur Clark, (a) "Hindoo Song" (Rimsky-Korsakoff); (b) "The Banks of the Daisies" (Villiers-Stanford); (c) "Summer."

Week-all Stations-to Aug. 2

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- 9.38: Violin—George Kulenkampf, (a) "Danse" (Scott); (b) "La Capriciosa" (Ries) (Poly. 95073).
- 9.46: Duet—Mrs. Amy Woodward and Mrs. Wilfred Andrews, with orchestral accompaniment, "O, Memory" (Leslie).
- Soprano—Mrs. Amy Woodward, (a) "Where the Bee Sucks" (Arne); (b) "Laughing Song" (From "Manon Lescaut").
- 9.52: Instrumental—2YA. Orchestrina, "Aida" (Verdi).
- 10.0: Dance programme (Columbia)—
Foxtrots—Jack Payne and His B.B.C. Dance Orchestra, "Beware of Love" (Kernell) (DO223).
Van Phillips and His Band, "Always in All Ways" (Robin) (DO259); "Why am I so Romantic?" (Kalmar) (DO271); "Beyond the Blue Horizon" (Robin) (DO259).
- 10.12: Waltz—Will Osborne and His Orchestra, "Down the River of Golden Dreams" (Klenner) (DO158).
Foxtrots—Jan Garber and His Orchestra, "When a Woman Loves a Man" (Rainger) (DO88).
Denza Dance Band, "Loving You" (Yellen) (Reg. G20918).
Fred Rich and His Orchestra, "If I'd only Listened to You."
- 10.21: Vocal duet—Layton and Johnstone, "Dancing with Tears in My Eyes."
- 10.24: Foxtrots—Rhythmic Troubadours, "You're the Sweetest Girl."
Guy Lombardo and His Royal Canadians, "Where the Golden Daffodils Grow" (Archer) (DO128).
Waltz—The Cavaliers, "The Kiss Waltz" (Burke) (DO272).
Foxtrot—Johnny Walker and His Rollickers, "Betty Co-ed" (Fogarty).

- 10.39: Vocal duet—Layton and Johnstone, "Watching My Dreams Go By."
- 10.42: Foxtrots—Will Osborne and His Orchestra, "The Song Without a Name"
Guy Lombardo and His Royal Canadians, "Under a Texas Moon" (Perkin) (DO88); "Good Evenin'" (Seymour).
- 10.51: Waltz—The Cavaliers, "All Through the Night" (Yorke) (DO271).
Foxtrots—Guy Lombardo and His Royal Canadians, "Be Careful with Those Eyes" (Woods) (DO228).
Chester Leighton and His Sophomores, "Sweetheart of My Student Days" (Kahn) (Reg. G20918).
- 11.0: God save the King.

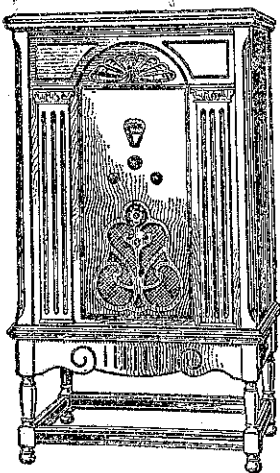
3YA, CHRISTCHURCH (980 KILOCYCLES)—MONDAY, JULY 27.

- 3.0: Gramophone recital.
- 4.25: Sports results.
- 5.0: Children's hour.
- 6.0: Dinner music session (H.M.V.)—
San Francisco Symphony Orchestra, "Coppella Ballet—Automatons" Dance" (Delibes) (D1272).
Victoria Orchestra, "La Serenata" Waltz (Metra) (Zono. EF32).
John Barbirolli's Chamber Orchestra, "A Little Night Music" Serenade (Mozart) (C1655-6).
International Concert Orchestra, "Danube Waves" Waltz (Ivanovici).
Marek Weber and His Orchestra, "La Tosca" Potpourri (Puccini).
New Mayfair Orchestra, "Five O'Clock Girl" Selection (Kalmar).
San Francisco Symphony Orchestra, "Caprice Viennois" (Kreisler).
Victoria Orchestra, "Espanita" Waltz (Rosey) (Zono. EF32).
New Mayfair Orchestra, "Love Lies" Selection (C1658).
International Concert Orchestra, "Over the Waves" Waltz (Rosas).
- 7.0: News session.
- 7.30: Dialogue—Messrs. E. E. Wiltshire and F. C. Fairclough, "The Story of the Garden" (continued).
- 7.40: Talk—Mr. F. W. Saxton, F.C.S., "Milk."
- 8.0: Chimes. Band programme by the Christchurch Municipal Band (J. Noble, Conductor) and 3YA artists.
Processional March—Band, "Triumphale" (Ord Hume).
Entr'acte—Band, "Corinella" (Markham Lee).
- 8.13: Contralto—Mrs. R. E. Voller, (a) "Little Grey Home in the West" (Lohr). "My Ain Fireside" (Helen Kilner).
- 8.19: Organ—Lew White, (a) "Old Black Joe," (b) "My Old Kentucky Home" (Foster) (Bruns. 6019).
- 8.25: Baritone—Mr. Sydney W. Armstrong, (a) "When You and I Were Young, Maggie" (Butterfield), (b) "The Old Rustic Bridge by the Mill" (Shelley).
- 8.30: English airs—Band, "Rose of England" (Ord Hume).
- 8.40: Soprano—Miss Julie Werry, (a) "Oh, Golden Sun" (Freebey), (b) "Trees" (Rasbach).
- 8.44: Humour—Mr. H. Instone, "Algy's Melodrama" (arr. Instone).
- 8.49: Tenor—Mr. J. Gallagher, "Away in Athlone" (Lohr).
- 8.53: Intermezzo—Band "In a Monastery Garden" (Ketelbey).
- 9.0: Evening weather forecast and station notices.
- 9.2: Humour—S. Holloway, "Old Sam" (Holloway) (Col. DOX 147).
- 9.10: Contralto—Mrs. R. E. Voller, "The Banks of Allan Water" (Scottish).
- 9.14: Cornet solo and band accompaniment—Band, "Lead, Kindly Light."
- 9.20: Baritone—Mr. Sydney W. Armstrong, (a) "Two Eyes of Grey," (McGeoch), (b) "The Songs I Sing to You" (Willeby).
- 9.24: Orchestral—Herman Darewski and His Ballroom Orchestra, "Old-Fashioned Dances" (Parlo. A3054).
- 9.30: Soprano—Miss Julie Werry, "Arab Song" (Wilcocks).
- 9.36: Minuet—Band, "Ode to St. Cecilia's Song" (Handel).
- 9.42: Humour—Mr. H. Instone, "An Episode of a Country Courtship."
- 9.47: Orchestral—Chas. Ancliffe and His Orchestra, "Thrills" (Ancliffe).
- 9.50: Tenor—Mr. J. Gallagher, (a) "Mountain Lovers" (Squire), (b) "Sincerity" (Clark).
- 9.56: March—Band, "B.B. and C.E." (Ord Hume).
- 10.0: God save the King.

4YA, DUNEDIN (650 KILOCYCLES)—MONDAY, JULY 27.

- 3.0: Selected recordings.
- 5.0: Children's hour, conducted by Uncle Pete, assisted by Uncle Jack.
- 6.0: Dinner music session (Columbia)—
Columbia Symphony Orchestra, "March of the Bojaren" (Halvorsen).
Debroy Somers Band, "The Desert Song" (Romberg) (02700).
J. H. Squire's Celeste Octet, "Memories of Devon" (Evans) (DO254).
New Queen's Hall Light Orchestra, "Summer Days Suite" (Coates).
(a) "In a Country Lane," (b) "On the Edge of the Lake," (c) "At the Dance" (02590-1).
H.M. Grenadiers Band, "New Sullivan Selection" (arr. Godfrey).
Zurich Tonhalle Orchestra, "Andante" (Mozart) (02978).
Johann Strauss and His Orchestra, "Voices of Spring" Strauss (02585).

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AUCKLAND

CHRISTCHURCH

WELLINGTON

Columbia Symphony Orchestra, "Bridal Procession" (Grieg) (02622).
J. H. Squire's Celeste Octet, "Collette" (Fraser-Simson) (D0254).
Zurich Tonhalle Orchestra, "Gavotte from 'Idomeneo'" (Mozart).
New Queen's Hall Light Orchestra, "Wood Nymphs" (Coates) (02591).
Johann Strauss and His Orchestra, "Radetzky March" (Strauss).

7.0 : News session.

7.30 : Talk—Mr. John Bowie, "Early Otago."

8.0 : Chimes. Specially recorded International Programme.

Dr. Eugene Ormandy and His Salon Orchestra.

International Singers.

Ambassadors of Melodyland.

Abroad with the Lockharts.

Weather report and station notices.

Talk—Mr. J. Crossley Clitheroe, "The International Kinship of Music."

Hywide and Handsome.

Nat Brusiloff and His Lido Venice Orchestra.

God save the King.

2YB, NEW PLYMOUTH (1230 KILOCYCLES)—MONDAY, JULY 27.

8.0 to 10.0 p.m.: Concert programme.

Tuesday, July 28

1YA, AUCKLAND (900 KILOCYCLES)—TUESDAY, JULY 28.

8.0 : Chimes. Selected recordings.

8.15 : Talk—Mrs. Leslie Crane, "Beauty of Mind and Body in Relation to Diet."

5.0 : Children's session, conducted by Uncle Dave.

6.0 : Dinner music session (H.M.V.)—

New Mayfair Orchestra, "Lilac Time" (Schubert, arr. Clutsam).

San Francisco Symphony Orchestra, (a) "Serenade" (Moszkowski).

(b) "Aubade" (Auber) (ED6).

Creatore's Band, "Semiramide" Overture (Rossini) (C1420).

New Light Symphony Orchestra, "Spanish Serenade" (Bizet) (B2584);

"Narcissus" (Nevin) (Zono. EE111).

Trio—De Groot, Pacey, Gibilaro, "Q Sole Mio" (Di Capua) (B2588).

San Francisco Symphony Orchestra, "Liebeslied" (Kreisler) (ED6);

"Valse de Concert" (Glazounov) (D1492).

New Light Symphony Orchestra, "Spring Song" (Mendelssohn) (Zono.).

National Symphony Orchestra, "William Tell" Overture (Rossini).

New Light Symphony Orchestra, "Spanish Dance No. 1" (Moszkowski).

7.0 : News session and market reports.

7.40 : Talk—Mr. N. M. Richmond, B.A. (under the auspices of the W.E.A.), "Modern Views on Education."

8.0 : Chimes. Specially recorded International Programme

Dr. Eugene Ormandy and His Salon Orchestra.

International Singers.

Ambassadors of Melodyland.

Abroad with the Lockharts.

Weather report.

International talk—The Rev. A. B. Chappell, M.A., "Peoples of the Pacific."

Hywide and Handsome.

Nat Brusiloff and His Lido Venice Orchestra.

God save the King.

2YA, WELLINGTON (720 KILOCYCLES)—TUESDAY, JULY 28.

10.0 : Chimes. Selected gramophone recordings.

11.12 : Lecturette, "Fabrics and Fashions."

11.37 : Lecturette by a Representative of the Plunket Society.

12.0 : Lunch hour session.

2.0 : Educational session.

3.0 : Selected gramophone recordings.

3.30 and 4.30 : Sporting results to hand.

5.0 : Children's session, conducted by Uncle Toby and Jumbo.

6.0 : Dinner music session (Polydor)—

Philharmonic Orchestra, Berlin, "Les Huguenots" Overture.

Paul Godwin's Quartet, "Beautiful Garden of Roses" (Schmid).

State Opera Orchestra, Berlin, "German Dances" (Schubert) (66458).

Polydor Symphonic Orchestra, "Hear You Again" Medley (Weninger).

Association des Concerts Lamoureux, Paris, "Petite Suite" (Debussy).

(1) En Bateau; (2) Cortège; (3) Menuet; (4) Ballet.

Paul Godwin's Quartet, "Le Reve" (D'Ambrosio) (19532).

Philharmonic Orchestra, Berlin, "Emperor Waltz" (Strauss).

7.0 : News session, market reports and sports results.

7.40 : Lecturette by a Representative of the Agricultural Department, "For the Man on the Land."

8.0 : Chimes. Overture—Milan Symphony Orchestra, "Mignon" (Thomas).

8.8 : Bass—Mr. W. W. Marshall, with orchestral accompaniment, "The Wolf" (Shield).

8.12 : Quartet—Melodie Four, "Rose of My Heart" (Lohr).

8.16 : Guitar duo—Berthold and Bent, (a) "Girl of My Dreams" (Clapp); (b) "Laughing Rag" (Kay).

8.23 : Selection—Salon Orchestra, "Yeomen of the Guard" (Sullivan).

Tone poem—Salon Orchestra (Conductor, Mr. M. T. Dixon), "The Sacred Hour" (Ketelbey).

8.35 : Tenor—Mr. Frank Bryant, (a) "Down the River of Golden Dreams" (Klenner); (b) "When Love Comes Stealing" (Rapee).

8.41 : Male choir—Ural Cossacks, (a) "Hej Hej" (Trdtl); (b) "Signal March" (Kolatilin) (Poly. 21327).

8.47 : Suite—Salon Orchestra, "Florindo," "Rosaura," "Bal des Noces."

9.0 : Evening weather report and station notices.

9.2 : Organ—Leo Stin, (a) "Petit Quinquin" (Dessousseaux); (b) "Berceuse de Jocelyn" (Godard) (Poly. 23167).

9.8 : Baritone—Mr. R. S. Allwright, "To-night" (Zardo).

9.12 : Instrumental—Salon Orchestra, (a) "Woodland Sketches" (McDowell); (b) "Valse des Alouettes" (Drigo).

9.22 : Quartets—Melodie Four, (a) "Juanita" (Parkes); (b) "Genevieve."

9.29 : Guitar duo—Berthold and Bent, (a) "Honolulu Moon" (Donaldson); (b) "I Miss a Little Miss" (Coots).

9.36 : Tenor—Mr. Sam Duncan, with orchestral accompaniment, (a) "Little Town in Old County Down" (Carlo and Sanders); (b) "Obstinatation" (Fontenailles).

9.42 : Accordion—Michel Haling, (a) "La Mitrailleuse"; (b) "Mya Valse."

9.48 : Quartet—Melodie Four, "The Goblins'll Git You if You Don't Watch out" (Parks).

9.52 : Ballet suite—Salon Orchestra, "Asconio Suite" (Saint-Saens); "Latest Dance Novelties."

10.0 : God save the King.

3YA, CHRISTCHURCH (980 KILOCYCLES)—TUESDAY, JULY 28.

SILENT DAY.

4YA, DUNEDIN (650 KILOCYCLES)—TUESDAY, JULY 28.

3.0 : Afternoon session.

5.0 : Children's hour, conducted by Aunt Leonore.

6.0 : Dinner music session (H.M.V.)—

Coldstream Guards Band, "Pique Dame" Overture.

Marek Weber and His Orchestra, "Faust" Selection.

Organ—Edward O'Henry, "Ca C'est Madrid" (O'Henry) (B3094).

Zonophone Salon Orchestra, "Love's Garden of Roses" (Haydn Wood).

Virtuoso String Quartet, "Londonderry Air" (arr. Bridge) (C1470).

Paul Whiteman and His Concert Orchestra, "Suite of Serenades."

Coldstream Guards Band, "Morning, Noon and Night."

Ferdinand Kauffmann and His Orchestra, "The Gypsy Baron" Selection.

Symphony Orchestra, (a) "Waltz of the Hours"; (b) "Variations"

(from "Coppelia") (Delibes) (C1939).

Organ—Edward O'Henry, "Chant sans Paroles" (Tchaikowsky).

Zonophone Salon Orchestra, "Mighty Lak' a Rose" (Nevin).

Virtuoso String Quartet, "The Emperor Quartet"—Theme and Variations (Haydn) (C1470).

7.0 : News session.

7.40 : Talk—Mr. G. McCracken, under the auspices of W.E.A., "The Trend of Events in the Next Century."

8.0 : Chimes. Studio Concert by Kaikorai Band, under Mr. W. P. Coughlan, and 4YA Artists.

March—The Band, "Niagara" (Maddock).

8.5 : Quartets—The Harmonists, (a) "Foreign Children"; (b) "Seeing the World" (Lehmann).

8.12 : Guitar—Segis Luvann, (a) "Lysistrata"; (b) "Moonbeam Dreams."

8.18 : Irish humour—Mr. W. B. Lambert, "The Pride of Tipperary."

8.23 : Selection—The Band, "The Gondoliers" (Sullivan).

8.35 : Contralto—Miss M. S. Green, (a) "Fairies"; (b) "The Ship That Sailed into the Sun" (Lehmann).

8.41 : Piano—Mrs. C. Drake, "Moment Musical" (Schubert-Godowsky).

8.45 : Quartets—The Harmonists, "It was the Time of Roses" (Robertson); "Evening Lullaby" (Shaw).

8.52 : Foxtrots—The Band, "When the Lights are Low in Cairo" (Myers).

8.55 : Baritone—Mr. C. S. Hawes, (a) "Keepsake Mill"; (b) "Mustard and Cress" (Lehmann).

9.2 : Evening weather report and station notices.

9.4 : Xylophone—Franz Kruger, (a) "Tell Fantasia" (Kruger); (b) "La Krakette" (Kruger) (Poly. 21968).

9.10 : Grand selection—The Band, "Maritana" (Wallace).

9.22 : Two pianos—Wm. Gross and Walter Kauffmann, (a) "Water Colour Pictures"; (b) "Annen Polka" (Strauss) (Poly. 21958).

9.28 : Soprano—Miss Mae Matheson, (a) "The Swing"; (b) "If No One Ever Marries Me" (Lehmann).

9.34 : Valse—The Band, "Sunset on St. Lawrence" (St. Heller).

9.41 : Humour—Mr. W. B. Lambert, "Hebrew Humour" (arr. Lambert).

9.46 : Novelty—Grinning Schrammel Trio, (a) "Swiss Children" (Chlumski); (b) "At the Worther Lake" (Koschat) (Poly. 23475).

9.52 : Quartets—The Harmonists, (a) "Thank You Very Much Indeed"; (b) "Blind Man's Buff" (Lehmann).

9.56 : March—Band, "In Battle Array" (Schroder).

10.0 : God save the King.

Wednesday, July 29

1YA, AUCKLAND (900 KILOCYCLES)—WEDNESDAY, JULY 29.

12.30 : Relay of Community Singing from the Auckland Town Hall.

3.0 : Chimes. Selected recordings.

3.15 : Literary selection.

5.0 : Children's session, conducted by Uncle Reg.

- 6.0 : Dinner music session—
 The Philharmonic Orchestra, Berlin, "The Gipsy Baron" (Strauss).
 Heerman Trio, "Pierette" (Chaminade) (Bruno. 4228).
 Brunswick Hour Orchestra, "Only a Rose" (Hooker, Friml).
 Symphony Orchestra, "Eva" Medley (Lehar) (Poly. 27013).
 New Light Symphony Orchestra, "Spanish Dance No. 1" (Moszkowski).
 Brunswick Concert Orchestra, "The Perfect Song" (Breil).
 Symphony Orchestra, "Frederick" Medley (Lehar) (Poly. 27070).
 New Light Symphony Orchestra, "Spanish Serenade" (Bizet).
 Brunswick Concert Orchestra, "Sylvia" (Speaks) (Bruno. 4632).
 Heerman Trio, "Dalvira" (Sandby) (Bruno. 4228).
 Paul Godwin's String Orchestra, "Lehariana" (arr. Geiger).
 7.0 : News and market reports.
 9.0 : Chimes. Overture—Barnabas von Geczy and His Orchestra, "The Student Prince" (Romberg) (Parlo. A4208).
 8.9 : Vocal—Madame Humphrey-Stewart and Company, mezzo-soprano and Chorus, "Coo" (from "The Country Girl") (Monckton); soprano solo, "Amorous Goldfish" (from "Geisha") (Jones); mezzo-contralto and chorus, "Interfering Parrot" (from "Geisha") (Jones).
 8.18 : Piano—Patricia Rossborough, "Frederica" Selection (Lehar).
 8.24 : March—George Poore and His Orchestra, "Gladiator's Farewell" (Blankenburg); "Lustspiel" Overture (Kela Bela).
 8.30 : Talk—Sir James Parr, "National Personalities."
 8.38 : Vocal—Madame Humphrey-Stewart and Company, soprano solo, "A Geisha's Life" (from "Geisha") (Jones); baritone solo and chorus, "Rajah of Bhong" (from "The Country Girl") (Monckton); mezzo-soprano solo, "Love, Love" (from "Geisha") (Jones).
 8.42 : Flute duet—Messrs. G. and F. Poore, "Merry Birds" (Cox).
 Waltz—Geo. Poore and His Orchestra, "Confidence" (Waldteufel).
 8.49 : Male choir—Erk's Male Choir, "Die Nacht" (Schubert) (Poly. 19810).
 8.53 : Orchestra and chorus—State Opera, Berlin, "Carmen Ballet Music and Introduction Act 4" (Bizet) (Poly. 27191).
 9.1 : Evening weather forecast and announcements.
 9.3 : Selection—Geo. Poore and His Orchestra, "Fortune Teller" (Herbert).
 9.11 : Vocal—Madame Humphrey-Stewart and Company, soprano solo, "Try Again, Johnny" (from "The Country Girl") (Monckton); baritone and Chorus, "Peace, Peace" (from "The Country Girl") (Monckton); mezzo-soprano and chorus, "Jewel of Asia" (from "Geisha").
 9.20 : Accordion duo—Gellin and Borgstrom, (a) "Darby and Joan" Waltz (Gilbert); (b) "Rio Negro" Tango (Juarez) (Poly. 22038).
 9.27 : March—Geo. Poore and His Orchestra, "Vigorous" (Losey); selection, "Italian Songs" (Langley).

- 9.37 : Vocal—Madame Humphrey-Stewart and Company, mezzo-soprano, "Under the Deodar" (from "The Country Girl") (Monckton); contralto and chorus, "Chong Kina" (from "Geisha") (Jones); contralto, "Toy Monkey" (from "Geisha") (Jones).
 9.47 : Male chorus—The Jolly Old Fellows, "Ragtime Memories."
 9.53 : Piccolo—Mr. F. Poore, "The Wren" (Damare).
 Waltz—Geo. Poore and His Orchestra, "Danube Waves" (Ivanovici).
 10.2 : God save the King.

2YA, WELLINGTON (720 KILOCYCLES)—WEDNESDAY, JULY 29.

- 10.0 : Chimes. Selected gramophone recordings.
 11.12 : Lecturette—"Fashions."
 11.37 : Lecturette—"Hollywood Affairs."
 12.0 : Lunch session music.
 2.0 : Selected gramophone recordings.
 3.30 and 4.30 : Sporting results to hand.
 5.0 : Children's session, conducted by Aunt Daisy.
 6.0 : Dinner music session (Columbia)—
 Band of H.M. Grenadier Guards, "Sir Harry Lauder Medley" (02750).
 J. H. Squire's Celeste Octet, "Second Movement from Symphonie Pathe tique" (Tschalkowsky—arr. Robertson) (02937).
 Modern Dance Players, "Amoretten Tanze" (Gungl) (Reg. G20582).
 Court Symphony Orchestra, "The Windmill Man" (02909).
 Organ—Stanley Macdonald, "The Rosary" (Nevin) (Reg. G20391).
 Symphony Orchestra, "When the Lemons Bloom" (Strauss) (02529).
 Plaza Theatre Orchestra, "The Three Bears" (Coates) (02744).
 Symphony Orchestra, "Doctrinen" (Strauss) (02529).
 Continental Novelty Orchestra, "Las Lagarteranas" (Reg. G20552).
 New York Symphony Orchestra, "Entrance of the Little Fauns."
 B.B.C. Wireless Military Band, "Le Reve Passe" (Krier and Helmer).
 J. H. Squire's Celeste Octet, "Scene de Ballet" (De Berliot—arr. Sear).
 Organ—Stanley Macdonald, "La Rosita" (Dupont) (Reg. G20391).
 Continental Novelty Orchestra, "Los Claveles de Sevilla" (Guerrero).
 7.0 : News session, market reports and sports results.
 7.40 : Lecturette—Mr. A. E. Wilson, "Tourist and Health Resorts."
 8.0 : Chimes. Specially recorded international programme—
 Golden Hour of Music.
 Adam and Eve.
 Ohman and Arden.
 Weather report.
 International talk—Dr. Guy H. Scholefield, O.B.E.
 High Spots.
 International dance programme.
 God save the King.

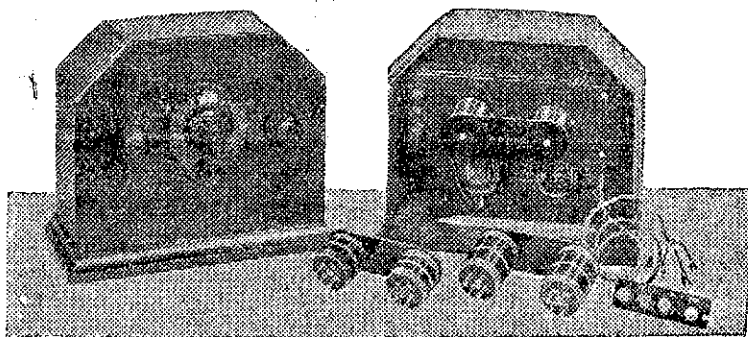
3YA, CHRISTCHURCH (980 KILOCYCLES)—WEDNESDAY, JULY 29.

- 3.0 : Gramophone recital.
 4.25 : Sports results.
 5.0 : Children's hour.
 6.0 : Dinner music session (Polydor)—
 Paul Godwin's Orchestra, "From Heidelberg to Barcelona" (Borchert).
 Paul Godwin's Quintet, "Minuetto" (Bolzoni) (19929).
 Paul Godwin's Orchestra, "Hearts and Flowers" (Tobani) (19932).
 Marek Weber and His Hotel Adlon Orchestra, "Under the Old Lime Tree" (Felix) (20456).
 Paul Godwin and Kunster Ensemble, "Potpourri of German Folk Songs" (arr. Hannemann) (19425).
 Paul Godwin's Quintet, "Dolls' Minuet" (Blon) (19929).
 Paul Godwin's Orchestra, "The Merry Peasant" (Fall-Leon) (19603).
 Marek Weber and His Hotel Adlon Orchestra, "Extase" (Ganne).
 Paul Godwin's Orchestra, "Sleeping Beauty's Bridal Trip" (Rhode) (19932); "The Count of Luxembourg" (Lehar) (19624).
 7.0 : News session.
 7.30 : Addington Stock Market reports.
 7.40 : Talk by an officer of the Department of Public Health, "The Care of Food in the House."
 8.0 : Chimes. Debate between the W.E.A. and Canterbury College Dialectic Society. Subject—"That the Bachelor is Happier than the Married Man." Canterbury College Dialectic Society, Affirmative; Workers' Educational Association, Negative. Dialectic Team—Messrs. A. G. A. Baigent and C. F. Jones. W.E.A. Team—Messrs. A. Dingwall and A. Robson. Mrs. T. E. Taylor, Adjudicator.
 8.40 : March—Studio Octet (Conductor, Harold Beck), "Hero's March."
 8.44 : Tenor—Mr. Ernest Rogers, with violin obbligato, "Had You But Known" (Denza).
 Duet (soprano and tenor)—Grand Opera Duo, with orchestral accompaniment, "A Night in Venice" (Luncantoni).
 8.52 : Overture—Studio Octet, "Don Giovanni" (Mozart).
 8.57 : Soprano—Madame Gower Burns, with orchestral accompaniment, "The Cuckoo" (Liza Lehmann).
 9.0 : Evening weather forecast and station notices.
 9.2 : Dance—Studio Octet, "Cuban Dance" (Cervantes).
 9.5 : Tenor—Mr. Ernest Rogers, with orchestral accompaniment, "The Last Watch" (Pinsuti).
 9.9 : Suite—Studio Octet, "Music Pictures" (Foulds).
 9.21 : Soprano—Madame Gower Burns, with orchestral accompaniment, "Cradle Song" (Jarnfeldt).
 Soprano and tenor duet—Grand Opera Duo, with orchestral accompaniment, "Night Hymn at Sea" (Goring Thomas).

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- 9.27: Zither—Geo. Frenndorfer, "Isar Waves" (Frenndorfer) (Poly. 21840).
 9.30: Dance music session (Brunswick)—
 Foxtrots—Ben Bernie and His Orchestra, "To Whom It May Concern."
 Ozzie Nelson and His Orchestra, "Fall in Love with Me."
 Ben Bernie and His Orchestra, "Crying Myself to Sleep."
 9.39: Waltz—Pavillon Lescaut Orchestra, "Listening to the Violin" (Parlo.)
 Foxtrots—Jacques Renard and His Orchestra, "Under the Spell of Your
 Kiss" (Jasmyrn) (4995).
 Bud Blue and His Orchestra, "Someone Sang a Sweeter
 Song to Mary" (Shand) (Parlo. A3103).
 9.48: Vocal—Chester Gaylord, "Would You Like to Take a Walk?" (Dixon).
 9.51: Foxtrots—Loring "Red" Nichols and His Orchestra, "Blue Again."
 Jacques Renard and His Orchestra, "We're Friends Again."
 Bud Blue and His Orchestra, "I'll Be Blue Just Thinking of
 You" (Wendling) (Parlo. A3103).
 10.0 : Tangos—Juan Llossas Orchestra, "One Look Into Your Eyes" (Gynla).
 Marimba Original Excelsior de Guatemala, "Padre Nuestro."
 Waltz—Regent Club Orchestra, "For You" (Dubin) (4990).
 10.9 : Vocal—Chester Gaylord, "It Must Be True" (Arnheim) (6030).
 10.12: Foxtrots—Ozzie Nelson and His Orchestra, "Truly" (Arnheim) (6018).
 Jacques Renard and His Orchestra, "He's My Secret
 Passion" (Valentine) (4994).
 Waltzes—Nick Lucas and His Crooning Troubadours, "Say 'Hello' to
 the Folks Back Home" (Davis) (6013).
 Regent Club Orchestra, "Don't Forget Me in Your Dreams."
 10.24: Two-steps—Juan Llossas Orchestra, "My Spain" (Marquina) (Poly.).
 Marimba Original Excelsior de Guatemala, "Joseillo."
 Juan Llossas Orchestra, "Andalusian National Character."
 10.33: Vocal—Chester Gaylord, "Cheerful Little Barful" (Gershwin) (6028).
 10.36: Foxtrots—Nick Lucas and His Crooning Troubadours, "Lady, Play
 Your Mandolin" (Caesar) (6013).
 Loring "Red" Nichols and His Orchestra, "When Kentucky
 Bids the World 'Good Morning'" (Leslie) (6014).
 Jacques Renard and His Orchestra, "Little Spanish Dancer"
 10.45: Tangos—Juan Llossas Orchestra, "Pretty Gigolo" (Casucci) (Poly.).
 Marimba Original Excelsior de Guatemala, "Fumando
 Espero" (Villadomat) (21906).
 10.51: Foxtrots—Dick Robertson and His Orchestra, "Would You Like to
 Take a Walk?" (Warren) (Pana. P12082).
 Pavillon Lescaut Orchestra, "The Dancing Tailor" (Parlo.).
 Stellar Dance Band, "Strolling Thro' the Tulips" (O'Hagan)
 11.0 : God save the King.
- 4YA, DUNEDIN (650 KILOCYCLES)—WEDNESDAY, JULY 29.
- 8.0 : Selected recordings.
 8.15: Talk—"Meals on a Tray," by the Home Science Extension Service of
 Otago University.
 9.0 : Children's hour, conducted by Big Brother Bill.
 9.0 : Dinner music session (Polydor)—
 Great Symphony Orchestra, "Countess Mariza Medley" (Kalman).
 Paul Godwin's Quartet, "Octobre" (Tschalkowsky) (19457); "Serenade
 des Mandolines" (Desormes) (19531).
 Paul Godwin's Orchestra, "The Bird Seller" (Zeller) (19288).
 Paul Godwin's Quartet, "Un Peu D'Amour" (Silesu) (21703); "Serenata
 D'Amalfi" (Beccce) (21703).
 Polydor Orchestra, "Aus Winkeln Und Gassen" (Hannemann) (21939).
 Paul Godwin's Quartet, "Intermezzo Russe" (Franke) (19457).
 Paul Godwin's Trio, "La Lettre de Manon" (Gillet) (19531).
 Ilja Livschakoff Orchestra, "The Land of Smiles" (Lehar) (27196).
 7.0 : News session.
 7.15: Talk—Mr. G. A. Holmes, under the auspices of 4YA Primary Produc-
 tions Committee, "Spring Manuring."
 8.0 : Chimes. Overture—Berlin State Opera Orchestra, "Italiana in Algeria"
 8.9 : Contralto—Miss Dorothy L. Stentford, (a) "Break, Break, Break"
 (Carey); (b) "I Know a Bank" (Shaw); (c) "Ave Maria."
 8.19: Trio—Messrs. A. H. Pettitt, de Rose and L. Hunter, "Samson et Delila."
 8.29: Bass—Mr. W. J. Kershaw, (a) "In Summertime on Bredon" (Peel);
 (b) "Down Here" (Brahe); (c) "Bois Epals" (Lully).
 8.38: Violin—Mons. de Rce, "Elegie" (Vieuxtemps).
 8.44: Soprano—Miss Evelyn Shepard, (a) "Fair Spring is Returning" (from
 "Samson and Delilah") (Saint-Saens); (b) "The Song of Autumn"
 (Elgar); (c) "Black-Petalled Roses" (Sibelius).
 8.52: Trio—Messrs. Pettitt, de Rose and L. Hunter, (a) "Spanish Dance"
 (from "Playera") (Granados); (b) "Allegro Mod." (from Trio,
 Op. 56) (Reissiger).
 9.0 : Evening weather report and station notices.
 9.2 : Lecture-recital, under the auspices of the Society of Professional Musi-
 cians of Otago, by C. Roy Spackman, assisted by L. Hunter (cello)
 —"Programme Music."
 9.30: Dance music session (Brunswick)—
 Foxtrots—Isam Jones's Orchestra, "Trees" (Kilmer) (4856).
 Earl Burnett and His Los Angeles Biltmore Hotel Orches-
 tra, "The Wedding of the Birds" (Tobias) (4926).
 Tom Gerun and His Orchestra, "You're Lucky to Me"
 (Razaf) (4916); "My Love for You" (Kahn) (4971).
 9.42: Waltz—Joe Green and His Orchestra, "Song of the Big Trail" (4978).
 Foxtrots—Tom Gerun and His Orchestra, "Rollin' Down the River."
 Jacques Renard and His Orchestra, "Three Little Words" (Kalmar).
 9.51: Vocal—Charles King, "Here Comes the Sun" (Freed) (4849).
 9.54: Foxtrots—Isam Jones's Orchestra, "Stardust" (Carmichael) (4856).
 Ozzie Nelson and His Orchestra, "Who's Calling You Sweet-
 heart To-night?" (O'Flynn) (4979).
 Nick Lucas and His Crooning Troubadours, "I Miss a Little
 Miss" (Seymour) (4987).
 Ozzie Nelson and His Orchestra, "And Then Your Lips Met
 Mine" (Nelson) (4979).
 10.6 : Waltzes—Regent Club Orchestra, "You Will Remember Vienna" (4975).
 Castlewood Marimba Band, "Drifting on to Avalon" (4930).
 10.12: Foxtrots—Colonial Club Orchestra, "On a Little Balcony in Spain."
 Jacques Renard and His Orchestra, "I Bring a Love Song."
 Nick Lucas and His Crooning Troubadours, "You're Driving
 Me Crazy" (Donaldson) (4987).
 10.21: Vocal—Chester Gaylord, "Confessin'" (Neiburg) (4871).
 10.24: Foxtrots—Tom Gerun and His Orchestra, "Cheerful Little Barful."
 Abe Lyman and His California Orchestra, "Never Swat a
 Fly" (De Sylva) (4924).
 Earl Burnett and His Los Angeles Biltmore Hotel Orchestra,
 "Say 'Oul,' Cherie" (Robinson) (4926).
 Colonial Club Orchestra, "Sing-Song Girl" (McCarthy).
 10.36: Vocal—Charles King, "Leave a Little Smile" (Dubin) (4849).
 10.39: Foxtrots—Tom Gerun and His Orchestra, "Memories of You" (Razaf).
 Abe Lyman and His California Orchestra, "Old-Fashioned
 Girl" (De Sylva) (4924).
 Loring "Red" Nichols and His Orchestra, "Embraceable You"
 10.48: Waltzes—Castlewood Marimba Band, "Ukulele Moon" (Davis) (4930).
 Joe Green and His Orchestra, "I'm Alone Because I Love
 You" (Young) (4978).
 10.54: Foxtrots—Tom Gerun and His Orchestra, "My Sweetheart Serenade."
 Jacques Renard and His Orchestra, "A Girl Friend of a
 Boy Friend of Mine" (Kahn) (4939).
 11.0 : God save the King.
- 2YB, NEW PLYMOUTH (1230 KILOCYCLES)—WEDNESDAY, JULY 29.
- 6.30 to 7.30 p.m.: Children's session.
 7.30 to 8 p.m.: Sports talks.

Thursday, July 30

1YA, AUCKLAND (900 KILOCYCLES)—THURSDAY, JULY 30.

- 3.0 : Chimes. Selected recordings.
 3.15: Talk—"Metals We Eat." Prepared by the Home Science Extension
 Service of Otago University.
 5.0 : Children's session, conducted by Skipper.
 6.0 : Dinner music session (Polydor)—
 Paul Godwin's Orchestra, "The Jolly Robbers" Overture (Suppe).
 (19490); "Stephanie—Gavotte" (Czibulka) (19488); "Feldblumen"
 (Westling) (21407); "Suite Ballet" (Popy), (1) Entree Mazurka;
 (2) Pizzicatti; (3) Valse Lente; (4) Largo; (5) Final Galop
 (19485/6); "Avant de Mourir" (Boulanger) (21407).
 H. G. Amers and the Eastbourne Municipal Orchestra, "Tarantelle."
 Paul Godwin's Orchestra, "Coppelia Ballet Fantasy" (Delibes).
 State Opera Orchestra, Berlin, "Othello Ballet" (Verdi) (66454); "La
 Dame Blanche" (Boieldieu) (66300); "Turkish March" (Mozart).
 Paul Godwin's Quintet, (a) "Popular Song"; (b) "Tale" (Komzak).
 7.0 : News and market reports.
 7.40: Talk, under the auspices of the New Zealand Manufacturers' Associa-
 tion, "Bricks, Tiles and Concrete."
 8.0 : Chimes. Concert by the Orpheus Musical Club.
 March—The Orchestra, "Invercargill" (Lithgow); Overture, "Hun-
 garian Lustspiel" (Kela Bela).
 8.13: Soprano—Mrs. Rewa Hipwell, (a) "Snowflakes" (Cowen); (b) "The
 Blackbird's Song" (Scott).
 8.18: Cornet and trombone—Messrs. Reg. Davies and Les. Clark, "The Gladi-
 ator" (Le Thiere, arr. Hume).
 8.23: Ballet music—The Orchestra, "Coppelia" (Delibes); Phantasy, "In a
 Chinese Temple Garden" (Ketelbey).
 8.32: Duet—Mrs. Rewa Hipwell and Mrs. L. E. Lambert, "Carmena."
 8.36: Suite—The Orchestra, "Americana" (Thurban); (a) March, "The
 Tiger's Tail"; (b) Serenade, "When Malindy Sings"; (c) Sketch,
 "The Water-Melon Fete."
 8.44: Contralto—Mrs. L. E. Lambert, (a) "Still as the Night" (Bohm); (b)
 "In My Garden" (Liddle).
 8.49: Piano—Mr. Harry Woolley, (a) "Jill's Bower" (Bendel); (b) "Etude
 in E Major" (Loeschorn); (c) "Irish Tune from County London-
 derry" (arr. Percy Grainger).
 8.56: Suite—The Orchestra, "Ballet Egyptien" (Luigini).
 9.5 : Evening weather forecast and announcements.
 9.7 : Humour—Mr. J. Finlayson, "Some Humour" (arr. Finlayson).
 9.12: March—The Orchestra, "The Vanished Army" (Alford).
 9.16: Soprano—Mrs. Rewa Hipwell, "Sognai" (Schira).
 9.20: The Orchestra, (a) "Tunelandia" (Thurban); (b) "American Patrol."
 9.30: Programme of Dance Music (Columbia)—
 Foxtrots—Ben Selvin and His Orchestra, "Around the Corner."
 Gil Dech and His Syncopators, "You Can't Be Unhappy if
 You Sing" (Barry) (DO166).
 Paul Specht and His Orchestra, "Santiago" (Stothart).
 Stellar Dance Band, "Minnie's Yoo-Hoo!" (W. Stalling).
 9.42: Waltz—The Four Bright Sparks, "Eleanor" (McCarthy Hanley).

- Foxtrots—Van Phillips and His Band, "Just Like in a Story Book."
 Gil Dech and His Syncopators, "Bridge of Our Dreams Come True" (Monk) (DO166).
 9.51: Vocal duet—Sweet and Low Duettists, "By the Waters of Killarney."
 9.54: Foxtrots—Ipana Troubadours, "Cooking Breakfast for the One I Love."
 Columbia Photo Players, "Leave It That Way" (Fisher).
 Ipana Troubadours, "Kickin' a Hole in the Sky" (Greer).
 Columbia Photo Players, "The Whole Darned Thing's For You" (Ahler) (DO127).
 10.6: Waltz—Frank Ferera's Hawaiian Trio, "Lazy Louisiana Moon."
 Foxtrots—Paul Specht and His Orchestra, "Into My Heart" (Ahler).
 The Four Bright Sparks, "High Society Blues" (McCarthy).
 10.15: Vocal—Cavan O'Connor, "The Sunshine of Marseilles" (Gilbert).
 10.18: Foxtrots—The Columbia Photo Players, "The Free and Easy."
 Frank Ferera's Hawaiian Trio, "Pale Blue Waters."
 Stellar Dance Band, "The Toy Farm-Yard" (Weston).
 Paul Whiteman and His Orchestra, "Livin' in the Sunlight."
 10.30: Waltzes—Stellar Dance Band, "I Feel You Near Me" (McCarthy).
 Foxtrots—The Columbia Photo Players, "It Must Be You" (Turk).
 Ben Selvin and His Orchestra, "With My Guitar and You."
 Paul Whiteman and His Orchestra, "You Brought a New Kind of Love to Me" (Fain) (07039).
 Stellar Dance Band, "A Pair of Blue Eyes" (Kernell).
 10.45: Vocal duet—Sweet and Low Duettists, "Just an Old Refrain."
 10.48: Foxtrots—Van Phillips and His Band, "I'm in the Market for You."
 Gil Dech and His Syncopators, "Johnnie, Our Aeroplane Girl" (Lumsdaine) (DO84).
 Debroy Somers Band, "Figaro" (Mitchell) (DO133).
 Gil Dech and His Syncopators, "A Lone Girl Flyer."
 11.0: God save the King.

2YA, WELLINGTON (720 KILOCYCLES)—THURSDAY, JULY 30.

- 10.0: Chimes. Selected gramophone recordings.
 10.45: Lecturette—"Cooking."
 11.37: Lecturette—"Conquest of Tuberculosis," under the auspices of the Health Department.
 12.0: Lunch-hour music.
 2.0: Selected recordings.
 2.30: A W.E.A. lecturette—Mr. A. E. Campbell, M.A., "Growing into Life."
 3.15: Lecturette—Miss I. F. Meadows, "Metals that We Eat," talk prepared by the Home Science Extension Department of the Otago University.
 3.30 and 4.30: Sporting results to hand.
 5.0: Children's session, conducted by Uncle George and Big Brother Jack.
 6.0: Dinner music session (H.M.V.)—
 Vienna Philharmonic Orchestra, "Morning, Noon, and Night in Vienna."
 New Light Symphony Orchestra, "Cavalleria Rusticana" Intermezzo.
 International Novelty Orchestra, "Gold and Silver" (Lehar) (Zono.).
 Victor Concert Orchestra, "Romance" (Tschalkowsky) (Zono. BF7).
 Philadelphia Symphony Orchestra, "Casse Noisette Suite" (Tschalkowsky): (a) "Miniature Overture," (b) "March," (c) "Dance of the Sugar Plum Fairy," (d) "Russian Dance," (e) "Arab Dance," (f) "Chinese Dance," (g) "Dance of the Flutes," (h) "Waltz of the Flowers" (D1214-16).
 Paul Whiteman and His Concert Orchestra, "Caprice Futuristic."
 New Mayfair Orchestra, "Sons o' Guns" Selection (C1982).
 New Light Symphony Orchestra, "Barcarolle" from "Tales of Hoffman" (Offenbach) (B2377).
 International Novelty Orchestra, "Emperor" (Strauss) (Zono. BF22).
 7.0: News session, market reports and sports results.
 8.0: Chimes. Concert by the Wellington Commercial Travellers and Warehousemen's Association Orchestra and Concert Party.
 Overture—The Orchestra, "Maritana" (Wallace).
 8.15: Tenor—Mr. G. Naylor, (a) "Serenata" (Toselli), (b) "You'll Remember Me" (Balfé).
 8.21: Prelude to a Japanese play—The Orchestra, "Vision of Fuji San" (Ketelbey); "Dance of the Little Robins" (Rayner).
 8.30: Chorus—Light Opera Company, (a) "Songs of England," (b) "Songs of Wales" (H.M.V. C2040).
 8.38: Instrumental—The Orchestra, "Melodie Solenne" (Ross).
 Flute and clarinet duet—"Lo! Here the Gentle Lark" (Bishop).
 Japanese intermezzo—The Orchestra, "Almond Blossoms" (Williams).
 8.49: Soprano—Mrs. Eileen Miller, "Carmena" (Wilson).
 8.53: Pianoforte duets—Misses V. Boesley and E. Roach, (a) "Caprice Hongroise" (Ketterer), (b) "Allegro" from "Hungarian Rhapsody No. 6" (Liszt).
 9.1: Evening weather report and station notices.
 9.3: Humour—Wm. McCullough, "The Presentation of Prizes" (MacLennan).
 9.11: Medley—The Orchestra, "A to Z" (Geiger).
 9.27: Tenor—Mr. G. Naylor, "Believe Me If All Those Endearing Young Charms" (Moore).
 9.31: Humorous selection—The Orchestra, "Potted Overtures" (Engleman).
 9.41: Soprano solo—Mrs. Eileen Miller, (a) "Bird Songs at Eventide" (Coates), (b) "An Emblem" (Thompson).
 9.47: Banjo—Harry Reser, (a) "Cracker Jack," (b) "Flapperette" (Reser).
 9.53: Selection—The Orchestra, "Life's Laughter" (Rust); march, "The Globe Trotters March" (Leopold).
 10.0: God save the King.

3YA, CHRISTCHURCH (980 KILOCYCLES)—THURSDAY, JULY 30.

- 3.0: Gramophone recital.
 3.15: Lecturette—"Metals We Eat." Talk prepared by the Home Science Extension Service of Otago University.

4.25: Sports results.

5.0: Children's hour.

- 6.0: Dinner music session (Columbia)—
 Charles Ancliffe and His Orchestra, "Ancliffe Waltzes" (Ancliffe).
 J. H. Squire's Celeste Octet, "Twilight on the Waters" (Squire).
 Gil Dech Ensemble, "Italian Nights" (Roberts) (01923).
 Menorah Symphony Orchestra, "Shulamith" Selection (Goldfaden).
 Organ—Quentin Maclean, "Lily of Laguna" (Stuart) (DO24).
 J. H. Squire's Celeste Octet, "Minuet Sicilienne" (Squire and Hart).
 Band of H.M. Grenadier Guards, "Country Dance" (German) (01329).
 Debroy Somers' Band, "Mister Cinders" Selection (Ellis and Myers).
 J. H. Squire's Celeste Octet, "The Piccaninnies' Picnic" (Squire).
 Organ—Quentin Maclean, "Little Dolly Daydream" (Stuart) (DO24).
 Ketelbey's Concert Orchestra, "The Clock and the Dresden Figures."
 J. H. Squire's Celeste Octet, "Minuet in D" (Mozart—arr. Willoughby).
 Ketelbey's Concert Orchestra, "Wedgewood Blue" (Ketelbey) (DOX21).
 Gil Dech Ensemble, "Valse Parisienne" (Roberts—arr. Barry) (01923).
 7.0: News session.
 7.30: Dialogue between Messrs. B. G. Goodwin and J. D. Carolin (Orchard Instructors), Department of Agriculture, "Seasonal Orchard Work" (First of Series).
 8.0: Chimes. Specially recorded international programme.
 Dr. Eugene Ormandy and His Salon Orchestra.
 International Singers.
 Abroad with the Lockharts.
 Weather forecast and station notices.
 International talk—Dr. Stanley P. Foster, "Chairman of International Relations Committee, Christchurch Rotary Club, "Personal Observations in Other Countries."
 Ambassadors of Melodyland.
 Hy-wide and Handsome.
 Nat Brusiloff and His Lido Venice Orchestra.
 God save the King.

4YA, DUNEDIN (650 KILOCYCLES)—THURSDAY, JULY 30.

- 2.45: Running description of Country Sub-Union's Football Match.
 God save the King.

Friday, July 31

1YA, AUCKLAND (900 KILOCYCLES)—FRIDAY, JULY 31.

- 3.0: Chimes. Selected recordings.
 3.15: Talk—Literary Selection.
 5.0: Children's session, conducted by Nod and Aunt Jean.
 6.0: Dinner music session (Columbia)—
 Bohemian Orchestra, "Love and Life in Vienna" (Komzak).
 Organ—G. T. Pattman, "Alice, Where Art Thou?" (Trdl.) (DO146).
 Berlin Philharmonic Orchestra, "Roses of the South" (Strauss).
 Band of H.M. Grenadier Guards, "Ivanhoe" Selection (Sullivan).
 Bohemian Orchestra, "Destiny Waltz" (Baynes) (Reg. G20775).
 Herman Finck and His Orchestra, "Melodious Memories" (DOX155).
 Plaza Theatre Orchestra, "A la Gavotte" (Finck) (01439).
 J. H. Squire's Celeste Octet, "La Serenata" (Braga) (9116).
 Venetian Players String Quintet, "Romanza" (Mozart—arr. Sear).
 Percy Pitt's Orchestra, "Raymond" Overture (Thomas) (DOX84).
 Plaza Theatre Orchestra, "Minuet" (Finck) (01439).
 Organ—G. T. Pattman, "Cinderella Waltz" (Pattman) (DO146).
 J. H. Squire's Celeste Octet, "Serenade" (Titl) (9116).
 7.0: News and market reports.
 7.30: Talk—Sports talk.
 7.40: Talk—Mr. R. A. Falla, M.A., "Some Common Birds" (under the auspices of the N.Z. Native Birds Protection Society).
 8.0: Chimes. Overture—Regal Cinema Orchestra, "King of Jazz" (Wayne).
 8.9: Baritone—Mr. Laurie Stuart, "Harlequin" (Sanderson).
 8.13: March—Orchestral Octet (under the direction of Harold Baxter), "War in the Air" (Olsen); ballet music, "The Punch Bowl."
 8.22: Mezzo-contralto—Mrs. Pearl Owen, (a) "I Wonder if Ever the Rose" (Larway); (b) "Homing" (Del Riego).
 8.28: Violin—H. Soloway, (a) "Valse Bluette" (Drigo); (b) "Caprice No. 1."
 8.34: The Orchestral Octet, (a) "Romance" (Sibelius); (b) "Prelude to a Japanese Play" (Ketelbey).
 8.45: Humour—Mr. Trevor Binns, "The Coward" (Service).
 8.50: Accordion solos—Mr. George Passek, (a) "Faust" Waltz (Gounod); (b) "Merry Widow" Waltz (Lehar).
 8.56: The Orchestral Octet, "Festal Dance" (Geehl).
 9.0: Evening weather forecast and announcements.
 9.2: Melodeon—The Melodeon Players, (a) "Belle of Bodensee" (Trdl); (b) "Evelina Mazurka" (D'Alba) (Reg. G20950).
 9.8: Baritone—Mr. Laurie Stuart, (a) "The Scarecrow" (Davies); (b) "Round the Galley Fire" (Oliver).
 9.14: The Orchestral Octet, "Song Celestial" (Severn); "A Creole Serenade."
 9.23: Mezzo-contralto—Mrs. Pearl Owen, (a) "What a Wonderful World it Would Be" (Lohr); (b) "The Silver Ring" (Chaminade).
 9.28: Accordion solos—Mr. George Passek, (a) "Kaiser Frederick" March (Hall); (b) "Donau Wellen Waltz" (Ivanovici).
 9.32: Humour—Mr. Trevor Binns, "Wait Until the Car Stops."
 9.40: Piano—Leslie Hutchinson, "Maurice Chevalier" Medley (Parlo. A4265).

9.48: Selection—The Orchestral Octet, "Sullivan's Songs" (arr. Henly).
10.0: God save the King.

2YA, WELLINGTON (720 KILOCYCLES)—FRIDAY, JULY 31.

10.0: Chimes. Selected gramophone recordings.
11.12: Lecturette—"Fashions."
12.0: Lunch session music.
2.0: Selected gramophone recordings.
3.30 and 4.30: Sporting results to hand.
5.0: Children's session, conducted by Uncle Jim.
6.0: Dinner music session (Polydor)—
Paul Godwin's Orchestra, "The Czarewitsch" (Lehar) (19378); "Kamputian's Wedding" (Translatour) (19360).
Paul Godwin's Orchestra, "Adoration" (Filippucci) (19378).
Great Symphony Orchestra, "The Gipsy Princess" (Kalman) (27172).
Paul Godwin's Orchestra with Organ, "Invocation" (Ganne) (19378).
Paul Godwin's Quintet, "Vision" (Drda) (19533).
Opera Orchestra, Berlin-Charlottenburg, "Si J'estais Roi" (Adam).
Paul Godwin's Orchestra, "Little Butterflies" (Steinke) (19660).
Paul Godwin's Quintet, "Chant D'Amour" (Franz-Drda) (19533).
Paul Godwin's Jazz Symphonians, "Lots of Fun" (Morena) (19761).
7.0: News session, market reports and sports results.
8.0: Chimes. Overture—2YA Orchestra (Conductor, Signor A. P. Truda), "Masaniello" (Alba).
8.8: Baritone—Mr. A. Wills, (a) "The Fairy Tales of Ireland" (Coates); (b) "Land of Delight" (Sanderson).
8.14: Mandolin duo—Nelson Brothers, (a) march, "Boston Ideal" (Seigel); (b) "Hawaiian Medley" (arr. Nelson Brothers).
8.21: Soprano—Madame Dorothy Cronin, with orchestral accompaniment, (a) "Just a-wearyin' for You" (Jacobs-Bond); (b) "Youth and Spring" (Steinel).
8.27: Humour—Mr. Will Yates, "Radio Advertising" (arr. Yates).
8.37: Concertina—Brigadier James Imrie, "National Airs" (arr. Imrie).
8.43: Baritone—Mr. A. Wills, "Lighterman Tom" (Squire).
8.47: Selection—2YA Orchestra, "Katja, the Dancer" (Gilbert).
9.0: Evening weather report and station notices.
9.2: Mandolin duo—Nelson Brothers, (a) "Roseland" (Klickman); (b) "Swingin' in a Hammock" (Wendling).
9.10: Soprano—Madame Dorothy Cronin, with orchestral accompaniment, (a) "Laugh and Sing" (Drummond); (b) "Down Here" (Brahe).
9.16: Concertina—Brigadier James Imrie, (a) "Largo" (Handel); (b) "Favourite Hymn Tunes" (arr. Imrie).
9.21: Selection—2YA Orchestra, "Songs of Italy" (Lohr).
9.30: Dance programme (Brunswick)—
Foxtrots—Hal Kemp and His Orchestra, "Medley of Southern College Songs" (4958).
Waltz—Carter's Orchestra, "Wednesday Night Waltz" (Williams).
9.42: Lloyd Huntley and His Isle o' Blues Orchestra, "Lonely" (Grey).
Ben Bernie and His Orchestra, "I Still Belong to You."
Lloyd Huntley and His Isle o' Blues Orchestra, "Gee, but I'd Like to Make You Happy" (Shay) (4937).
9.51: Vocal—Chester Gaylord, "What's the Use?" (Jones) (4928).
9.54: Foxtrots—Phil Spitalny's Music, "Maybe It's Love" (Mitchell) (4917).
Tom Gerun and His Orchestra, "Maybe I'm in Love with a Dream" (Gerun) (6057).
Tom Clines and His Music, "Why Have You Forgotten Wal-kiki?" (Kahn) (4832).
Phil Spitalny's Music, "Beyond the Blue Horizon" (Robin).
10.0: Vocal duet—Cotton and Morpheus, "Never Swat a Fly" (De Sylva).
10.9: Foxtrots—Six Jumping Jacks, "You're Simply Delish" (Freed) (4948).
Jacques Renard and His Orchestra, "Readin', Ritin', Rhythm" (Hartman) (4940).
Six Jumping Jacks, "It's a Great Life" (Robin) (4948).
Tom Gerun and His Orchestra, "I'm Happy When You're Happy" (Baer) (6057).
10.12: Waltzes—Bob Haring and His Orchestra, "One Love" (Koehler).
Castlewood Marimba Band, "Song of the Islands" (King).
10.24: Foxtrots—Jacques Renard and His Orchestra, "If I Knew You Better."
Tom Gerun and His Orchestra, "What a Fool I've Been."
Bob Haring and His Orchestra, "Baby's Birthday Party."
Castlewood Marimba Band, "Drifting and Dreaming."
10.36: Vocal—Chester Gaylord, "I'll be Blue, just Thinking of You" (4928).
10.39: Foxtrots—Tom Clines and His Music, "Passing Time With Me" (Hill).
Meyer Davis's Hotel Astor Orchestra, "It Seems to be Spring"
Tom Clines and His Music, "What's the Use of Living With-out Love?" (McCarthy) (4941).
Waltz—Carter's Orchestra, "The Waltz of the Hills" (Fields) (4935).
10.51: Foxtrots—Lloyd Huntley and His Isle o' Blues Orchestra, "Wond'ring."
Ben Bernie and His Orchestra, "You are the Melody" (4950).
Tom Gerun and His Orchestra, "After all You're all I'm After" (Newman) (4942).
11.0: God save the King.

3YA, CHRISTCHURCH (980 KILOCYCLES)—FRIDAY, JULY 31.

3.0: Gramophone recital.
4.25: Sports results.
5.0: Children's hour.
6.0: Dinner music session (Brunswick)—

Minneapolis Symphony Orchestra, "March Militaire" (Schubert).
A. and P. Gipsies Orchestra, "The Far Away Bells" (Gordon) (4442).
Brunswick Salon Orchestra, "Little Grey Home in the West" (Lohr).
Peter Biljo's Balalaika Orchestra, "Blowing Winds" (57005).
Minneapolis Symphony Orchestra, "Coppelia Ballet—Prelude and Mazurka" (Delibes) (50037).
Anglo-Persians Orchestra, "My Little Persian Rose" (Friedland).
New York Philharmonic Orchestra, "Artist's Life" Waltz (Strauss).
A. and P. Gipsies Orchestra, "Bohemian Romance" (4903).
Organ—Lew White, "Down South" (Myddleton) (4889).
Minneapolis Symphony Orchestra, "Prelude to 'Khowantchina'" (50153).
A. and P. Gipsies Orchestra, "Simple Confession" (Thome) (4442).
Cleveland Symphony Orchestra, "Shepherd's Hey"—a Morris Dance.
New York Philharmonic Orchestra, "Tales from the Vienna Woods."
Peter Biljo's Balalaika Orchestra, "The Wide Dniپر" (57005).
A. and P. Gipsies Orchestra, "My Memories" (4903).
Minneapolis Symphony Orchestra, "Dernier Sommeil de la Vierge."

7.0: News session.
7.30: Dialogue—Messrs. D. Cossgrove and W. Melbourne, "Radio Service."
8.0: Chimes. Overture—Classic Symphony Orchestra, "Raymond" (Regal).
8.8: Tenor—Mr. Russell H. Sumner with orchestral accompaniment, "Queen of the Earth" (Pinsuti).
8.12: March—Studio Octet, "The Fighting Ninth" (Strachan); overture, "Lustspiel" (Kela Bela).
8.20: Mezzo-contralto—Mrs. Anita Ledsham with orchestral accompaniment, (a) "Buy My Strawberries" (Oliver), (b) "Irish Folk Song."
8.26: Saxophone and piano novelty—Lyndon P. Christie and Olive Winston, "Childhood Days" (arr. Christie and Winston).
8.33: Conjuror—Mr. L. T. J. Ryan, "Tricks and Teasers" (arr. Ryan).
8.51: Baritone—Mr. Archibald Macquarrie, "Lea Rig" (tradit.).
8.55: Selection—Studio Octet, (a) "Back in the Hills of Colorado" (Smith), (b) walse, "All Alone" (Stothart), (c) "Ragamuffin Romeo."
9.2: Evening weather forecast and station notices.
9.4: Cello with organ—Hans Bottermund, (a) "Evening Song" (Schumann), (b) "Thou Art Repose" (Schubert) (Poly. 19971).
9.12: Tenor—Mr. Russell H. Sumner with orchestral accompaniment, (a) "Awake" (Pellissier), (b) "Love Beneath the Moon" (Drigo).
9.17: Male choir—Ural Cossacks, (a) "Das Gebet des Kosaken" (Kolatilin), (b) "Der Nordische Stern" (Glinka) (Poly. 19822).
9.25: Selection—Studio Octet, "Sally" (Kern).
9.36: Mezzo-contralto—Mrs. Anita Ledsham with orchestral accompaniment, (a) "Come, Lads and Lassies" (tradit.), (b) "The Bonnie Banks of Loch Lomond" (McKenzie).
9.42: Saxophone and piano novelty—Lyndon P. Christie and Olive Winston, "Palladium Medley" (arr. Christie).
9.49: Baritone—Mr. Archibald Macquarrie, with orchestral accompaniment, (a) "Myrra" (Clutsam), (b) "A Soldier's Song" (Mascheroni).
9.57: March—Maced Military Bands, "1001 March" (Blenkenburg) (Parlo).
10.1: God save the King.

4YA, DUNEDIN (650 KILOCYCLES)—FRIDAY, JULY 31.

3.0: Selected recordings.
5.0: Children's hour, conducted by Aunt Sheila.
6.0: Dinner music session (H.M.V.)—
Reginald King and His Orchestra, "Song o' My Heart" Selection.
Organ—Edward O'Henry, "Dream Lover" (Schertzinger) (B3428).
Marek Weber and His Orchestra, "Rustle of Spring" (Sinding).
Piccadilly Orchestra, "None but the Weary Heart" (Tschalkowsky).
Band of H.M. Coldstream Guards, "Faust" Selection (Gounod) (C1877).
Piccadilly Orchestra, "Friend o' Mine" (Sanderson) (B2857).
Marek Weber and His Orchestra, "The Beggar Student" (Millocker).
Organ—Edward O'Henry, "Just as We Used to Do" (Rulli) (B3428).
International Novelty Quartet, "Merry Widow" Waltz (Lehar).
Polydor String Orchestra, "In Indra's Land" (Lincke) (Poly. 19677).
Marek Weber and His Orchestra, "My Darling" Waltz (Waldeufel).
International Novelty Quartet, "The Veleta" (Morris) (Zono. 5587).
7.0: News session.
7.40: Talk by an Officer of the Department of Health.
8.0: Chimes. Overture—Grand Symphony Orchestra, "Zampa" (Herold).
8.9: Quartets—Select Four, (a) "The Parting Kiss" (Pinsuti), (b) "Cat and the Fiddle" (Smith).
8.16: Cello—Miss V. Moffatt, "Chanson Villageoise" (Popper).
8.22: Soprano—Miss L. de Clifford, (a) "Love's a Merchant" (Phillips), (b) "In the Garden of Your Heart" (Dorel).
8.28: Orchestral—Olshane's Orchestra with zimbala solo, "Unirea Romanilor" (Roumanian folk dance) (Moskow) (Bruns. 67112).
8.31: Bass—Mr. Edward Bond, (a) "Father O'Flynn" (Stanford), (b) "At Grendon Fair" (Marie).
8.37: Trio—Instrumental Trio, (a) "Betty Coe-ed" (Vallee), (b) "Fete de Lisette" (Byford), (c) "It Happened in Monterey" (Rose).
8.49: Quartets—Select Four, (a) "Come to the Fair" (Martin), (b) "Rosary" (Nevin).
8.56: Piano—Mrs. C. Drake, "Nocturne in G Major" (Chopin).
9.1: Evening weather report and station notices.
9.3: Paul Godwin's Orchestra, "Light Cavalry" (Suppe) (Poly. 19467).
9.7: Quartet—Select Four, (a) "Early One Morning" (Boughton), (b) "In Absence" (Buck).
9.14: Violin—Miss B. Garland, (a) "Gavotte" (Gossec), (b) "English Dance" (Dale).
9.20: Marimba—Green Bros. Marimba Orchestra, (a) "A Bunch of Roses" (Chapi), (b) "Wedding of the Winds" (Hall) (Zono. EE203).

- 9.26: Contralto—Miss M. Howden, (a) "John Anderson, My Jo" (Burns), (b) "Love's Garden of Roses" (Wood).
 9.33: Cello—Hans Bottermund, (a) "Tango," (b) "Foxtrot" (Bottermund).
 9.39: Instrumental trio, (a) "Destiny" (Baynes), (b) "Moon Moths" Nos. 1 and 2 (Kussner), (c) "Here Comes the Sun" (Freed).
 9.51: Tenor—Mr. J. E. Davies, (a) "Sweet Memories" (Evans), (b) "Mary."
 9.57: Orchestral—Olshane's Orchestra with zimbala solo, "Sarba Maracine" (Lithuanian folk dance) (Moskow) (Bruns. 67112).
 10.1: God save the King.

Saturday, August 1

1YA, AUCKLAND (900 KILOCYCLES)—SATURDAY, AUGUST 1

- 3.0: Chimes. Relay of description of Rugby Football Match from Eden Park
 5.0: Children's session, conducted by Cinderella.
 6.0: Dinner music session (H.M.V.)—
 Royal Opera Orchestra, "Faust" Ballet Music, 1st. to 4th. Movts.
 San Francisco Symphony Orchestra, "Rosamunde" Entr'acte (Schubert)
 National Symphony Orchestra, "Stradella" Overture (Flotow).
 Organ—Reginald Foort, "The Riff Song" (Romberg) (B2463).
 Philadelphia Symphony Orchestra, "Samson and Delilah"—Bacchanale.
 Victor Olof Sextet, "Cherry Ripe" (Scott) (B2697).
 Royal Opera Orchestra, "Faust" Ballet Music, 5th to 7th Movts.
 Organ—Reginald Foort, "The Desert Song" (Romberg) (B2463).
 Philadelphia Symphony Orchestra, "Damnation of Faust" (Berlioz).
 National Military Band, "Ballet Egyptien" (Luigini) (Zono. A354).
 National Symphony Orchestra, "Norma" Overture (Bellini).
 7.0: News and market reports.
 7.40: Talk—Mr. J. R. Turnbull, under the auspices of the New Zealand Association of Radio Transmitters, "Valves and Their Uses."
 8.0 Chimes. Overture—Marek Weber's Orchestra, "Lehariana" (Geiger).
 8.9: Baritone—Mr. J. A. Shanks, (a) "The Windmill" (Nelson); (b) "Off to Rio Janeiro" (Harry).
 8.15: Overture—Orchestral Octet, under the direction of Harold Baxter, "Sicilian Vespers" (Verdi).
 8.25: Humour—Miss Joyce Hould, "Gentle Art of Shopping" (Benny).
 8.31: Male quartet—The Four Aces, (a) "You'll Never Know, Sweetheart" (Coby); (b) "Moonlight on the Colorado" (King); (Reg. G20898).
 8.37: March—The Orchestral Octet, "Revue" (Czibulka); "Berceuse."
 8.44: Songs at the piano—Mrs. G. T. Brian, (a) "Rambling Down the Roadway" (O'Hagan); (b) "Swingin' in a Hammock" (O'Flynn).
 8.50: Two pianos with orchestra—Fairchild and Ranger, "Twinkletoes."
 8.53: Novelty—Horace Kenney, "A Music Hall Trial Turn" (Kenney).
 9.0: Evening weather forecast and announcements.
 9.2: Orchestra—The Orchestral Octet, "By Coral Reef" (Geehl); waltz, "Morning Journals" (Strauss).
 9.14: Baritone—Mr. J. A. Shanks, "Not Understood" (Houghton).
 9.18: Banjo—Michele Ortuso, (a) Lollipops" (Reser); (b) "Tassin' the Frets" (Collicchis) (H.M.V. B3651).
 9.24: Humour—Miss Joyce Hould, "Hoodoo McFiggins' Xmas."
 9.29: Intermezzo—The Orchestral Octet, "Aubade Printaniere" (Lacombe); orchestral, "Rowena" (Perlet).
 9.36: Songs at the piano—Mrs. G. T. Brian, (a) "Here Comes the Sun" (Freed); (b) "Confessin' That I Love You" (Nuburg).
 9.41: Selection—Orchestral Octet, "The Brazilian" (Romberg).
 9.50: Novelty—The Merry-makers, "The Merry-makers' Carnival."
 10.0: Programme of dance music (Polydor)—
 Foxtrots—Paul Godwin's Orchestra, "Dance of the Raindrops" (Evans).
 Ilja Livschakoff Dance Orchestra, "The Song of My Wife."
 Paul Godwin's Jazz Symphonians, "You are the Sweetest Girl in the World" (Heymann) (23040).
 10.9: Waltz—Ilja Livschakoff and His Dance Orchestra, "Beautiful Lady in the Moon" (Wiga) (22991).
 Foxtrots—Ben Berlin Dance Orchestra, "Kiss Me and Then Forget."
 Paul Godwin's Dance Orchestra, "Hokus Pokus" (German).
 10.18: Vocal—Sidney Burchall, "Bye and Bye" (Richard Rodgers).
 10.21: Tangos—Ilja Livschakoff Dance Orchestra, "A Little Love Longing."
 Jose Llossas and His South American Orchestra, "Pesares."
 Juan Llossas Original Argentin Tango Band, "Warum Charmante Frau" (Bauer) (23118).
 10.30: Waltz—Paul Godwin's Jazz Symphonians, "Love Waltz" (Heymann).
 Foxtrots—Ilja Livschakoff Dance Orchestra, "Perfidious Luck" (Mackeben) (23335); "I am Fondly Attached to You" (May) (23538); "Would You Give Me the Happiness of One Sweet Hour?" (Gilbert) (23333).
 10.42: Vocal—Sidney Burchall, "Here in My Arms" (Richard Rodgers).
 10.45: Tangos—Ben Berlin Dance Orchestra, "I Love You" (Schmidt).
 Ilja Livschakoff Dance Orchestra, "Come Down, Rosie."
 Juan Llossas' Original Argentin Tango Band, "Astoria."
 10.54: Foxtrots—Ilja Livschakoff and His Dance Orchestra, "There's Nothing Like Love" (Guttmann) (22991); "Troika Drive in the Moonshine" (arr. Benedict) (23480).
 11.0: Sporting results.
 11.10: God save the King.

2YA, WELLINGTON (720 KILOCYCLES)—SATURDAY, AUGUST 1

- 3.0: Relay of Rugby Football Match from Athletic Park.
 5.0: Children's session, conducted by Aunt Molly.

6.0: Dinner music session (H.M.V.)—

- International Concert Orchestra, "La Spagnola" Waltz (Di Chiara).
 Novelty Orchestra, "Passion Rose" (Lehar) (Zono. EE200).
 Berlin State Opera Orchestra, "German Dances" (Mozart) (D1624).
 Organ—Sydney Gustard, "Un Peu d'Amour" (Silesu) (B3318).
 Reginald King and His Orchestra, "The Song I Love" (Henderson).
 H.M. Coldstream Guards Band, "La Fille de Madame Angot."
 The London Palladium Orchestra, "Sunset" (Matt) (C1898).
 Vienna Philharmonic Orchestra, "Die Fledermaus" Waltz (Strauss).
 International Concert Orchestra, "My Treasure" Waltz (Becucci).
 Novelty Orchestra, "Midnight Bells" (Heuberger) (Zono. EE200).
 Organ—Sydney Gustard, "Poupee Valsante" (Poldini) (B3318).
 Reginald King and His Orchestra, "Garden in the Rain" (Gibbons).
 The London Palladium Orchestra, "Dawn" (Matt) (C1898).
 7.0: News session, market reports and sports results.
 7.40: Lecture—Mr. W. M. Jackson, "Gardening."
 8.0: Chimes. Overture—Regal Cinema Orchestra, "Show of Shows" (Col.).
 8.8: Baritone—Mr. Walter Brough, with orchestral accompaniment, (a) "Drake Goes West" (Sanderson), (b) "Love is Mine" (Gartner).
 8.14: Overture—Salon Orchestra (Conductor, Mr. M. T. Dixon), "Vienna Echoes" (arr. Tobani).
 8.22: Chorus—Parlophone Variety Company, "An Imaginary Broadcast."
 8.28: Novelty Trio—The Bridges Trio, xylophone, "Lebenslust" (Ramthor).
 guitars, "Moonlight on the Colorado" (King).
 8.37: Morceau—Salon Orchestra, (a) "Passepied" (Delibes), (b) "Pizzicato Blueette" (Lack).
 8.49: Songs at the piano—Miss Florence Penney, L.A.B., (a) "A Little Coon's Prayer" (Hope), (b) "Ma Curly-Headed Baby" (Clutsum).
 8.56: Band—H.M. Royal Horse Guards, "Gallantry" (Duo d'Amour) (Col.).
 9.0: Weather report and station notices.
 9.2: Suite—Salon Orchestra, "My Lady Dragonfly" (Finck).
 9.12: Baritone—Mr. Walter Brough, with orchestral accompaniment, (a) "Friend" (Davies), (b) "Casey, the Fiddler" (Wood).
 9.18: Novelty—Berlin Mandolin and Lute Band, (a) "Santiago" (Corbin), (b) "The Blue Danube" (Strauss) (Poly. 21623).
 9.24: Songs at the piano—Miss Florence Penney, L.A.B., (a) "Kissing Time" (from "Chu Chin Chow") (Norton), (b) "To My First Love" (Loehr), (c) "Her Greatest Charm" (MSS.).
 9.30: Violin—Mr. W. Haydock with orchestral accompaniment, "Melodie."
 Novelty for piano and strings—Mr. M. T. Dixon and Salon Orchestra, "Folk Tune and Fiddle Dance" (Fletcher).
 9.40: Male chorus—"Song of the Anvil" (Geibel) (Bruns. 3972).
 9.44: Novelty trio—The Bridges Trio, xylophone trio, "La Paloma" (Yradier); guitars, "Hoea Ra" (arr. Piripata).
 9.53: Dances—Salon Orchestra, "Three Dances" from "Hullo, America" (Finck); "Latest Dance Novelties."
 10.0: Dance programme (Polydor)—
 Foxtrots—Ilja Livschakoff Dance Orchestra, "And Swiftly the Days Pass By" (arr. Benedict) (23482); "The Gipsy Princess" (Kalmann) (23610); "Munich Kiddy" (Stolz Reisch) (23401).
 10.9: Waltz—Ilja Livschakoff Dance Orchestra, "My Love Song Must Be a Waltz" (Stolz) (23649).
 Foxtrots—Paul Godwin's Dance Orchestra, "Say That You Love Me."
 Ilja Livschakoff Dance Orchestra, "The Whole World is Sky Blue" (Stolz) (23649).
 10.18: Vocal (Spanish)—Juan Llossas with His South American Orchestra, "La Cigarra" (Paredes) (P40488).
 10.21: Tangos—Ilja Livschakoff Dance Orchestra, "Don't Leave Me!" (arr. Benedict) (23482); "To-night I've Dreamt of You" (Kalmann) (23610); "You Are My Morning and Night Prayer" (Krauss).
 10.30: Waltz—Paul Godwin's Dance Orchestra, "Under the Fools of Paris."
 Foxtrots—Paul Godwin's Dance Orchestra, "Fair Little Daisy" (23651).
 Ilja Livschakoff Dance Orchestra, "Love and Wine Never Alone" (Krauss) (23569); "The Barrel Organ" (23481).
 10.42: Vocal (Spanish)—Juan Llossas with His South American Orchestra, "Sonare Abandonado" (Paredes) (P40488).
 10.45: Tangos—Ilja Livschakoff Dance Orchestra, "A Love Letter" (arr. Michaeloff) (23481); "Just a Bit of Love" (Rosen) (23547); "And Once You Too Will Deceive Me" (Stolz) (23578).
 10.54: Foxtrots—Ilja Livschakoff Dance Orchestra, "You Are My Greta Garbo" (Stolz) (23401).
 Paul Godwin's Dance Orchestra, "Mariner's Song" (Uher).
 11.0: Sporting summary.
 11.10: God save the King.

3YA, CHRISTCHURCH (980 KILOCYCLES)—SATURDAY, AUGUST 1

- 2.50: Relay of Running Description of Rugby League Football.
 5.0: Children's hour.
 6.0: Dinner music session (H.M.V.)—
 The London Orchestra, "Valse Memories" (arr. Somers) (Zono. 5267).
 Organ—Jesse Crawford, "La Borrachita" (Fernandez Esperon).
 Symphony Orchestra, "L'Amour Sorcier" (De Falla) (D1453).
 Piccadilly Orchestra, "The Waltz Dream" (Strauss) (B2684).
 Marimba Band, "Morales Lopez" (Bolanos) (EE207).
 Royal Opera Orchestra, "Prelude, 'The Huntress'" (from "Sylvia Ballet"—Delibes) (C1417).
 Band of H.M. Coldstream Guards, "The Geisha" (Jones) (C1703).
 Marek Weber and His Orchestra, "Menuett No. 1" (Paderewski).
 Organ—Jesse Crawford, "I Loved You Then as I Love You Now."
 Salon Orchestra, "Aloha Sunset Land" (Kawelo) (B2581).

- Symphony Orchestra, "La Vida Breve" (De Falla) (D1453).
 Marek Weber's Orchestra, "Cœur Brise" (Gillet) (B3026).
 Salon Orchestra, "Chanson Bohème" (Boidi) (B2581).
 Marimba Band, "Agua Dormides" (Bolanos) (EE207).
 Band of H.M. Coldstream Guards, "The Belle of New York" (Kerker).
 7.0 : News session.
 7.30 : Sports results.
 8.0 : Chimes. Relay of 4YA Dunedin programme.
 10.0 : Dance music session (Polydor).
 Foxtrots—Ilja Livschakoff Dance Orchestra, "Happy Go Lucky" (arr. Michaeloff) (23483); "The Day Will Come When Roses Are Aglow" (Stolz) (23743).
 Waltzes—Paul Godwin's Dance Orchestra, "Darling, Your Mouth Is Music to Me" (Hollander) (23728).
 Ilja Livschakoff Dance Orchestra, "Times Will Change."
 10.12 : Tangos—Juan Llossas and His Orchestra, "Twilight" (Bianco). (22984); "La Cumparsita" (Rodriguez) (P40529); "Breezes from the Andes" (Porschmann) (22984).
 10.21 : Vocal—Layton and Johnstone, "One Night Alone With You" (Col.).
 10.24 : Foxtrots—Ben Berlin's Dance Orchestra, "I Think of Mady" (23730).
 Ilja Livschakoff Dance Orchestra, "My Dear Old Aunty."
 Waltzes—Ilja Livschakoff Dance Orchestra, "Sweet Are Your Looks, Oh Peppina" (Stolz) (23743).
 Hawaiian Orchestra, "It Happened in Monterey" (Rose).
 10.36 : Tangos—Ben Berlin's Dance Orchestra, "You Are Not the First One."
 Ilja Livschakoff Dance Orchestra, "Beautiful World" (Lehar).
 Foxtrot—Ilja Livschakoff Dance Orchestra, "I Am So Happy To-day."
 10.45 : Vocal—Layton and Johnstone, "Bye Bye, Blues" (Hamm) (Col.).
 10.48 : Foxtrots—Ilja Livschakoff Dance Orchestra, "In a Little Bar" (Lehar) (23729); "On the Banks of the Stream" (arr. Benedict) (23483).
 Waltz—"On the Shores of the Blue Sea" (arr. Benedict) (23484).
 Foxtrot—Paul Godwin's Dance Orchestra, "Incidental Flirtation."
 11.0 : God save the King.

4YA, DUNEDIN (650 KILOCYCLES)—SATURDAY, AUGUST 1.

- 2.45 : Relay of Country Sub-Union's Rugby Match.
 3.0 : Children's hour, conducted by Aunt Anita.
 4.0 : Dinner music session (Columbia).
 Columbia Symphony Orchestra, "March of the Toys" (Herbert).
 Court Symphony Orchestra, "Destiny Waltz" (Baynes) (564).
 New Queen's Hall Light Orchestra, "Petite Suite de Concert": (a) "Un Sonnet D'Amour," (b) "La Tarantelle Fretilante" (02589).
 Columbia Symphony Orchestra, "The Flatterer" (Chaminade) (01371).
 Halle Orchestra, "Rosamunde Ballet Music" (Schubert): (a) "Andantino," (b) "Allegro Moderato and Andante" (04200).
 J. H. Squire's Celeste Octet, "Memories of Mendelssohn" (02838).
 Berlin State Orchestra, "Wiener Blut Waltz" (Strauss) (04337).
 New Queen's Light Orchestra, "Petite Suite de Concert" (Coleridge Taylor): (a) "La Caprice," (b) "Demande et Response" (02588).
 H.M. Grenadier Guards Band, "Martial Moments" (arr. Winter).
 7.0 : News session.
 7.40 : Talk—Mr. P. L. Ritchie, President of Otago Tramping Club, "Out in the Open."
 8.0 : Chimes. Overture—Herman Finck and His Orchestra, "Melodious Memories" (arr. Finck) (Col. DOX154).
 8.9 : Baritone and chorus—The Majors, "Hello! Hello!" (Hirsch).
 8.16 : Selection—Instrumental Quintet, "Bing Boys are Here" (Ayer).
 8.26 : Humour—Mr. Lester F. Moller, "Bertram Addresses the Tenants."
 8.32 : Guitar—Palakalko and Paaluh, (a) "Maria Mari," (b) "O Sole Mio."
 8.38 : Quartet—The Majors, "Hope Will Banish Sorrow" (Bennett).
 Soprano and chorus—Miss Freda Elmes with Chorus, "If You Look in Her Eyes" (Hirsch).
 8.44 : Selection—Instrumental Quintet, "Cabaret Girl" (Kern).
 8.54 : Tenor and quartet—The Majors, (a) "Going Up," (b) "Down! Up!"
 9.0 : Evening weather report and station notices.
 9.2 : Orchestral—Arthur Rosebery's Band, "Wonder Bar" (Katscher).
 9.10 : Contralto and chorus—Miss G. Burt and Chorus, "The Tickle Toe."
 9.14 : Selection—Instrumental Quintet, (a) "Have a Little Faith in Me" (Lewis); (b) "Happy Days in Dixie" (Bidgood).
 9.24 : Humour—Mr. Lester F. Moller, "Desperate Remedies" (Thomas).
 9.29 : Novelty—Original Marimba Band, (a) "Sunshine of Spain" (Alfonso); (b) "Fairy Doll Waltz" (Bayer) (Parlo. A3063).
 9.35 : Duet—Miss Freda Elmes and Mr. E. W. Robbins, "Kiss Me" (Hirsch).
 9.39 : Selection—Instrumental Quintet, (a) "In Old Manila" (Earl); (b) "Granny" (Akst).
 9.46 : Chorus—The Majors, (a) "A Brand New Hero" (Hirsch).
 9.50 : Piano novelties—Mr. A. H. Pettitt, (a) "The Clock and the Dresden Figures" (Ketelbey); (b) "Sunday Morning Blues" (Lowry).
 9.56 : Quartet—The Majors, "Finale" (Hirsch).
 10.0 : Dance music session (Polydor).
 Foxtrots—Marimba Original Excelsior de Guatemala, "Hula, Tropical."
 Ilja Livschakoff Dance Orchestra, "I am so Happy" (May).
 Paul Godwin's Dance Orchestra, "Just Such a Girl" (23398).
 10.9 : Waltz—Paul Godwin's Dance Orchestra, "Pardon, Madame" (23398).
 10.12 : Foxtrots—Marimba Original Excelsior de Guatemala, "Llorando."
 Paul Godwin's Orchestra, "Victoria and Her Hussar" (Abraham) (23399); "The Broken Record" (Howalt) (23176).
 10.21 : Vocal—Don and Ken, "Sunny Days" (Jason) (Parlo. A3106).
 10.24 : Tangos—Ilja Livschakoff Dance Orchestra, "O, Miss Daisy" (23698).
 Paul Godwin's Dance Orchestra, "Poor Little Mannequin."

- Ilja Livschakoff Dance Orchestra, "Queen of Dreams."
 10.33 : Waltzes—Paul Godwin's Dance Orchestra, "Under the Roofs of Paris" (Moretti) (23644); "Good Night!" (Abraham) (23398).
 10.39 : Vocal—Don and Ken, "Roamin' Thru' the Roses" (O'Flynn).
 10.42 : Foxtrots—Ben Berlin and His Orchestra, "Fairly on the Clock" (Myers).
 Paul Godwin's Dance Orchestra, "Mickey Mouse" (23176).
 Ben Berlin and His Orchestra, "Clown Dolly" (Rust).
 10.51 : Tangos—Ilja Livschakoff Dance Orchestra, "Don't You Want a Friend, Little Madam?" (Meisel) (23334).
 Paul Godwin's Dance Orchestra, "Thus Spoke the Knowing Marabu" (Egen) (23397); "A Sweetheart as Sweet as You Are" (Meisel) (23334).
 11.0 : God save the King.

2YB, NEW PLYMOUTH (1230 KILOCYCLES)—SATURDAY, AUGUST 1.

- 2.50 to 4.30 p.m. (approx.): Sports relay.
 6.30 to 7.30 p.m.: Children's session.
 7.30 to 8.0 p.m.: Sports results and talks.
 8 to 10 p.m.: Concert and dance programme, with sports results.

Sunday, August 2

1YA, AUCKLAND (900 KILOCYCLES)—SUNDAY, AUGUST 2.

- 3.0 : Chimes. Selected recordings and relay of portion of the Organ Recital from the Auckland Town Hall by the City Organist, Mr. Maughan Barnett.
 6.0 : Children's Song Service, conducted by Uncle Bert.
 7.0 : Relay of Evensong from St. Mary's Cathedral. Preacher, Canon Wm. Fancourt. Organist and Choirmaster, Mr. Edgar Randall.
 8.30 : Relay of Municipal Band Concert from the Auckland Town Hall, under the conductorship of Mr. George Buckley.
 March—The Band, "Tarifa" (Stopford): overture, "Martha" (Flotow).
 Cornet duet—Messrs. F. Bowes and J. Davies, "The Swiss Boy."
 Symphony—The Band, "Symphony No. 1" (Beethoven).
 Flute—Mr. Hal C. McLennan, "The Wren in the Poplars" (Adams).
 Rhapsodie—The Band, "Hongroise No. 6" (Liszt).
 Selection—Band, "Supplication" (Baynes).
 Synopsis—"By Babylon's Wave" (Gounod); "The Better Land" (Cowen); "Lead Kindly Light" (Sullivan); "Hear My Prayer" (Mendelssohn); "Abide With Me" (Liddle).
 10.0 : God save the King.

2YA, WELLINGTON (720 KILOCYCLES)—SUNDAY, AUGUST 2.

- 3.0 : Afternoon session of selected gramophone recordings.
 6.0 : Children's Song Service, conducted by Uncle George, and assisted by the Children's Choir from the Cambridge Terrace Congregational Church.
 7.0 : Relay of Evening Service from the Terrace Congregational Church. Preacher, Rev. H. W. Newell. Organist and Choirmaster, Mr. Harry Brusey.
 8.15 (approx.): Relay of Band Recital by Wellington Municipal Tramways Band from St. James Theatre (Conductor, Mr. E. Franklin).

3YA, CHRISTCHURCH (980 KILOCYCLES)—SUNDAY, AUGUST 2.

- 3.0 : Gramophone recital.
 3.30 : Children's song service.
 6.15 : Chimes from studio.
 6.30 : Relay of Evening Service from Holy Trinity Anglican Church, Avonside. Preacher, Rev. O. Fitzgerald. Organist and Choir Conductor, Mr. Arthur Lilly, A.R.C.O.
 7.45 : Musical recordings from studio.
 8.15 : Studio programme. Selection—Victor Olof Salon Orchestra, "Grieg Selection" (arr. Urbach) (Parlo. A4250).
 8.23 : Male quartet—The New Lyric Four, (a) "Song of the Bow" (Aylward); (b) "In Absence" (Dudley Buck); (c) "Love's Old Sweet Song."
 8.36 : Instrumental—Studio Octet (Harold Beck, Conductor), (a) "Hungarian March" (Berlioz); (b) "Overture—Italians in Algeria."
 8.48 : Baritone—Mr. R. Lake and Male Chorus, with orchestral accompaniment, "The Old Superb" (from "Songs of the Sea") (Stanford).
 8.52 : Soprano—Miss Frances Hamerton, with octet accompaniment, recitative, "Open Unto Me the Gates"; aria, "I Will Extol Thee" (Costa).
 8.57 : Cello—Edmund Kurtz, (a) "Mazurka," (b) "Minuet in D Major."
 9.3 : Evening weather forecast and station notices.
 9.5 : Instrumental—Studio Octet, (a) "Preamble," (b) "A Norfolk Tune," (c) "Jig" (Cunningham Woods).
 9.12 : Tenor—Mr. S. J. Andrews, with orchestral accompaniment, "The Promise of Life" (Cowen).
 9.16 : Male quartet—The New Lyric Four, (a) "Stars of the Summer Night" (Cruikshank); (b) "Rocked in the Cradle of the Deep" (Knight).
 9.22 : Violin—Alexander Sebald, (a) "Military Caprice No. 4" Paganini-Sebald; (b) "Obertass Mazurka" (Wieniawski) (Bruno. 4225).
 9.28 : Soprano—Miss Frances Hamerton, with orchestral accompaniment, "A Je Veux Vivre" (Waltz Song from "Romeo and Juliet") (Gounod).
 9.33 : Instrumental—Studio Octet, (a) "La Fenetre D'Amour" (De Severac); (b) "Tempo di Minuetto" (Beethoven); (c) "Spanish Dance."

- 9.44: Bass—Mr. W. J. Richards, with orchestral accompaniment, "King Charles" (M. V. White).
 9.48: Male quartets—The New Lyric Four, negro spiritual, (a) "Steal Away to Jesus" (Tradl.); (b) part song, "Lullaby" (Brahms).
 9.52: Selection—Creator's Band, "Aida," Act 2 (Verdi): (a) "Introduction and Moorish Ballet," (b) "Grand March and Finale" (H.M.V.).
 10.0: God save the King.

4YA, DUNEDIN (650 KILOCYCLES)—SUNDAY, AUGUST 2.

- 3.0: Selected recordings.
 5.30: Children's Song Service, conducted by Big Brother Bill.
 6.15: Selected recordings.
 6.30: Relay of Evening Service from Knox Presbyterian Church. Preacher, Rev. D. C. Herron, M.A. Choirmaster, Mr. C. Roy Spackman.
 7.45: Selected recordings.
 8.15: Relay of concert programme from 3YA, Christchurch.
 10.0: God save the King.

2YB, NEW PLYMOUTH (1230 KILOCYCLES)—SUNDAY, AUGUST 2.

- 6.0 to 6.45: Children's Sunday Service.
 8.15 to 10.0 p.m.: Concert programme.

Programme Features

(Continued from page 19.)

Christchurch Notes

THE "Radio Service" dialogues by Messrs. Cosgrove and W. Melbourne will be continued this evening. Miss Anita Ledsham will contribute four popular songs: "Buy My Strawberries," "Irish Folk Song," "Come, Lads and Lasses" and "The Bonny Banks of Loch Lomond," while Mr. L. T. J. Ryan will entertain for fifteen minutes with "Tricks and Teasers," a radio conjuring turn. Saxophone and piano novelty items will be played by Mr. Lyndon P. Christie and Miss Clive Winston. The instrumental portion of the concert will be provided by the Studio Octet, under Mr. Harold Beck.

Dunedin Features

UNDER the auspices of the Department of Health, a talk will be broadcast at 7.40 p.m. Some very fine quartets will be sung by the Select Four in the evening.

SATURDAY

Auckland Notes

THE second series of radio talks, under the auspices of the N.Z.A.R. Transmitters' Association, will be given at 7.40 p.m. by Mr. J. R. Turnbull, of ZL1B1, on "Valves and Their Uses." There will be a miscellaneous week-end concert from 1YA. Mr. J. A. Shanks, baritone, who made a splendid impression on his first appearance at this station, will be singing, and Miss Joyce Hould, the well-known elocutionist, will be heard in two humorous numbers. A new artist to perform will be Mrs. G. T. Brian, a very versatile lady, who is giving several songs at the piano. The Orchestral Octet will be heard in numbers which are sure to be popular.

Wellington Features

A TALK on "Gardening" will be given by Mr. W. M. Jackson at 7.40. A programme will be presented from the studio at 8 o'clock. The Salon Orchestra, under Mr. M. T. Dixon, will play the overture "Vienna Echoes," arranged by Tobani, the suite "My Lady Dragonfly" by Finck, while Mr. W. Haydock will play a violin solo with orchestral accompaniment, "Melodie,"

by Tchaikowsky. The orchestra will be heard in a novelty number for piano and strings, "Folk Tunes and Fiddle Dance" by Fletcher, "Three Dances" from "Hullo America," by Finck, and the latest dance novelties.

A feature of the programme will be the Bridges' Trio, a combination of clever young players from Wanganui. They are experts on xylophone and guitars, and have appeared before the microphone at all the leading broadcasting stations in Australasia. They will be heard in the selections "La Paloma" and "Lebenslust," played as xylophone trios, and "Moonlight on the Colorado" and "Rosa Ra," as guitar duos, with piano accompaniment.

Mr. Walter Brough, baritone, a well-known and popular singer from 1YA, will make his first appearance at 2YA. Miss Florence Penney, L.A.B., will feature popular songs at the piano.

Dunedin Notes

"OUT in the Open" will be the title of a talk to be given by Mr. P. L. Ritchie, president of the Otago Tramping Club.

A very popular musical play, "Going Up," will be featured at 4YA and relayed to 3YA, when all the principal vocal numbers, in solo and concerted form, will be sung by "The Majors."

Humorous numbers will be contributed by Mr. Lester F. Moller, and light instrumental music will be added to the programme by a quintet under Mr. A. H. Pettitt. Piano novelties will be contributed by Mr. Pettitt.

2YA Church Committee

THE 2YA Church Service Committee met on Tuesday, July 7, there being present: Revs. C. V. Rooke (chairman), T. R. Richards (Methodist), R. J. Howie (Presbyterian), Pastor W. G. Carpenter (Church of Christ), Mrs. D. Basham, Mr. J. Ball.

The Rev. E. N. Goring advised that the Rev. L. J. Boulton Smith, the new minister at Vivian Street Baptist Church, would succeed him as representative on the committee. The committee passed a resolution appreciative of Mr. Goring's services.

The question of rearranging dates on the church broadcast rota was discussed, and it was decided to make no change. The present rota for the children's sessions was also approved for the coming year.

How the Valve Grew Up

(Continued from page 3.)

York. McCandless's became the first valve plant. His men, skilled glassblowers that they were, made the early audions, which were sold mainly to wireless experimenters for use as a detector. The audion was supplied with a wooden cabinet containing flashlight batteries for the "B" circuit, and with binding-posts and switches for the necessary connections. According to one of our early advertisements: "The audion detector is operated by heated gases, employs a local battery and is complete with switches, batteries, rheostat and necessary connections. It is fully protected by U.S. patents Nos. 879,532, 979,275 and others granted to Dr. Lee De Forest and held by the Radio Telephone Company. It is pronounced by experts to be the very best detector obtainable anywhere. Renewal audion bulbs may be secured, in exchange for old or broken ones, for 3.50 dollars or 5.00 dollars each. All valves are tested before shipment, but the 'X' or 5.00 dollar bulbs are tested for the maximum possible sensitivity. With the audion you can easily

The Children's Radio Hour

*Sunday evening in the country,
 clouds unfold their silvery wings
 O'er blue bays, while near the path-
 way goldenly a bellbird sings.*

*Glowing sunbeams change the float-
 ing thistledown to fairy flocks,
 Where the everlasting daisies kneel
 beside the lichen'd rocks.*

*But more sweet than elfin music
 stealing through the balmy air,
 Sound the children's voices prais-
 ing God, who made the world so
 fair.*

—Midsummer.

increase your range from 50 to 100 per cent."

Our first audions made use of tantulum filaments. Usually a double-loop filament was employed, with three pigtail leads, so that one or the other loop might be used. When one loop or filament burned out, another was still available, thereby giving the short enough life of those audions a double span, so to speak. The valves were quite gassy. The plate voltage had to be delicately adjusted so as to be set at the most critical value. If increased beyond a given point, the valve would suddenly light with a purplish glow, and the signals would become garbled.

In time, the audion came into use for telephone purposes. It was in 1915 that the American Telephone and Telegraph Company, employing the De Forest amplifier, inaugurated the first transcontinental telephone services between New York and San Francisco. The same year that organisation, using my "oscillions," or oscillating audions, made successful wireless telephone tests between Arlington, Va., and the Eiffel Tower in Paris, and again with Pearl Harbour, in Hawaii. So thoroughly convinced were wire and wireless men of the value of the audion or three-element valve

that the device received no end of research and engineering development. In 1917 I entered into an agreement with the American Telephone and Telegraph Company, whereby that organisation secured certain rights under the audion patents and whereby sufficient audions might be made available to the Army and Navy for radio communication during the World War. The telephone company, in turn, re-licensed others to make and use the audion, so that to-day every reputable valve manufacturer is a re-licensee under the DeForest audion patents.

Until the dawn of broadcasting, vacuum valves were made by means of more or less laboratory equipment. The relatively small volume of production could be cared for by glassblowers, with a minimum of machinery. The existing lamp-making machinery was found ample, particularly since the tolerances for vacuum tubes were fairly wide. The prices asked for valves were such that they could be made piecemeal and without much regard for cost.

But with the inauguration of broadcasting and the sudden demand for valves by the public at large, the making of vacuum valves became a real industry. No longer was it a question of supplying thousands of valves. Rather, it was a matter of supplying millions of valves to operate the sets in millions of homes. For the first year or two of broadcasting there existed a market shortage of valves. There were times when the list prices meant nothing as regards a maximum. Valves often actually sold at a premium, because of the greater demand than supply.

By degrees, the valve industry geared itself to the demands. Automatic equipment was installed in the better plants. The skilled glassworker was replaced by the automatic machine, with its batteries of blue gas flames, its mechanical arms and fingers, and its constant merry-go-round operation for continuous production. Girl operators came into the industry, mounting and spot-welding the metal parts in place on the glass stem, and loading and unloading the automatic machines, followed by testing, inspection, wrapping and packaging. If one will glance at an early DeForest audion, with elements spaced 1/4-inch or more apart, then at the first 201 valve of early broadcasting days, and again at the present -27 heater type a.c. valve, and the more complicated four-element valves, one is immediately struck with the growing delicacy of valve construction. The greater accuracy of automatic machinery made possible closer tolerances and more accurate valves.

(With acknowledgments to "Radio News.")

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The "Radio Log" is the Official Organ of the D.X. Club, but will contain a wealth of information to radio enthusiasts generally. It is not a technical magazine, so do not be afraid of not being able to understand its contents. Space will be devoted to the views of listeners, and if the D.X. pages of the "Record" are any guide, this will be a popular section. Further, announcements and information concerning the popular D.X. Competition at present being conducted in the "Radio Record" will be largely transferred to the "Radio Log." This policy will commence with the first issue of the latter, which will contain details of the results of the recently closed D.X. competition. There is also a good list of American stations.

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Short-wave News

Moscow—50 Metres.

MR. W. BRIDEN JONES, N.Z., 17, W. (Palmerston North), has just received a "QSL" from the Russian station on 50 metres, which comes in so well every morning. The address is: "Central Radio Station, Palace of Labour, Solianka 12, Moscow, U.S.S.R." The main station transmits on 1304 metres (230 kilocycles), and the short-wave station on 50 metres (6000 kilocycles), with an aerial power of 100 kilowatts (no wonder reception is good). They transmit in German, Spanish and Dutch, as well as Russian, from 23.00 Moscow time, and in French and English from 24.00 Moscow time. This is 7.30 a.m. and 8.30 a.m. New Zealand time.

G2NM, England.

THIS station is on the air every Monday from 4 a.m. to 6.30 a.m., and again from 10.30 a.m. to 12.30 p.m., N.Z. time, on a wavelength of 20.95 metres.

LSX, Buenos Aires.

THE Buenos Aires short-wave station, LSX, which was well received here a few weeks ago, has now suspended regular broadcasts, but may be heard at irregular times on 28.89 metres.

VE9CS, Canada.

THIS short-wave station operating on 49.42 metres, is owned by the United Churches of Canada. Their schedule is Fridays from 4.30 p.m. till 6 p.m., and Mondays, 6 a.m. to 12 noon, and 3 p.m. to 5.30 p.m., N.Z. time. The power used is usually 50 watts, but sometimes 100 watts. Reports of reception are invited, to be forwarded to Station VE9CS, 734 Davie Street, Vancouver, British Columbia, Canada.

FOR SALE OR EXCHANGE

The rate for small advertisements under this heading is 1/6 cash for 20 words, and twonence for every other word thereafter.

FOR SALE—5-Valve Harkness Screen-Grid Battery Set; single dial control, with all valves except two screen-grid; snip. £4/10/-.

FOR SALE — Pilot Power-pack, K111D, output 60 mills. at 220 volts, with these other outputs 180, 135, 90, 45; filament voltages 5, 2½ and 4 volts, and spare 230 valve. About two months' use; cheap. £7/10/-. Harford, Milne Street, Hunterville.

Parts Price List of "KESTREL THREE"

Ebonite Panel, 14in. by 7in. x 3-16, 3/4 each. Three-ply Baseboard, 14in. x 7in., with quarter-inch slats to raise it, to protect under baseboard wiring, 1/6. Aluminium Screening Box, 7in. x 5in. x 6in., open on two sides and top, 4/6. .00035 Variable Condensers, 5/- each, and Former, 7/-. Vernier Dials, 4/3, 4/6 Wormgear Drive 160-1, 8/6 each. .00025 Differential Condenser, 5/6, 7/6. 30 Ohms Rheostat, 2/6. 400 Ohms Baseboard Mounting Potentiometer, 5/6. Filament Switch, 1/3 and 1/6. .0001 Condensers with Grid-leak Clips, 1/6 and 1/9. .0002 Condenser, 1/6. 2 Megs. Grid-leak with Holder, 1/3. 10 Megs. Grid-leak, 1/6. UX Sockets or 3 UX and 2 English, UX Sockets, .5 mfd. By-pass Condenser, 500 Test, 2/6 each. .05 By-pass Condenser. Midget Condenser, 4/-, 4/6. Push-pull Battery Switch, 1/3. Transformer, ratio 3½ — 4.1, 10/6, 12/6, 16/6. Single Output Jack, 1/6. R.F. Choke, 3/6 and 4/6. Terminals with Short Terminal Strip, 3d. and 4d. each. Armoured Cable, 3d. Special Coils for Broadcast or two four-inch lengths of 2in. Former, 8d. 26-d.s.c. Wire, 2/-, 30 gauge d.s.c. Wire, 6d. Wire Battery Cable, 7-Wire, 6d a ft.

BOB HORROBIN'S

QUICK REPAIRS

PHONE 22-257.

8 Courtenay Place, Wellington.

NEW and BETTER VALVES

(Continued from page 7.)

tune in the local station without overloading, but then we would not have sufficient amplification for the distant stations. Furthermore, the rate of current would be excessive. Engineers conceived the idea of uniting a power valve and a high gain screen-grid valve in the one, and they have evolved what we now call the variable-mu valve, or as the Americans call it "the multi-mu tube." This type of valve has at the present time several numbers, though it is expected that before long it will be standardised. One maker uses the number "235" and at this we will leave it.

Fundamental Character.

THE fundamental character of the multi-mu or variable-mu valve is the variation in the mutual or transconductance with grid-bias, that providing the valve amplification is controlled, not by varying the screen-grid voltage as before, but by varying the control grid-bias (the real "C" bias) between 3 and 50 volts. Maximum volume is obtained with "C" bias of -3 volts and a minimum at -50. Now to those who know anything about valves it will be apparent that when biased with -3 on the cathode, the valve is operating as an ordinary screen-grid amplifier, but when a bigger voltage approaching 50 is used, it is operating more in the manner of a power valve.

Mechanical Construction.

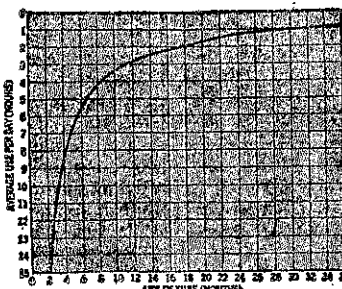
BEFORE considering the operation of this valve in more detail, we shall look for a few minutes at the mechanical construction. In ordinary valves the structure is uniform and a constant mutual conductance factor (μ) is obtained over the cathode area, but the new valve provides a mutual conductance factor which varies from point to point of the cathode area.

The control grid is divided into two sections which are mounted with a gap between them, but for low negative biases the entire cathode is in opera-

THIS will Surprise YOU A Valve's Life is Short and Merry

THIS table will give some idea as to whether or not your valves want renewing. Glance along the vertical scale until you see the number of hours you use YOUR set daily, then travel along the line crossing the graph until the curve is met. Now go down to the bottom and see how long your valves should last. If they have been in longer than this they want renewing.

For example, imagine that on three days a week the set goes on at 10 a.m., is shut off at 10 p.m., with four hours of quiet during this time. That leaves eight operating hours. During the re-



maining hours it is turned on at 6 and off at 10—four hours. The average for a day is approximately six hours. Referring to the chart, we notice that our valves want renewing after six months—that is if only the best is wanted of them. Of course they will go far longer than that, but try another set and note the difference.

Few valves are good after fifteen hundred hours' service. Just jot down the hours YOUR set is in use this week and divide the number into 1500 and see how many weeks your valves are good for. You will be surprised. Just try it and see!

tion and the valve has about the same characteristics as it would if the gap were not present; in other words, like an ordinary screen-grid valve. If the grid bias is increased negatively, the electron current to the upper and lower parts of the control grid are cut off, leaving a low mutual conductance control through the gap. There are, however, very many methods in which the control grid may be adapted. The variable mutual conductance factor, however, is generally brought about by a gap in the control grid.

Cross Modulation.

IN the ordinary screen grid valve the signal, in passing through, becomes distorted, because of an increase in the modulation of the signal. This distortion is most evident when a powerful signal is tuned in. It is found that no more than .2 to .4 of a volt a.c. can be applied to the grid of the 224 valve, whereas in the 235 type, as large a voltage as from 4 to 10 may be applied without introducing distortion. This new valve, then, can handle a signal without distortion some 20 times as great as that which the 224 can handle under similar conditions. In the ordinary valve the distortion becomes worse as the input to the valve increases, and this is particularly evident in the 224 type owing to sharp plate cut-off.

Cross-Talk.

CROSS-TALK is commonly caused by the inter-modulation in the r.f. valves between the signals to which the receiver is tuned and a strong incoming signal of a different frequency, thus, when tuned, say, to 2BL on a modern set, operated in Wellington, we can hear 2YA in the background, yet between 2BL and 2YA there is a large dead space. In order to diminish this cross-talk it is necessary to use one or more pre-selective circuits ahead of the first valve, and these cut down the incoming signals to a very large extent.

dinary 224, it can be used in a socket designed for that valve. However, best results cannot be obtained because of the provision of only a small amount of grid bias, whereas bias must be variable between 3 and 50, if the best results are to be had.

Experimenters can use the valve, for it is necessary only for them to put in a higher valued resistance in the cathode of their screen-grid valve. The volume control for a tuner can be a 20,000 ohms wire-wound potentiometer. When using 235 valves bear in mind that the plate current drain is slightly higher than that of the 224 type, and that when the volume is controlled by varying the control grid the plate current will vary considerably. For this reason it would be really unwise to fit a set designed for the 224 valve with 235 valves without making any alteration to the circuit.

Advantages to be Obtained by Using the 235 Valves.

1. An increase of the maximum allowable input voltage for distortionless operation.
2. Extension of the range of automatic volume control.
3. Reduction of cross-talk by a factor of several hundred times.
4. Improvement in uniformity of control over the entire range of volume control.
5. Reduction of hum or carrier due to incomplete power pack filtering.
6. Reduction in receiver noise due to the possibility of working the valve below its maximum point. The slope can be varied from .08 mamps per volt and the low μ end to approximately 1 mamp per volt at the high μ end, or, expressing this in the American terms, 5 mmhos at the lower end and 1000 mmhos at the high μ end. The 224 varies from 1000 at the high μ end to 100 at the lower μ end where the valve becomes inoperative.

Application to Present Receivers.

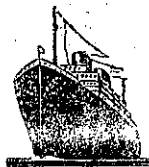
AS the variable-mu valve is of almost similar characteristics to the or-

To compensate for this we must turn our valves up so that they are magnifying at their maximum. The result is that a strong hiss is heard in the speaker. This hiss can be kept down only by operating the valve well below its maximum. As the 235 valve can handle this strong current from the local station without this pre-selection circuit, a normal aerial is used and less valve hiss results.

**JOHNSON'S WIRELESS
AND RADIO SCHOOL**

There is remunerative employment for qualified radio men on shore and ship. The up-to-date methods of instruction and modern equipment provided at the school enable the student to obtain a most thorough and practical course. All papers connected with the Correspondence Course are promptly corrected in New Zealand.

Day and night classes for Professional Certificates. Correspondence Classes for Professional Certificates. Correspondence Classes for Amateurs and others. Write for Particulars to Department A.
JOHNSON'S WIRELESS & RADIO SCHOOL
St. George Buildings,
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Wellington



"The Kestrel Three"

RAY-O-VAC 2-VOLT VALVES are especially suitable for the "Kestrel Three"—and they are economical on batteries.

RAY-O-VAC

Screen-Grid RY232
Power RX231
Detector RX230

(American Base)

We can supply the other parts for your "Kestrel Three," including Aluminium Screen and Push-Pull Indicating Switch.

THOS. BALLINGER & CO., LTD.

58-62 VICTORIA STREET, WELLINGTON.

"Where the Quality Goods are So'd"

Voice of Michael

(Continued from page 13.)

subdivided, and so we get the tinkers, tailors, farmers, cobblers, bankers, and so forth, of the world. Why cannot the civilised nations of the world so regard themselves and get on with the job, instead of watching with jealous, distrustful eyes the work and movements of their neighbours? We are still suffering acutely from the mischievous interruption in the closely knit international relationships which existed, delicate as the gossamer threads of a cobweb, prior to the Great War.

The League of Nations and other important Pacific formations are attempting to keep the world to-day on an even keel. They can all achieve nothing without being backed by a sense of mutual dependance. No longer can Great Britain say "As an island we are safe!" Instead of the Island making for safety, there is the danger that it may prove a trap. Do not let us think that this plea for sane internationalism means the entire submersion of national ideals; on the contrary, the plea is for the national outlook to be supplemented—not supplanted.

The world to-day is in a hopeless mess! Theories for its disentanglement are as plentiful, and about as useful, as weeds in a badly kept lawn. The call for action in great crises of the past has been to men who by birth, education, training or nature, are already great. To-day we live in a democratic era, and the responsibility for the future lies with the common man. Will he rise to the occasion so that succeeding generations will call him blessed, or will they say sorrowfully, when reviewing the history of the 20th Century:

"They knew not the time of their visitation."

Russia's Five Year Plan

DR. G. H. SCHOLEFIELD, Librarian to Parliament, placed listeners under a further debt of gratitude for the very informative and solid nature of his talk last Wednesday evening.

The doctor, in response to the appreciation which marked his earlier discussion of Russia, amplified details about her Five Year Plan and its principal inspiration, Joseph Stalin. A native of Georgia, four times committed to Siberia, and four times an escapee therefrom, a devotee of Lenin and the recipient of his mantle on his death, this man is now the driving force of Russia's Five Year Plan. Will that plan win out? That is the question which is of major importance to the world to-day. Uncompromising Communism is Stalin's aim. After expropriating the land of the aristocracy after the revolution, he continued his campaign by depriving over three millions of Kulaks (as the better-class peasants are known) of their property.

Three years ago 13 per cent. of all produce came from the farms of Kulaks. Last year only 24 per cent. came from that source. The former owners have been robbed of their lands and banished into mass slavery.

With timber, wood, coal and petrol Russia is seeking the mass exploitation of primary products. In those fields a certain success would seem to have been attained, as the product is amenable to

mass treatment. In dairying, and those forms of agriculture requiring more intelligence, equal success has not been won, nor would seem to be likely to be won, for the intelligence of the peasant is at fault. Similarly in the factories the same factors of ignorant and non-tractable workers seem to be limiting success. Russia showed herself to be able to build the factories and to equip them with the most modern machines, but machinery is no good without human control, and in the human factor Russia has so far proved deficient. Her workers, ignorant and slothful, have proved bad material for mass factory effort.

In spite of the deficiencies that have been pointed out, Russia's experiment constitutes unquestionably one of the most interesting efforts in the field of human government ever witnessed. The effect upon the huge population of that country will be followed with intense interest throughout the world, and lessons, either of an affirmative or a negative character, may be learned that will definitely affect the whole course of future civilisation.

Dr. Scholefield concluded a very meaty 20 minutes by giving a list of books of value. Among these were: "The Five Year Plan," by G. T. Drinko; "Broken Earth," "Humanity Uprooted," and "Red Bread," by Maurice Hindus; "The Economic Life of Soviet Russia," by Dr. Calvin Hoover; "The Soviet Five Year Plan," by H. R. Knickerbocker; and, in the fiction field, "Cement," by F. Gladkov; "Bruski," by Panferov, and "Without Cherry Blossom," and "Three Pairs of Silk Stockings," by P. Romanof.

Health and the Citizen

A RECENT talk by Dr. Hughes, of the Health Department, should prove valuable if it quickens our thoughts to the responsibility resting on every citizen in the effort to maintain national good health. As the speaker pointed out, without citizens there can be no nation; without healthy citizens the nation is decadent. From a purely economic viewpoint, the unhealthy citizen is either non-productive or, at least, produces at a value well below par. Prevention being better than cure, it behoves every one of us to take the simple steps outlined by the Doctor, which will prevent, or at least check the spread of disease.

Two of the principal causes of ill-health and mortality in the Dominion are heart disease and cancer. The former is frequently the result of avoidable overstrain, while cancer often develops as a result of some perfectly simple cause, such as the tongue brushing over an uneven tooth.

In all cases of infectious diseases the plentiful use of a good disinfectant, immediate isolation of the patient, and prompt notification of the Health Department may prevent much unnecessary suffering and loss. For the rest, greater attention to personal hygiene, care by employees in certain trades (printers, and those coming into daily contact with lead), the abatement of dust and smoke, the increasing use of open-air schools, and so forth, will all be rewarded by a greater measure of national health.

It would seem that the members of the medical profession are not quite unanimous as to the advisability of



Drama in New Zealand.

MISS ELIZABETH BLAKE, writing from Home to a friend in Wellington, advises that she has already seen the secretary of the British Drama League in connection with her campaign for the development of drama in New Zealand. She received a cordial welcome, and has been asked to speak at the Autumn Conference at Hurl and make an appeal on behalf of drama in the Dominions, with special reference to New Zealand. She is hopeful that she may find a producer of the right calibre to come out to the Dominion for, possibly, two years. Miss Blake has also seen the chief organiser

After Two Years

She is all so slight
And tender and white
As a May morning.
She walks without hood
At dusk. It is good
To hear her sing.

It is God's will
That I shall love her still
As He loves Mary.
And night and day
I will go forth to pray
That she love me.

She is as gold,
Lovely, and far more cold.
Do thou pray with me,
For if I win grace
To kiss twice her face
God has done well to me.
—Richard Aldington.

of the women's institutes, and found her most friendly and anxious to help. It is her intention to attend a school for producers in August and undertake other coaching as well in London in the coming winter. The development of drama in Britain is proceeding apace, and wherever Miss Blake went she advises that she saw clever posters advertising plays of Shakespeare and worth-while moderns, these plays being given by amateurs in tiny villages and small towns as well as big towns.

A Comment.

FROM London, Cordella writes characteristically: "Bernard Shaw is still going strong, and has once more vigorously denounced the Labour Go-

building up national health to a point which makes it more immune from disease, or, alternatively widening their knowledge as to the best method of fighting disease after its appearance. From the viewpoint of the average layman there can surely be but one reply—keep the disease germs strictly at bay. Incidentally, do not forget that both the fly and the rat are two of the greatest germ carriers in the world. Show mercy on neither!

vernment for not allowing Trotsky into England. It is absurd, isn't it? A Labour Government taking such a ridiculous attitude, too! Have you read Trotsky's book, 'The Rise and Fall of a Dictator'? It is fascinating. And so are all Trotsky's articles in the 'Manchester Guardian'."

O Paradise!

A MINIATURE house, made to a scale of two-fifths the size of an ordinary house, will be presented to Princess Elizabeth when she reaches her sixth birthday next year. The Duchess of York has given her approval to the gift, but its existence will be kept secret and as a surprise for the Princess. The house is to be shown at the Ideal Home Exhibition at Cardiff, and the Building Trade Exhibition at Swansea, and then redecorated for its royal owner. It is in no sense a doll's house. Small children can move comfortably in it because it is made to fit them, but grown-ups will not be able to get inside the door. There are six rooms, completely furnished; miniature stairs leading from the ground to the first floor. Pictures by well-known artists hang on the walls, there is a kitchen and scullery, with electricity and running water throughout the house. What a rapturous playground!

Street Scenes.

FROM Dunedin comes the following from one possessed of seeing eye and understanding heart:—

In George Street, swept by icy blast from snow-crowned hill closing round the town, I meet the Rev. —, looking ill, haggard of eye, and thin as a rake. "Busy morning," he says in passing. "Ninety grown-ups and 60 children for food and clothing." "You need a woollen scarf yourself," I say severely. "Never wrap up," he says in his hoarse, tired voice. "Get a cold if I do," and hurries away to another of multitudinous good deeds. . . .

Then comes a man selling furniture polish. "Tin, lady! Only 1/-." I buy two. "How are things?" I ask. "Pretty good," he replies. "I tramped the North Island, but down here (the hills bad for me heart. But I'm much better now that I go without dinner five days a week." Goes off cheerily. . . .

Scene: Attic overlooking slum. I and my "little dressmaker" confer on bringing last year's suit up to date. Up rickety stairs comes hero of the piece. "Put your sign up, miss?" he suggests. Permission accorded, exit whistling with some conviction. "Out of work," I'm told. "Won't take charity. Cleans my window" (shining crystal-clear in cutting atmosphere of sunshine after hail). "He'd do anything for a sprat." "Sprat?" I query. "Sixpence," she tells me. "He's very thin," I remark with misgiving. "Doesn't get enough to eat," she replies sadly. "Where does he live?" I ask. "Anywhere!" she says. "There may be heaven, there must be hell!"

Meantime there is our earth here—
well!"

... With ... BOOK and VERSE

By "John O'Dreams"

Jottings

IN "Most Women," by Alec Waugh, there are sketches and impressions, vignettes of people, stories heard and stories imagined, making a picturesque pot-pourri put together with considerable skill, with love as the connecting link between the chapters. Most of the stories have a tropical background, but there are some with heroines in Chicago, New York and London. Mr. Waugh has found a literary form which admirably suits him, and this new book of his, which is decorated with some admirable woodcuts by Lynd Ward, may be looked on as the fitting sequel to his "Coloured Countries."

MR. HUGH WALPOLE, the novelist, whose father was for many years the Bishop of Edinburgh, has recently given it as his opinion that the whole literary world is anxiously awaiting the arrival of a great Scots novel; he is himself convinced that Scotland will rise to meet this hope. It would be fitting if a novel of classical proportions were to see light during the centenary year of the great Sir Walter. Apart from the already successful work of George Blake and Neil Gunn—not to mention Agnes Mure Mackenzie, Edwin Muir and Eric Linklater—it is well known in Scots literary circles that four or five of the younger men have been at work on novels for some time.

UNDER the title of "The Caliph of Bagdad," two of his old associates, Messrs. Davis and Maurice, have written a life of that strange personality and brilliant writer, O. Henry. An equally unusual type of man, Lafcadio Hearn, has been biographed by Mrs. Jean Temple; and a life of William Archer, by his brother, Lieut.-Colonel Charles Archer, gives an interesting correspondence between Archer and Mr. George Bernard Shaw.

THOSE who remember the earlier books of Miss E. Arnot Robertson will know that she is a writer of distinction, and in her latest novel, "Four Frightened People," she again proves her quality. In her new book there are passages of vivid description which linger in the memory. Plague on board ship leads to the secret departure of four of the passengers. Escape from the ship is comparatively easy, but in the jungle, when they reach it, one misadventure follows another. Although the book sets out to tell a story, it is more of a travelogue than a novel, but none the less interesting on that account.

Prize Poem Competition

THE prize of half a guinea in the current competition is awarded to "O.E.H." for "Recompense," an artistic and graceful response to loveliness of day and night, sun and stars. We thank this contributor for charming, brief note accompanying entry. Selected for special commendation is the picturesquely-conceived and worded "Out of the Past," by "Ginger," which, by virtue of originality of conception and expression, runs the prize-winner very close.

"Karalia": "Rondeau of Villon" is a handful of verses exemplifying flair for unusual and attractive literary form.

"Sunrise": A lilting paean of morn and dawn, which unfortunately crashes to commonplace in last verse. Jingle of "A Sportive Spirit" is far indeed from poetry:—

Some often hear the wireless news
From neighbours nobly kind;
To leave their windows up they choose,
Although they draw the blind!

"Merrie": Colour sense apparent, but expression at times slow-moving and unrhythmic, though artistic sincerity is present.

"Oh Macks" short love lines are poetic in feeling, the last wistful verse crystallising an eternally human note.

G.F.: We liked your letter, encouraging and kind. In our published paragraph regarding your poem, we regret the word "last" was omitted, as no doubt you noticed.

"The Prelude": Vision of beauty and ability to catch the vision as it flies are apparent in your work, which exhibits flair beyond ordinary for poetic comprehension. We reserve the second poem for further consideration.

J.A.: The Terrace: Many thanks for appreciation, so unexpected and delightful. "Little Green Apples" was lent by one of a literary coterie, as are many of the books reviewed in this column. Likewise, a considerable proportion are obtained from Public Library, which is found to be excellent for modern verse, biography and plays; while occasionally the work of a New Zealand author comes in for review.

G.O.P.: Interesting note received, with arresting enclosures. No wonder such communications are cherished. The short story good in its domestic genre, but it is to be feared that the art of the short story finds little encouragement in this country.

"Ferdinand": Control your emotions, or at any rate the expression of them.

"Felix the Cat": Banal to an unbelievable degree.

... Recompense ...

I met the Day at dewy dawn,
She took my eager hand,
And, laughing, led me thro' the
morn
To view the sun-washed land.
She poured her treasures at my
feet,
And bade me take my choice;
I chose a golden-headed flower,
A bird with silver voice.
We were so busy, she and I!
So happy! until Day
Turned pale, and slipped her
hand from mine,
And softly stole away.

I wandered lonely thro' the dusk;
My golden flower died.
My bird reposed in friendly bush:
The solemn South Wind sighed.
But Night came winging from
the sky;
Her dark hair floated long.
The stars shone forth to welcome
her;
My heart perceived her song.
She took me in her gentle arms,
Upon her bosom deep;
She stooped and kissed my tired
eyes,
And then she gave me . . . sleep.

—O.E.H., Blenheim.

MR. WILLIAM KAY WALLACE, a Yale man, who has been for several years in the United States Diplomatic Service, and has also done some journalism, has written a book, "The Scientific World View," in which he stresses the belief that science is daily making new discoveries, and in the process a new code of conduct is being framed that differs radically from the older religious code.

DR. ALINGTON, the headmaster of Eton, is justified in denouncing the kind of unpleasantness which some young gentlemen, fresh from the public schools, inflict upon the world. There are classics about school life, for example, "Tom Brown's School Days" and "Vice Versa," but modern young authors who malign their own seminaries appear to be convinced, if you wish to draw attention without especial exertion, you must assail honoured names and cherished institutions, and they find the great schools and colleges an easy target to hit.

MISS TENNYSON JESSE, part author of the play, "The Pelican," recently successfully produced by the Wellington Repertory Society, has written a new book entitled "The Solange Stories," which is a series of studies in crime. Solange, the clever woman detective, lands her quarry by a kind of sixth sense, an awareness of evil, rather than by logical deduction from material clues. At the last minute, dramatically she saves an innocent man from the gallows, and understands the significance of things, trivial and important, that are unnoticed by those who pass by. Clever studies, these, and quite out of the vein of Miss Tennyson Jesse's former novels, which we venture to predict will be remembered long after her latest essay in fiction is forgotten.

"ABOVE the Dark Circle," by Hugh Walpole, derives its name from Piccadilly Circus, and the most extraordinary adventures take place one night in a room high above the lights of Piccadilly. A book without a hero or a villain, the writer asserts, but with a heroine. One of the protagonists is led into the midst of the most terrifying incidents by consulting his favourite book, "Don Quixote," as to whether he should cut or shave with his last remaining half-crown, and reading "The knight was yet asleep when the curate came, attended by the barber," he decides on the shave; and from then on the action is fast and furious. A thriller to be recommended, though not quite up to the gruesome pitch of that sadistic novel "The Man with Red Hair."

MADE LIKE A WATCH . . .



MADE IN ENGLAND

that's why!

What precision! It's evident to anyone who examines one of the new Osram 2.5 Valves that their construction is out of the ordinary. What reception when you put them in your set. Not the slightest trace of microphonic noise — only pure, clear tones from the highest to the lowest registers.

The complete range of Osram Valves, including the following 2.5 Volt Series, is available at your radio dealers—MY 224, MY 227, MX 245, MX 280.

Osram 2.5 ac Valves

Made in England

MY 227 is a recently developed Detector or first-stage Audio Valve, with indirectly heated Cathode for A.C. Sets. Non-microphonic.

Advertisement of the
BRITISH GENERAL ELECTRIC CO. LTD.

37 Taranaki Street, Wellington.
Brunswick Bldgs., 49 High Street, Auckland.
Hannaford Chambers, 145 Worcester Street, Christchurch.

A Perfect Miniature

Eclipsing Every Standard of Radio Performance

The SILVER MARSHALL

8-VALVE SUPERHETERODYNE

All the fine tone and volume that you expect in a full-size cabinet model is available in the Silver-Marshall "Miniature" Receivers.

An 8-Valve Midget type Super-heterodyne chassis is housed in this "Compact" Model — complete with every feature you want to give unparalleled performance.

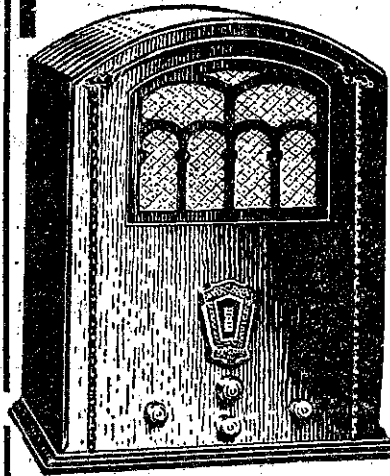
A thrill awaits you when you hear the 1931 Silver-Marshall.

N.Z. Distributors:

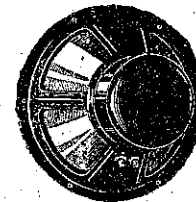
FACTORY IMPORTS LTD.
96 TORY ST., WELLINGTON.

N.Z. Distributors for S.-M. Short-Wave Sets, Chassis and Parts—

THOS. BALLINGER & CO., LTD.
VICTORIA ST., WELLINGTON.



SILVER-MARSHALL
"COMPACT"



Standard Permadyne

A New Speaker that is a Permadyne. Built on the latest permanent magnet—moving-coil dynamic principle, this Loud Speaker is a production of the highest quality.

It is the equivalent of a dynamic and is of the moving-coil type, but has the definite advantage that no field excitation is required.

It has a 10½ in cone, and can accommodate tremendous volume with absolute faithfulness of tone.

Standard

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