



BREAK-IN

A Magazine Issued by the
New Zealand Association
of Radio Transmitters

Registered for transmission through Post as a Newspaper.

Affiliated with I.A.R.U.

Edited by

H. P. V. BROWN, ZL3CG

N. W. LAUGESSEN, ZL3AS

VOL. V., NO. 3.

CHRISTCHURCH, N.Z.

MARCH 1, 1932.

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RETURN.**

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- "Morse Made Easy." 7d.
- "Radio Operating Questions and Answers," by Nilson and Hornung. 14/-.
- "Radio Log and Lore" (World's Best Log of the World). 1/10.
- "Radio Amateur Call Book," Sept., 1931. 5/3. Special Short-Wave issue ("Popular Hobbies"). (Complete list S.W. stations. New time conversion chart. Three special S.W. sets.) 7d.—Rush it!
- "Perry Auto-Time Morse System." 10d.
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- "Radio Amateur Handbook" (Handy's), 8th edition. 5/3.
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VOL. V., No. 3.

CHRISTCHURCH, N.Z.

MARCH 1, 1932.

Editorial

The keenness with which members are responding to the call to form sections of the R.E.C. is ample proof of the hidden desire, inherent in all of us, to be able to do something really worth while. There are perhaps visions of calls which will put us to the test and find us worthily rising to the occasion. There are other ways of assisting the Association though they are not spectacular, but are vital to building up a strong N.Z.A.R.T. The average woman is considered to dislike the alleged drudgery of house work. There are many, however, who obtain real pleasure from every portion of work, for theirs is a labour of love: love for the home and all that it implies. The mental aspect is responsible for this and the reward is reaped in most instances. Studying the personalities and the likes and dislikes of the other members of the family is a most important feature. Let us apply these thoughts to our own Association, for there are always ways by which we can further our interests. We have always believed that strong branches, working towards a common goal, will mean a powerful organisation, not merely in numbers, but in individual and collective efficiency and so forming a body which is an asset to the country. There is room for improving the branches and in this respect we should study the reasons why all certificated amateurs are not members. Let us delve below the surface and study the personalities of these men and then decide what are the best methods for inciting a desire to join our brotherhood. We must also analyse our own actions and activities and decide whether they are best suited for gaining this end. If we follow this course then we shall be on the road to building up a one hundred per cent. N.Z.A.R.T.

LET YOUR SUB. BE YOUR SUPPORT TO HEADQUARTERS.

NOTICES TO MEMBERS.

Headquarters Address Box 617, Christchurch.

Members are advised that the subscription due for 1932 is 5/- as heretofore and everyone is asked to become financial at Headquarters as soon as possible.

CORRESPONDENCE.

All members are specially requested to avoid addressing correspondence in the personal form. This causes confusion, so in future address letters to H.Q. as follows—"Treasurer," "Secretary," Editors," etc.

"BREAK-IN."

All matters dealing with this Journal must be addressed to the "Editors." Articles intended for publication must be in the Editors' hands by the 20th of the month preceding publication. Articles must be written legibly in ink or typewritten and must be double spaced.

BADGES AND STICKERS.

Stocks of N.Z.A.R.T. Badges and Stickers are kept at Headquarters. Identify yourself and your organisation by wearing a badge or using stickers. Badges 3/6. Stickers 1/6 per 100.

ATTENTION!!

This is March, 1932, and still there are a lot of unfinancial members! If you enjoy this journal and wish to see the present standard maintained you will have done your bit toward keeping it so by

becoming financial. Headquarters realises that times are hard but that is no excuse for not dropping a line and explaining the position. The subscription is 5/- per annum as heretofore and may be paid half-yearly.

—73 TREASURER.



LETTERS TO THE EDITORS.

TWO BAND QSO's.

In QST for November there was an article under the heading "A Two Band QSO Party." I believe a scheme on those lines would be particularly popular in New Zealand on account of the new members being confined to 80 metres for some months.

A two band QSO party would enable them to work many of the old gang and they would benefit in more ways than one. They would learn proper operating procedure much more quickly, and would be familiar with the higher frequencies when their permits were obtained. It might be argued that the older hands should go up to 80 occasionally, but in many cases the change is not easily or quickly managed, and the beginners would not benefit by becoming familiar with shorter wave lengths.

To start the ball rolling, I will call CQ on 40 metres every Sunday evening from 5 to 6 p.m. and will listen for replies on 80 metres. This "sked" will commence from the first Sunday after the publication of this "Break In." Come on, "old timers," and mingle with the new gang.

—ZL1BN.

We beg to acknowledge receipt of the first copy of "QTC" "the official organ" of the Gisborne branch. It consists of four foolscap pages replete with newsy items of local amateur happenings. The intention is evidently to give something of added attraction to Gisborne boys and stimulate radio activities in the district. We compliment the originators of "QTC" and hope that their object will be achieved.—Eds.

FROM THE PRESIDENT'S CHAIR.

I wish to thank sincerely the members of this Association for having elected me to the Presidency this year. It is to me a great honour indeed, and I feel that my efforts on behalf of the Association and its members during the past few years have been in no small measure recognized. The result, also, is undoubtedly a direct vote of confidence in the administration of the retiring Executive Council of which I had the honour to be Chairman, and I, and my late colleagues, too, appreciate your action most gratefully. I sincerely trust that the same measure of support and confidence will be given the new Headquarters in Christchurch, so that this year may be even more successful than the past.

To ensure this, however, it is most necessary that all unfinancial members renew their annual subscriptions without delay, for an organization such as ours depends upon funds to enable us to carry on our activities successfully, and to continue the publication of our excellent monthly bulletin, "Break In" and maintain its present high standard. It is essential for all to take keen interest and participation in all activities throughout the year, to boost along the Guard Scheme and the Radio Emergency Corps, to avoid infringements of the regulations under which we work, such as off-frequency operation; to improve the quality of our signals and the standard of operating in many cases, and last but by no means least, to make the burden of work at Headquarters as light as possible for those men concerned, by helping out in every possible way.

Best wishes for a most successful year, and again, many thanks.

D. WILKINSON,

President, N.Z.A.R.T.

THE MARCH TESTS.

In connection with the 3500kc. competition next month, it may interest your readers to know that the following hams have been heard here this year on 3500kc.:—W6AZC, W9CGH, W6EUP, W6YAU, W9FRH, W1ADW, W9GVX, W6DDS, W7EO, W7ARQ, W6DYJ, W9FXI, W6FW, W6BVZ, W7ACB, W9BYM, W7JW, W7AIU, W6CTS, W6AIF, W6UT (Phone), W6BJQ (Phone), W7BIJ, W7AVZ, K6BAZ, W2CSC, W6KE, VE5BW, W9CJJ (Phone), W6DZF, W6AP, W7AWI.—73 Mark Churton.

"Who is the stranger, mother dear?
Look, he knows us, he is queer."

"Hush, my own, don't speak so wild,
That's your father, dearest child."

"That my father, no such thing,
Father died you know, last spring."

"Father didn't die, you dub,

Father joined a Wireless Club,
But they closed the Club, so he

Had no place to go, you see;
No place left for him to roam,

That's why he is coming home.

Kiss him, he won't bite you, child,

All these radio bugs look wild."

1931 XMAS CONVENTION.

The "Convention" was opened in the rooms of the Radio Society of Christchurch in Cashel Street at 10 a.m. on Boxing Day. There was an excellent attendance of members, strong contingencies coming from distant centres. The President, Mr H. P. V. Brown, occupied the chair and proceedings were commenced after the delegates had made a short adjournment to the steps at the Bridge of Remembrance for the official photograph.

Mr S. H. Perry, who represented the Executive, read the Report and Balance Sheet for the year, and explained various features. The Chairman then read a letter from Mr W. Ashbridge, General Secretary, eulogising the work done by Mr Perry, and on the motion of the President, seconded by Mr G. Clarkson, was added to the Report, which, with the Balance Sheet, was then adopted.

Apologies for absence were received from numerous members who were unable to be present, and a number of messages via radio, etc., expressing hopes for a successful Convention, were also read. W1MK sent the season's greetings to the N.Z.A.R.T.

Mr H. P. V. Brown moved that the action of Headquarters in asking Christchurch to prepare for the work of conducting H.Q. be approved as well as their policy for the past year they were in office. This was seconded by Mr E. Hullett, 3BO, and carried unanimously. Other members who spoke appreciatively were 1GA, 2CD, 3CM and 4CA. The remainder of the questions on the ballot paper issued to all members was then dealt with, the Chairman making it clear that the

meeting could make recommendations only, as a guidance for the new Executive. It was also pointed out that several of the clauses for consideration interlocked and required careful consideration on this account. This forecast proved to be true for some discussion ensued and various proposals were made before a solution of the problem was reached.

Mr S. T. Lane moved "That listeners be admitted to N.Z.A.R.T. membership." Various members spoke in support including Messrs Harris, Toon and Laugesen, and Mr Perry pointed out that short wave listener members of today were the amateurs of tomorrow and that they also voted more strongly than amateur members. Mr Hullett considered that listeners should be associate members, voting only on questions affecting their interests. Mr Harris, seconded by Mr Perry, moved an amendment that the words "As heretofore" be deleted. The amended motion was then carried.

Mr Hullett moved, seconded by Mr Clarkson, "That listener members be associate members with no voting powers." Mr Harris, seconded by Mr Buchanan, moved an amendment "That on questions affecting transmitting members only, transmitters have a vote but not listeners." After a discussion, this amendment, with the consent of the mover and seconder, was altered to "That listener members have a vote on all questions except those dealing with purely transmitting members." This amendment was duly carried after a further amendment by Messrs Lane and Perry "That the matter be left to the incoming Executive" was lost.

The clause dealing with the question as to whether the Association should be confined to certificated

amateurs only was naturally passed over in view of the vote in favour of continuing to admit all those interested in short wave work.

Mr McNeill moved "That the Constitution be amended." This was seconded by Mr Hullett, and carried.

Mr Hullett, seconded by Mr Banwell, moved "That the incoming Executive draw up a new Constitution and hold a general ballot (for members to vote upon)." After a short discussion the meeting decided that a new Constitution was not required.

Mr Harris moved "That non-transmitting members pay 5/- per annum." This was seconded by Mr Hullett, and carried.

Mr Smith moved "That the transmitting members' sub. be 7/6 per annum, payable as 2/6 every four months if desired." Mr Harris seconded the motion, which was carried.

Other business was then taken, and Mr Harris moved "That this Convention recommend the incoming Executive to go into the matter of good notes." Mr Hullett seconded this, which was carried.

Mr Perry moved, seconded by Mr McLennan, "That the incoming Executive be asked to consider making the N.Z.A.R.T. an "Incorporated Body." Carried.

Business concluding early in the afternoon, members then dispersed, assembling again at 7.30 p.m. in the Cadena Tea Rooms for the Hamfest.

* * * *

THE HAMFEST.

A most enjoyable time was spent by the 70 delegates who attended the hamfest that was held in the Cadena Tea Rooms during the evening. The Dominion president, Mr H. P. V.

Brown, who sat with Mr E. J. Howard, presided over the proceedings.

Following a toast to the King (Mr H. P. V. Brown) everyone took their seats and enthusiastically entered into the spirit of the evening. The toast, "The Visitors" (Mr W. T. Toon, ZL3CM) and "Reply" (Casey Harris, ZL4CA) were heartily received. In proposing the toast of "The N.Z.A.R.T.," Mr. E. J. Howard, M.P., urged members to build up their organisation and keep it strong by inducing everyone interested in amateur radio to become members. He complimented the organisation upon its progress and wonderful achievements its members had made. In reply, Mr Brown (ZL3CG) praised the work carried out by previous executive officers, which was

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a fine achievement, and the members' appreciation should be placed on record. Mr Perry (ZL2BC) also spoke and praised the wonderful spirit of loyalty that undoubtedly existed and which would eventually make the N.Z.A.R.T. a great organisation.

"The P. & T. Department" was proposed by Mr Perry, who praised the Department on its support and the active encouragement it had rendered the N.Z.A.R.T. Mr S. W. Lane (ZL3AK) very suitably replied and extended the good wishes of the officers of the P. & T.

The toast of "The Ladies" was proposed by Mr Shipley (ZL3CK). In reply, Mrs P. Cameron (ZL4CL) said that the ladies present appreciated the wonderful way in which they were being entertained.

Between the toasts musical items were rendered by Mrs M. Earland (ZL3AG), Miss N. Cameron and Mr W. Duke. Mrs Earland (since referred to as the West Coast Nightingale) certainly sprang a surprise on hamdom. She is an excellent singer and a pleasant surprise awaits those who have not heard her. Miss Cameron's and Mr Duke's renderings were also excellently presented and received with prolonged applause.

Rather a surprise was sprung on those present at this stage through the ability of Messrs N. W. Laugesen (ZL3AS) and L. P. Gerity (ZL3CL) in presenting a programme of conjuring illusions and tricks. Their programme lasted over an hour and during the whole time their audience was held in wonder. Some first class stage stunts such as the Indian Rope Trick, the Chinese Rice Bowls, and producing drinks in amazing quantities from an innocent drawing of a barrel, were

cleverly executed and received loud applause. Mr Laugesen terminated the programme with an exhibition of dual handcuff and chain escapes, a notable feature of which was an escape from American regulation handcuffs and the Siberian chains within five seconds.

Every moment of the whole evening was thoroughly enjoyed by everyone and the expressed wish was heard on all sides that it would be a pleasure to have the function over again.

On the following day (Sunday) the picnic at Diamond Harbour took place. A special carriage on the Lyttelton train was filled with enthusiastic hams, YL's, OW's and junior ops. On reaching Lyttelton the party boarded the launch "Owaka" and had a pleasant spin across the harbour to the picnic grounds.

Space will not permit a just description of the wonderful day that was spent in that beautiful locality. Swimming and other races were the features of the day. YL's joined in, cameras clicked (miles of film were used) and the good fun that always exists when hams are together, created a pleasant memory that will lurk in the minds of those who were present for many a long year.

* * * *

MONDAY, 28th DECEMBER.

Another day of days! Everyone was out bright and early and made it a day of mixed enjoyment. During the morning a 25 mile bus tour was made of Christchurch and surrounding districts with a short respite for morning tea at Sumner.

The afternoon was commenced by shack visiting, which proved exceedingly interesting. A pleasant drive was then made to the Wigram Aerodrome, where an interesting time was

spent. Myrtle and Peggie simply had to be photographed in a 'plane and more miles of film were used in the process. Autographed souvenirs became the order of the day, and rumour has it that Ghandi attempted to take a Bristol Fighter; had it not been for the good counsel of Casey, who was meanwhile trying to hang himself from the rafters of the hangar, the fourth gang would have gone home, at least part of the way by 'plane.

And so the Convention drew to a close. Lasting friendships were made, or old ones renewed—and in all was instilled the realisation of the wonderful brotherly spirit that exists between hams.

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CHEMICAL RECTIFIERS.

By ZL4BJ.

On page 136 of Handy's there is a description of a chemical rectifier which many would try if its preparation were simpler, and it is with that object in view that the following article is written:—

Ammonium Citrate: 425 grammes equals 13oz 350grs. Citric Acid: 368 grammes equals 11oz 243 grs. Ammonium Phosphate: 150 grammes equals 4oz 336grs. Potassium Citrate: 8 grammes equals 120grs. Distilled Water: 1000 grammes equals 35oz 197 minims.

Ammonium Citrate is hard to obtain, and must be made by mixing strong liquid ammonia and citric acid. The formula then becomes:—Citric Acid 11oz 20grs; Strong Ammonia (Liq. Amm. Fort.) 12oz; Citric Acid 11oz 240grs; Ammonium Phosphate 4oz 336grs; Potassium Citrate 120grs; Distilled Water 23oz 197 minims.

The difference in the quantities of distilled water is on account of the water formed when the ammonia acts on the citric acid. The method of mixing is as follows:—

In the 23oz 197 minims of distilled water, dissolve the first lot of citric acid (11oz 20grs). Very slowly and with constant stirring, add the 12oz of strong ammonia. A fair amount of heat will be generated by the formation of the ammonium citrate. After the solution cools a little, add the rest of the ingredients, as per the formula.

The aluminium wire is obtainable from the Acetone Welding Co., in Dunedin, and would likely be procurable from similar firms in the differ-

ent centres. In order to make sure that the aluminium is all formed, it is advisable to form them two at a time, from the 230 volt line.

The writer is at present rectifying 1000 volts through 40 test tubes, and could probably put a good deal more through if necessary, at the same time having the satisfaction of knowing that there are no tubes to blow.

N.B.—For those wishing to make the solution themselves, the following may be used as weights and measures:—

Two tablespoonsful equal 1oz for liquids; three pennies and a three-penny weigh 1oz for solids; one half-penny and a threepenny weigh 120gr; two pennies and a sixpenny weigh 350gr; two halfpennies and two threepennies weigh 240gr; one threepenny piece weighs 22gr.



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QSO ZL3BJ.

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TESTS WITH U.S.A. DURING MARCH, 1932.

Everything is now all set for these tests. A radiogram was sent to W1MK advising them of the proposed tests and asking their co-operation. A reply has been received stating that the "W" hams will be advised and will look to many contacts with the ZL's.

Tests will be conducted on each Saturday and Sunday evening during March, commencing at 0700 GMT each evening and lasting till the "W" sigs fade out, probably about midnight.

Owing to the difficulty in obtaining QSL's from stations, it has been decided to dispense with confirmations and the winning stations will be decided from a study of the results handed in at this end and the results handed in to QST. The ZL's will send in their reports to Box 617, and the W's will be sending in their reports to QST.

All entries should be in the hands of the Secretary, N.Z.A.R.T., not later than April 10, 1932, and the results as indicated from the reports sent in at this end will appear in the May issue of "Break In." The final results will be announced as soon as the W returns come to hand in QST.

Competitors would do well to note that a very good time to work "W" is during the period before sunrise over in U.S.A. First of all one will hear the signals of the W1's and W2's and then on to the W6's. About 2 a.m. on the Pacific coast of U.S.A. will be heard the last of the W6's, etc., and then the early birds on the Atlantic side will come on again.

HUNGARIAN REPORT.

By HAF7A.

The undermentioned ZL stations were received by HAF7A:—

Oct. 3	5.25 GMT	ZL3CM	QSA 3	r4
" 3	5.30	ZL3AW	" 4	4
" 3	5.58	ZL3AQ	" 3	3
" 4	6.00	ZL1BN	" 4	4
" 5	5.40	ZL3BN	" 5	5
" 5	5.52	ZL3AQ	" 4	4
" 5	6.13	ZL2AB	" 5	6
" 5	6.46	ZL1GO	" 2	2
" 10	5.36	ZL2BG	" 2	2
" 10	5.55	ZL2AJ	" 4	4
" 11	6.05	ZL2BI	" 4	4
" 12	6.35	ZL2AJ	" 3	2
" 12	6.40	ZL2BI	" 2	2
" 14	5.41	ZL3BN	" 3	3
" 14	6.08	ZL4BA	" 3	3
" 15	5.58	ZL3AL	" 3	3
" 16	6.08	ZL3AQ	" 3	3
" 16	6.34	ZL2GD	" 3	3
" 16	6.50	ZL3AQ	" 3	3
" 19	5.37	ZL3AW	" 3	2
" 19	5.37	ZL2CE	" 3	3
" 20	6.20	ZL4AP	" 3	3
" 20	6.25	ZL2AZ	" 3	3
" 20	6.35	ZL2GD	" 3	3
" 21	5.57	ZL3BN	" 4	5
" 21	6.14	ZL3AS	" 4	5
" 21	6.18	ZL4AP	" 4	5
" 21	6.35	ZL4BN	" 4	5
" 26	6.14	ZL2CJ	" 3	2
" 26	6.34	ZL2CJ	" 2	2
Nov. 1	6.40	ZL3AZ	" 4	4

I was glad to hear so many ZL stations and hope to QSO some from my new QRA which will have a higher and better antenna. All the above stations were heard on the 40m band with an O-V-I receiver.

Baron Neu, HAF7A,
Agfalva, Hungary.

R.N.V.R.

(Wireless Section)

Headquarters desires to inform all members who submitted applications in connection with the wireless section of the R.N.V.R. that their applications have been forwarded to the Navy Office for their action.

EASTER CAMP AT WAIMATE.

Recently it was announced that an Easter camp is to be held at Peel Forest, near Timaru. For many reasons it has now been decided to hold the camp at Kelcey's Bush, which is just out of Waimate. In holding the function at Peel Forest it was found that it would take Dunedin hams nearly nine hours to make the journey, whereas by holding it at Waimate it will be nearer the half-way mark between Christchurch and Dunedin.

The railway fare from either Dunedin or Christchurch to Waimate is approximately 19/- return, or 14/- return if a party of six can be arranged. A good camping spot is to be had at Kelcey's Bush and those with cars will meet the trains and convey visitors to the camp. It is not necessary for everyone to bring a tent or cooking utensils.

"Peg" (ZL4CL) desires it to be known that those who intend coming, and who have not already advised her, to do so as soon as possible, so that the bringing of tents and cooking gear can be planned in advance.

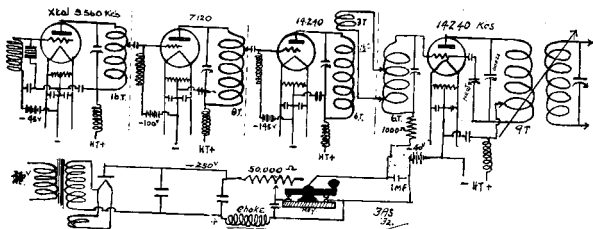
Here is a golden opportunity to spend a pleasant Easter, so bring your YL's and portables and make this camp a howling success!

GUARDS! GUARDS!**Important Notice.**

Relays complain that some first district guards are not keeping schedule, while others have not even kept one schedule this year. If these stations do not notify Hqrs of their intentions within one week of receipt of this issue of "Break In," their appointments will be cancelled.

—Headquarters.

A KEYTHUMP-LESS SYSTEM.



Circuit Diagram of the Transmitter at "PAODW," Holland.

Here is the circuit of the transmitter at station PAODW, which is owned and operated by Mr B. Pothast, of Laren, Holland. Many ZL's have worked this fine station and will agree that the signals rank with the best coming from Europe. Apart from the keying itself, the circuit is a little unusual in many respects. A feature worth noting is the method of coupling between the doubler and amplifier stage, and the general circuit of the amplifier itself. The object in reproducing this circuit is to demonstrate an alternative method of keying which should prove beneficial to those hams who are surrounded by "regenerative" BCL's.

Examine closely the part that the back contact of the key plays. It can be easily seen that immediately the key is let up and the back contacts close, a 250 volt negative bias is placed on the grid of the amplifier. This entirely blocks the valve and during the process of keying the "valve shock" or "key thump" as we call it, is eliminated. The application and release of the bias in the manner shown allows the current through the

valve to taper off, or in other words to start gradually and decrease similarly. This characteristic is of course so swift that the general character of the note is not affected, and there need be no fear of introducing a chirp. The bias voltage is derived in this case from a 'super' "B" power pack, which, if suitably tapped may be utilised to supply the bias to the oscillator and doublers.

NOTICE.

80m Band Operators.

Your co-operation is required on March 6 between 10 a.m. and 3.30 p.m. on the 80m band. Please help the R.E.C. National Field Day by reducing QRM by not operating your station between those hours. Twenty-seven R.E.C. stations will be operating on that band both QRO and QRP, working to schedules and handling messages. If you QRM one message you may disorganise the whole system. Help make the day a success by co-operating in this direction.

—Headquarters.



CONSTITUTION

NAME.

The organisation shall be known as the **RADIO EMERGENCY CORPS.**

OBJECTS.

The Radio Emergency Corps is instituted for the purpose of providing a means of Emergency Radio Communication to and from any part of New Zealand during times of tragedy or national calamity, and to provide readily organised mobile transmitting and receiving stations, necessary equipment, and trained operators ready to function at short notice.

CONTROL.

The Radio Emergency Corps is a creation of the New Zealand Association of Radio Transmitters and shall be controlled by the Associations' Headquarters Executive.

NEW ZEALAND SUPERVISOR.

There shall be a New Zealand Supervisor of the Radio Emergency Corps; appointed each year by the N.Z.A.R.T. Headquarters Executive. His duty shall be to generally supervise the operations of the Corps as a whole and be responsible to Headquarters for the general operation and conduct of every Section.

FORMATION OF SECTIONS.

A Section of the Radio Emergency Corps shall be formed in each of the N.Z.A.R.T. Districts and if possible in district branches. Each Section shall comprise 12 members (where possible) and shall in itself form a Committee for the general conduct of its business.

OFFICERS.

Each Section shall appoint from its membership the following officers:—

- (a) Section Leader.
- (b) Deputy Section Leader.
- (c) Equipment Supervisor.
- (d) Assistant Equipment Supervisor.
- (e) Secretary Treasurer.
- (f) Operators.

REGISTER OF MEMBERSHIP.

A register of membership shall be kept at Headquarters and by each Section and shall contain full personal and other particulars of each member. On appointment to the Corps each member shall be supplied with a certificate issued by Headquarters.

SECTION LEADER.

The Section Leader shall act as Chairman at Section meetings and shall be responsible for the good conduct and operations of the Section. He shall keep in close touch with the N.Z. Supervisor and submit regular reports. In the event of the Section Leaders' absence, the Deputy Section Leader shall assume command of the Section. The Section Leader shall be responsible for all matter transmitted or received and shall act as Censor in cases where matter is intended for publication.

FINANCE.

It shall be the object of each Section to establish a reserve fund so that finance will be available in times of emergency.

APPARATUS.

It shall be the object of each Section to have its own apparatus so that it will be available at all times. Apparatus shall consist of one portable transmitting and receiving station and one transportable station.

OFFICIAL REPORT STATIONS.

Each section may appoint non-transmitter members of the N.Z.A.R.T. as Official R.E.C. Report Stations who shall report all matter heard during the Sections' activities.

EMERGENCY.

Immediately any Section moves off to the scene of any happening it shall be the Section Leader's duty to inform the N.Z. Supervisor of the fact by telegraph so that he will be in a position to arrange any necessary assistance.

Headquarters greatly appreciates the wonderful spirit that has been shown by districts and branches throughout New Zealand in connection with the formation of R.E.C. sections. Up to the moment Hqrs has been notified to the effect that NINE sec-

tions have been formed and are ready for any emergency; this shows the amount of co-operative spirit that exists in our organisation.

From time to time opportunities will arise whereby sections will be able to distinguish themselves. Too

much emphasis cannot be placed on the fact that when those opportunities do arrive, sections must see to it that nothing is left to chance, and that everything possible is done to bring the venture to a successful issue. When taking part in an emergency expedition members must constantly keep in mind the fact that they are on a responsible mission, and that any careless acts or omissions on their part may result in the loss of public faith in the movement. Selfish principles must be discouraged, and petty jealousies never allowed to exist. **Work for your section; aim to make it something high in public esteem, and once you have done that you shall have created something to which you will be proud to belong!**

It may probably be hard for some sections to make the grade for a start owing to the shortage of finance, but ultimately, when some of the larger sections are thoroughly equipped, surplus apparatus could well be exchanged or contributed to the weak sections.

Numerous enquiries have been received at Hq from hams and even non-transmitting members in outlying districts asking if they could play some part in the R.E.C. In cases such as these, members are advised to communicate immediately with the N.Z. supervisor (ZL2GP), who will advise the best course to take. There is provision for the appointment of official R.E.C. report stations to be attached to sections—this should interest non-transmitting members to no mean degree.

Sections have also asked if honorary members of the R.E.C. are permissible. In one or two instances it has been found desirable that this should be done. Appointments such as these

are purely in connection with the R.E.C.; such honorary members are members of the R.E.C. only and are not placed on the membership list of the N.Z.A.R.T., although they will receive a gratis copy of "Break In." It is permissible for a section to appoint two honorary members only, but even those appointments should receive careful consideration. Such appointments should be made only in cases where the appointee will be a great help to the section.

All sections who have not sent forward the names and personal particulars regarding each member are again asked to do so immediately. A Hq register is being prepared and the issue of certificates will be carried out shortly.

Sections are advised to withhold any circularising that they may have contemplated, that is, in the meantime as a considerable amount of general organisational work has yet to be completed. Immediately that business has been carried out, the sections will be officially advised and directed as to the best course to pursue.

In the meantime, effect as much internal organisation as possible and aim to have everything mapped out for an immediate emergency. Hold regular section meetings and make an early start on the construction of a portable station. Keep in close touch with the N.Z. Supervisor and headquarters and send through any good suggestions.—Headquarters.

* * * *

R.E.C. NATIONAL FIELD DAY.

March 6.

March 6, 1932 will be a red letter day for N.Z.A.R.T. Radio Emergency Corps. Every one of the nine R.E.C. sections throughout New Zealand will co-operate! Exactly 27 stations and

over half a hundred operators will be participating. What a Field Day! And it is going to be a howling success—how can it be otherwise when every N.Z.A.R.T. member is behind the movement. If you are not actively engaged in the Field Day, lay back in your easy chair and listen to the stations and see how many outpost stations you can find during the day, then send in a report to Headquarters!

Headquarters wishes to make one honest-to-goodness appeal to hams all over New Zealand who usually operate on 80 meters. Make March 6 between 10 a.m. and 3.30 p.m. a QRM-less one. Enthusiastic R.E.C. lads will be away out in the mountains, or down some stormy coast trying to make their QRP outpost stations heard, so please do not spoil it by coming on the air during those hours. You will do more for radio by co-operating in this way than by a thousand QSO's. If you must go on the air, please QSY up to the top half because all the QRP stations will be on the bottom half of the band.

* * * *

PROCEDURE.

The following procedure will be followed by all sections of the Radio Emergency Corps during Mar. 6. Each section will receive from Hqrs a full list of schedules which must be religiously observed. Each section will comprise three stations i.e. (a) Guard relay station; (b) Zone station; (c) Outpost station. Each guard station will be a QRO station situated in the city and will be operated from 10 a.m. to 3.30 p.m. on March 6. A predetermined locality will be decided upon by each section and an early start will be made by at least FOUR operators. These operators will take with them the complete ZONE transmitting and receiving station (a semi-

QRO station) and the QRP portable outpost station. On arrival at the ZONE the zone station will be erected and manned by two operators. The other two operators will continue on with the OUTPOST station to some spot some miles (if possible) distant. In the meantime the ZONE station will effect communication with the guard relay station and test for a period. The zone station will then stand by and listen for the outpost station. While this is taking place the various guards in each centre will contact and exchange times and mark frequencies and then stand by for their zone stations. By this time the zones and outpost will have made contact and the five sealed messages will be received at the zones. When all the messages have been transmitted to the zones, the zones will contact with their respective guard relay stations and pass on the messages. This completes Fig. 1 on the schedule plan in possession of each section. While the guards are clearing messages between each other, the zones and outposts will obtain contact and test until the fresh schedule as in Fig. 3.

In all, each outpost will transmit five messages—one to each other outpost, and receive five—one from each other outpost. It is possible that other messages from smaller sections will be received and transmitted. Strict schedule times must be observed, so much so that a message undelivered should be held over until the next contact sooner than break an exact schedule time.

All messages sent and received must be accurately recorded and copies returned to Headquarters for checking purposes. All stations MUST keep a log and enter in it all matters as follows:—Time of contact, time of QRT (each QSO) power used, time taken in effecting contact, messages handled, strength of signals, fading, times when fading occurs, weather characteristics at time of fading, direction of antenna, and general particulars regarding location of the station. This data is valuable and must be carefully copied and returned to Headquarters. Special record must

also be made of interfering stations for the purpose of gauging the amount of co-operation non-participating amateurs will render on other occasions.

Remember ZL2GP will be the Wellington guard relay—get into touch with him beforehand for any further particulars required.

* * * *

AUCKLAND SECTION.

The Auckland gang are very enthusiastic in regard to the R.E.C. movement and have now formed an Auckland section. The following members comprise the Auckland section:—ZL1AA, ZL1AN, ZL1AO, ZL1BC, ZL1BE, ZL1BP, ZL1BQ, ZL1BR, ZL1CS, ZL1GC, ZL1GX, ZL1GW.

* * * *

OTAGO SECTION.

By Casey.

Yes, yes, that's just what some of us oletimers have been looking for. You know it's quite alright calling cq and acquiring the art of radio communication but the zeal wears off. Y'know we've tried out every transmitting circuit we can get dope on and had fb results but the zest tameth. This R.E.C. is going to be the stuff OK. We've had our field days in the past and they have varied from building sets on location to tracking down 4AP's portable set, nautical stunts, and picnics; but now we are going to go one better. We've learned ourselves a lot of useful things since we joined N.Z.A.R.T.. Plumbing, soldering, cabinetmaking, electricity, carpentry, etc., so now we are just going to show the community that we can put the goods across in truly professional style. That's why the Radio Emergency Corps have been formed.

The editors of 1931 know that Casey and Ewen sent up a fb stunt to last year's "Break In," telling the world how to put out an emergency call and how all branches should have sufficient to fill the gap if necessary.

Wally said it was a fb idea; so did 2BC and 2DG, but the wastepaper basket must have got the lot. Hi! Along comes a new idea and welcome! The lads in Otago rush it. Must we limit the section to 12, as about 40 wish their names to be taken!

The following are the officers of the Otago section:—Section leader, L. R. Stroud, ZL4AP; deputy leader, A. R. Harris, ZL4CA; equipment supervisor, W. V. Macaulay, ZL4BO; assistant equipment supervisor, E. Cameron, ZL4BJ; sec-treasurer, E. C. Morrison, ZL4CY; operators, J. Winefield, ZL4BY; J. C. Callender, ZL4BT; A. Sparrow, ZL4BS; W. G. Collett, ZL4BP; R. McConnell, ZL4BV; K. H. Barron, ZL4DB; W. Booth, ZL4CV; A. Peterson, ZL4CN.

Our first practice is to be as follows:—Sunday, March sixth: never mind the weather; stunt on just the same. Guard station, a QRO one, will be on the air and will be QSO Ashburton and also QSO with zone station, a power portable one, to be located down the harbour, and this will QSP from our outpost portable feather-weight station which will proceed to an imaginary coastal wreck near one of the lighthouses. There will be no pubs or tea rooms on "location" so provisions must be packed. The fittest men physically and technically will be selected for the outpost station, for gear must be lumped aback and possibly the "wreck" will be in an awkward position. Following details:—Guard station frequency 3750 kilocycles, input 100 watts. Zone station frequency 3900 kc., input 25 watts. Outpost station: Hartley oscillator to 201A. Tube with 90 volts on plate. Frequency 4000 kc., power input .5 watt antenna 60 feet long (Marconi) operated against ground.

The outing should be stimulation to brain and brawn. We may learn something about skip distances and ground wave. This is to be the first of many stunts. Already there is talk of hand generators and petrol motors. Everyone wants to be in these stunts, so this augurs well for success of Dunedin branch R.E.C.

—Casey.

P.S.—Don't forget to collect that sub. from 4DF at the wreck, Ewen.

WELLINGTON SECTION.

When advice was first received that Headquarters in Christchurch were promoting a movement called the Radio Emergency Corps, a little doubt was expressed as to the relations with the Guard Scheme. When a letter from 3AS, brimful of ideas, energy, and enthusiasm was read at a committee meeting, the R.E.C. came here to stay.

The feeling of the Wellington hams on the matter was tested by a widely circulated appeal and at the general meeting held on the 16th February, the Wellington section of the R.E.C. became a living thing. The secretary-treasurer is 2DQ; section-leader is Ralph Slade, his deputy is 2CI; 2CD and 2DL are chief and assistant equipment supervisors respectively, while the operators are drawn from 2CA, 2CE, 2CW, 2CK, 2FM, 2JG and 2LB. More will be added as suitable ops come forward.

Private gear has been earmarked for immediate use until official R.E.C. apparatus is assembled, tested, and stored in accessible safety.

The record of Wellington activities would not be complete without mention of our indefatigable N.Z. supervisor in our midst. With experience of operating in amateur, guard, army and P. & T. circles, Wally, of 2GP has a splendid grasp of the necessities and possibilities of the R.E.C.

Wellington is surrounded by hundreds of miles of unknown bush, mountains and dangerous coasts, and the opportunities of proving our worth is awaited with confidence by the Wellington Branch of the Radio Emergency Corps.

CANTERBURY SECTION.

At an enthusiastic meeting of the Canterbury branch of the N.Z.A.R.T., 3AS outlined the scheme in complete detail. After the general meeting the members of the Corps met and selected the following officers:—

Section leader: J. Elliott, ZL3CC; deputy leader: L. Hurrell, ZL3BG; equipment supervisor: I. More, ZL3CN; assistant equipment super-

visor: C. J. Banwell, ZL3AD; secretary-treasurer: L. P. Gerity, ZL3CL; operators: N. W. Laugesen, ZL3AS; H. Simpson, ZL3CF; R. Stanton, ZL3AZ; E. Shipley, ZL3CK; L. Evans, ZL3AB; W. Moyle, ZL3DZ; R. Ripley, ZL3DX.

ZL3CN put his portable transmitter at the disposal of the Corps, and discussion took place on the National Field Day scheme.

ZL3DK was deputed to report on the R.E.C. activities for "Break In." The spirit in which the Canterbury members are helping to make the R.E.C. a body of use to the community is shown by the offers of items of apparatus for the R.E.C. The Canterbury section is now thoroughly organised to meet any emergency; five operators are on the "Immediate" list, and all necessary equipment can be made ready at a moment's notice.

SOUTHLAND.

A very representative meeting of extreme south Fours was held at ZL4AD's on 11th February for the purpose of organising a local section of the R.E.C. 4AD was voted to the chair with 4CH as secretary. After discussion it was decided to go ahead with the building of a QRP transmitter, using low drain receiver tubes in a P.P.T.N.T. circuit with a two tube receiver with tubes of a similar voltage for convenience.

The idea of extreme portability was kept in view so that work could be done in the most remote QRA. When all is ready it is proposed to hold a field day to get the publicity necessary to enlist R.E.C. support from local organisations. 4AD radioed via 3CA.

SPECIAL R.E.C. FUND.

Members! Everyone! Here is your chance to help the Radio Emergency Corps either by contributions of money or apparatus. Apart from a small grant made by Hqrs every section is starting without funds. Make a small sacrifice today and be one to help this noble movement. All contributions will be pooled and divided equally among R.E.C. sections throughout New Zealand.

Headquarters gang 15/-, Anon 5/-.

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B.C. Bakelite (per doz)		4	6
2 way Brass (each)		2	9
2 way Bakelite with switch (each)		5	0
Short wave adaptor 32—60 metres complete with any valve		27	6

BATTERIES.

Columbia 45v. ordinary		15	0
Ever-ready 45v. ordinary		12	0
Ever-ready heavy duty		18	6
Vee Cee		1	4
Unit cells, British (doz)		4	0
Baby 2 cells, British (doz.)		6	6
Penlite (doz.)		4	6
Flat 4½v. (doz.)		5	6
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4 M.F.		4	3
Ferranti, any test quoted on application.			
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.0003		2	6
Sanzamo fixed condensers, .00025		1	6
Tec, 1500v. test—			
1 M.F.		8	5
2 M.F.		11	6
4 M.F.		22	0
6 M.F.		32	0
2500v. test—			
1 M.F.		11	3
2 M.F.		17	0
4 M.F.		32	6

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3003 Philips B. & C. Super		5	7	6
3009 Philips B. & C.		4	5	0

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Philips Units, Cones, and Cords			1 15 0
Philips Baby Grand			2 5 0
Philips Permagnic units with cones			35 0
Standard Induction dynamic			2 5 0

SCREWDRIVERS.

Insulated, Magnetic, handy size (each)			6
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SWITCHES.

5 amp., all insulated G.A.C. (doz.)			10 0
10 amp., all insulated, Kerson (each)			1 6

TRANSFORMERS

Philips Audio 3-1			13 6
Mullard Audio (set-makers)			8 0

TORCHES.

Handy Penlite, complete			2 6
Niagara 2 cell standard, complete			4 0
Niagara 3 cell standard, complete			5 0

VALVES.

Philips B105			4 0
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224 8/3	280 6/	226 5/6	201A 5/-

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Coupling Units, list £1/2/6			12 6

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7/22 Tinned Copper (per 100ft)			3 0
7/20 Tinned copper (per 100ft)			4 6
23/76 Twin flexible (yard)			4
23/76 Twin cabtyre (yard)			6
Window lead-in strips, Belden			1 0

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FOR THE STUDENT.

In the article on variable mu valves there was a rather careless reference to the terms "mu" and "amplification factor." All intending amateurs should have a clear picture of the expressions used in denoting the characteristics of a valve. At first sight they might seem difficult and even confusing, but a study of the subject should disprove this. The serviceman or dealer tests all valves before they are sold. The correct filament and plate voltages and negative grid bias are applied to the particular type undergoing examination and round about a certain plate current should be registered. The instruments in the testing apparatus must be such that any desired voltage or current may be measured. For plotting out the "characteristics" of a tube the filament tension, or voltage, is adjusted to what is normally necessary, and the same with the plate volts. With a milliammeter in the anode circuit the different values of current obtained with different values of negative and positive grid potentials, or voltages, are then taken and noted on paper ruled in squares. The grid voltages should be in successive changes of one volt at a time, checked with a voltmeter. If we study a makers' chart we notice that the grid volts are marked along the base line exactly at the bottom of each vertical line. The vertical lines to the left or right of one marked "O" are negative or positive grid voltages respectively. Horizontal lines give

the plate currents, the base line being zero and each successive line above showing a progressively larger reading, usually in fractions of a milliamp. Whether each line represents one-tenth or one-half of a mil is not important, being chosen according to whether the particular valve has a low or a high maximum plate current.

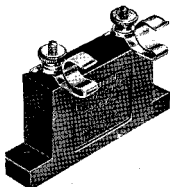
Suppose we have taken a series of readings of plate currents at different values of grid voltages (in one volt steps), sufficient to reduce the current to zero and also to reach a point when positive grid potentials result in no further increase of current. This point, by the way, is called "saturation point." Perhaps 10 volts negative is required to reduce the anode current to zero. Then at the tenth vertical line (to the left of the one chosen to represent the zero grid volts) we mark a cross where this tenth line intersects the zero plate current line. As this is the base line the cross is placed here. If nine volts neg. bias gives one-tenth of a milliamp, run the pencil up the ninth (to the left of the zero grid volts) line to where it meets the horizontal line for one-tenth of a mil. Mark another cross here and now proceed with each successive current reading for each grid volt bias in an exactly similar way until saturation point is reached. Trace a line joining all the crosses and we shall have a "curve" similar to a makers'. A point that stands out most clearly is that changing the grid volts certainly has a marked effect upon the plate current. Suppose

we now fix the grid volts at some value which we know from our curve will give about the middle amount of anode current. Note this value of current and now make the grid one volt more negative. Next increase the PLATE VOLTS until the plate current is back again to the first value. We now observe a second important point, and that is that several volts' change of anode voltage is required to do this. If it took nine volts rise in plate volts for this purpose we would say that one volt on the grid altered the plate current as much as nine volts on the anode. This would give us the "amplification factor" of "nine" for this valve. (If the necessary change of volts had been 15, the amplification factor would be 15).

Suppose, in the above instance, the plate current had dropped $1\frac{1}{2}$ mls when the grid bias was made one volt more negative, then we would say that the "mutual conductance" was $1\frac{1}{2}$ milliamps per volt. If we had an unknown resistance but we know that one volt would cause $1\frac{1}{2}$ mls to flow through it, we would know from Ohm's Law that the resistance was equal to one divided by three two-thousandths of an ampere. (One and a half mls equals three two-thousandths of an amp). In this case this would be 666 ohms. Converting this to mhos, we divide "one" by 666. Where fractions are concerned it is better to change to micro-mhos, so we multiply by 1,000,000 and this works out at 1500 micro-mhos. This is the reciprocal of the resistance. The mutual conductance can therefore be given in milliamps per volt or in micromhos.

Remembering that it took nine volts change on the plate to vary the plate

current $1\frac{1}{2}$ mls, let us divide the volts by the amps. Nine divided by three two-thousandths of an amp gives 6000 ohms as the A.C. resistance or impedance of the valve. As "conductance" is the reciprocal of resistance, this makes the conductance "one" divided by 6000 mhos, and multiplying by 1,000,000 turns it into 166 micromhos. Just try dividing the mutual conductance (in micromhos) by the amplification factor of 9 and this gives 1500 divided by 9 and equals 166, a similar result. Now care must be taken not to confuse the terms "mutual conductance" and "conductance." Very few journals that the writer has seen have been at any pains to make the distinction clear. Mutual conductance relates purely to the effect of the



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grid volts upon the plate current, one circuit upon another. The conductance is obtained entirely from effects in the plate circuit itself. In the example above it is as if the resistance of the plate circuit, when the grid volts are changed, were only one-ninth what it is when the plate volts are altered.

Now why don't we simply divide the full plate voltage by the plate current when we wish to obtain the resistance? Well, we would obtain the D.C. resistance whereas by dividing a change of plate volts (nine in this case) by a change in plate current which it produces ($1\frac{1}{2}$ mills) we find out the true behaviour under working conditions. Turning to what occurs in a simple D.C. circuit when applying a similar test we shall see the system adopted is correct for a valve. With 100 volts applied to a resistance of 800 ohms one-eighth of an amp will flow. Reduce the volts to 80 and the current will be one-tenth of an amp. Divide the change in volts by the change in current and we have 20 divided by one-fortieth (one-eighth minus one-tenth) and this gives 800 as the resistance. We can go a step further and put this example as follows. "In a certain D.C. circuit a change of 20 volts produced a change in current of one-fortieth of an amp. Find the resistance." It is rather curious that no one has ever drawn attention to this point before. The system adopted for finding the A.C. resistance of a tube puzzled the writer until the thought occurred of putting a direct current circuit to the same test. It is advisable when considering the foregoing article to first hunt out several sets of curves from some of the many pamphlets available, "Radio Sir" being a good example and giving the information relative to valve

characteristics in different language.

It is proposed to continue with simple articles on fundamentals of various kinds, provided they prove of sufficient interest to prospective amateurs and others. In this respect criticism is welcomed as to the type of description and opinions as to whether there is a need for them.

—3CG.

* * * * *

FIRST DISTRICT.

This is the first time N.Z.A.R.T. report stations have had an opportunity of expressing their activities in "Break In," and I trust that members will make the most of it. As these notes are my own I will make them as short as possible. Anyone in this district who can supply information of interest can let me know before 18th of each month so as to ensure publication.

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DX on 7mc. is fair now, the best times being between 6 and 8 p.m. Stations heard from January 27 to 30:—EAR110, EAR96, YH1V, TI2FG, TI2LA. W's:—9GHG, 6CEL, 6EPW, 5BW, 5AQY, 8AEH, 6CBP, 6DCE, 9BNH, 9FRQ. ZL3CT heard consistently calling CQ-DX on 7mc. He gets up here with a great kick—great note too; no wonder he is so popular in third district. Hi! The new ZL2's are very active at present, 2KV, 2KT, 2KM, 2KN, 2KO and 2KE being the most consistent. 2CX with a chirpy note heard working ZL2PQ. Is 2PQ a genuine call OM? 1FI, 1GJ 1VL continue to come in with well modulated fone. 2CR heard testing fone most nights now—much better than he used to be. 4DT, the new YL OP heard very FB. Where are all the ZL1 YL OP's?

Heard on February 10 and 11:—2GZ, 3DX, 2GI, 2FQ, 3CX, 3FI and 3FH. Early morning DX here is no good but F8WB and VK3HG heard in QSO—the Frenchman not being audible here.

73 H. B. Harrison, ZI107.

GISBORNE.

Conditions lately have been very fair on both 3.5mc. and 7mc. bands. QRN and wet weather, however, have been very troublesome. As you all probably know we had a fairly big flood here and it only wanted a little more rain and the R.E.C. probably would have had a chance to come into its own. However, we will arrange for more rain next time. Hi! Hi! I visited ZL2FF's shack recently. Cliff was using MOPA wid 201A as oscillator, buffer stage 247, final amplifier 2.245's in push-pull wid 300 volts on the plate. He has been getting anything from R4 to R8 in W and over a period of three weeks has averaged R6½. ZL2FB's shack was also visited. Bill was using a Hartley with a 4v. Telefunken as oscillator and has been getting some FB reports. Hi! Hi! Whilst at this station I had the pleasure of working ZL1FG Tauranga on CW and had a very FB chat. Bill's home brew was very FB, too. Hi! Hi! Later I hope to have the pleasure of visiting other shacks around here. I wish to extend my heartiest congratu-



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lations to our ZL2FE on the formation of the QRP Club. John is as keen as mustard and deserves the highest praise on the enterprise shown. No doubt this club will meet with the approval of all those hams who through lack of chips are forced to use QRP. Kia Ora and 73's to all.

—G.S.

* * * *

ZL1CE ALL AT SEA.

With the permission of the radio inspector, Mr Tom Sargent, ZL1CE installed a push-pull Hi-C Hartley transmitter aboard the s.s. "Herekino," and was successful in working all districts on this outfit while on the briny, between Auckland and Portland. Mr Fred. Hawthorne, ZL1GX, accompanied him as second opr and thoroughly enjoyed himself. Many difficulties were struck and frequently all apparatus had to be lashed down. (Was one of the sailors building a set OMS?) They had a rather awe-inspiring experience when they found that St. Elmo's fire was playing "Home Sweet Home" on the zepp.

All stations worked on this outfit will receive a photo free of charge on receipt of QSL. Hi! 73 from ZL1CE and ZL1GX. Via ZL1CR.

* * * *

OTAGO.

By "Shortly."

Though "Casey" is not our sole instructor this year, we congratulate him on the very fine audio oscillator with multiple phone points which he has installed. Code practice is supervised by Ewen 4BJ with Jack 4BY, Cecil 4CY and Ken 4DB as brass pounders. Several new members are taking a very keen interest in the class and we should soon eat up those "F" calls. Tuesday nights are looked

ahead to, but though we like to see all you ticket holders on Tuesday, we wish you wouldn't QRM so much. Swap your yarns more quietly! We are all getting our receivers going now for some slow morse. Short wave broadcast reception is patchy just now and a lot of QRN is on. See you next month.

* * * *

N.Z.A.R.T. GUARD SYSTEM.

Applications will be received from N.Z.A.R.T. members in the following districts for appointment as guard stations:—Auckland City and district; Wellington district.—W. Ashbridge, ZL2GP, Supervisor N.Z.A.R.T. Guard System and R.E.C.

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QSO ZL3DM.

RAG CHEWERS' CLUB.

Well fellows, in last month's issue we had our slogan, "Click and Qualify." This time we have an endurance record. Can you beat this? On Tuesday, February 16, ZL2HR and ZL1CI settled down to a rag chew commencing at 7.5 p.m. and finished at 12.32 a.m. on the 17th, a total of 5 hours 27 minutes. Apart from reports and arranging further skeds, the overs were 34mins., 45mins., 34mins., 36mins., 61mins. and 31mins.

Now, if these two fellows can do it YOU can. How long will this record stand? That depends on our members—now who will break it?

Congrats to 2HR and 1CI. Am still waiting reply about the emblem for endorsing the certificates, so please be patient.

February has been a quiet month as far as new members are concerned, but don't suppose many have settled down in earnest yet. Our membership is now 43 and will publish a list of the "first fifty" probably next month. May I suggest to members that after their call sign add R.C.C.? The other fellow will then know that he can rely on a Ragchew if he clicks with you. Any further suggestions from hams will be welcome. Well, cheerio till next month, and break that record.

—ZL2AR.

ADVERTISING RATES.

Space is provided in "Break-In" for the featuring of advertisements at the following rates:—

3d. per line of about 6 words.

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Special rates for larger space on application.

QRP TESTS.

The letter from ZL2FE in February "Break In" raises some interesting points. Also, it brings to light some developments here in Wellington.

Some time last October, when endeavouring to get discount on a two-penny switch in 2DL's hamshop, the question of QRP work was brought up by the said 2DL and he finally persuaded me to participate in a test with him on very QRP.

Next day, Saturday, 2DL warmed up his tube, applied his .06 of a watt input and proceeded to call me.

Now, 2CD is about three miles away and about 600 feet nearer the heavy-side layer than 2DL, yet those PDCC sigs arrived at QSA5, r5 on a det. and 1 audio. The plate supply was 40 volts at 1.5 milliamp, measured on a really accurate 0—2 milliammeter.

ZL2DL continued his experiments on this power and got reports from many hams indicating that power inputs of under 1 watt were quite capable of doing good work. He even successfully modulated that transmitter with loop!

The outcome of all this is that 2DL and myself are commencing a 12 month experiment to find out exactly what a 45 volt transmitter is capable of. We are using identical circuits and power inputs. Our locations are radically different, as are our aerial systems. At the end of 12 months we hope to have amassed sufficient information to be able to say just how good a QRP transmitter can be, and in this connection we ask for the co-operation of all ZL hams who may hear ZL2DL or ZL2CO after March 1 of this year, the date our test starts.

—ZL2CD.

QRP CLUB.

Say fellows, get your feather duster and bring out that old 20IA job off the shelf and let's go QRP! The idea of the Club is to foster low power, not only among the present QRP chaps but among the QRO men too. The Club will be an organisation of amateurs whose qualifications are to possess and operate a transmitter with an input not exceeding ten watts. In cases of MOPA or Xtal the power input to the final amplifier must not exceed ten watts.

To make the QRP Club interesting it is proposed to make all members qualify by holding QSO with a station who is already a member. The original station is 2FE who has since qualified 2FB by QSO'ing him. 2FB then worked 2KC and now any stations working those three will qualify for membership, and so on. ZL2FE is to be generally found on 7mc. band and the other two on 3.5mc. band. Now boys, who is going to qualify the first Aussie or Yank? All you have to do is QUALIFY and then apply for 2FE for membership. Sixpence in stamps must accompany application for membership. A splendid certificate will be sent to members, and the profits will go toward competition prizes and making "Break In" bigger, better and brighter than ever.

The QRP Club Secretary's address is ZL2FE, Box 25, Gisborne.

TO CONTRIBUTORS.

In spite of the fact that this issue comprises 32 pages we wish to point out that owing to the shortage of space, we have been compelled to shorten some articles and notes. Other articles and notes that arrived too late for publication have been held over until next issue.—Eds.

HAM ADS.

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AUCKLAND NOTES.

By ZL1CR.

At our last meeting we elected ZL1CK, Mr G. McB. Salt, M.I.R.E., as secretary, and consider ourselves very lucky indeed to get such an able man. He has been associated with amateur transmitting for many years now and should prove a good technical lecturer at our meetings.

At the meeting on February 4, the following officers were elected:— H. B. Arthur, ZL1AN (vice-president); G. McB. Salt, ZL1CK (sec.); L. Mellars, ZL1AR; F. Mickelborough, ZL1BC; E. McKay, ZL1BE; J. Surman, ZL1BP; W. E. Hunter, ZL1CR; W. Illingworth, ZL1GC; P. R. Ross, ZL1GW.

The local amateurs have not been rolling up to the meetings in the way they used to, chiefly because the meetings lacked interest, but with the new executive it is proposed that after every meeting there shall be a lecture, competitions or some other interesting features. Short wave listeners are also expected to turn up in full force. More transmitters are coming on the air each month now in spite of the bad times, the latest calls on the air being ZL1GZ, ZL1HA and ZL1HB, all as keen as mustard. At least, ZL1HA and ZL1HB have been heard almost every night, on the 3.5mc band. ZL1HA, "Monty" Miller, is well known locally and his note suggests DC mains supply. ZL1HB, Mr T. Dahl, Great North Road, New Lynn, has two 245 tubes in a push-pull T.P.T.G. circuit with a normal input of about 30 watts. Drop in and see him, fellows—believe me, he will make you as welcome as the sun on a rainy day. ZL1AA, our veteran op, still as enthusiastic as ever and has great DX results. ZL1AC—where's that fine crystal signal, Ced? ZL1AO knows all the ins and outs of 'phone as anyone who listens to 1ZR and

1ZJ can testify. ZL1AD off the air for the summer. This is the place to learn about amateur transmitting, you short-wave listeners! Get in touch with ZL1AC and pound the ZL1AD key. ZL1AF is putting a strong signal into the States and is going on the "water wagon." ZL1AI was calling "CQ" into a bucket with the damped-wave transmitter of one of their cows when I met him in the holidays up at Waipu. ZL1AN, our new Vice-President, is going to do things. ZL1AR is in the B.E.R.U. contest and doing fine. ZL1AT uses an 852. ZL1AV is heard with his side-swiper and DX mains note. ZL1BC helps us out with our technical problems. He talks of entering for the ZL—W contest in March. ZL1BE is the good natured chap who helps the local branch in every way possible though not all hams seem to appreciate it. ZL1BH works excellent QRP 'phone. ZL1BI builds transmitters for those who feel incapable of the job. ZL1BL is FB on 'phone. ZL1BP is on the executive. ZL1BQ was at last meeting but is not heard on the air much. ZL1BR is staging a comeback after two years' absence from the air. ZL1CA rebuilding ZL1CE and is working anything he can hear on 20 meters. ZL1CH also rebuilding. ZL1CI. How's things with you Claude? ZL1CK says he has about 19,950 Yanks to work yet. ZL1CT is on occasionally and still enthusiastic. ZL1CO spans cows by day and a key by night. ZL1CR going to try some Heising modulation on 3.5mc shortly. ZL1CS is a QRP 'phone expert. ZL1CW works Yanks on 7mc. ZL1CY has given up his rac experiments. ZL1FJ heard the other night on CW, but mostly QRU running his AC receiver factory. ZL1FN has enough parts to start a shop. ZL1FQ along at the meetings, and likes the idea of a picnic. ZL1FT not heard. ZL1FX QYL. ZL1FZ under the eye of ZL1CK, is coming

on 7mc with T.P.T.C. P.P. and about 15 watts input. ZL1GB is a loop 'phone expert. ZL1GI also a loop 'phone, but not so good. Anyway all the Hunter tribe, ZL1CR, ZL1GI and ZL3BJ have that reputation! ZL1GW is causing interference with BCL'S on his crystal 'phone outfit, but works VK after 10 p.m. ZL1GX can imitate a buzz-saw beautifully. Hi! I would like to thank ZL1CK and ZL1GW, the only Auckland hams who, at the moment of writing, have co-operated by sending in news of their friends' doings, and also their own. Any notes from official report stations are also welcomed. Times are hard but surely, hams, you can spare 2d. a month to give me the news!

—73 ZL1CR.

* * * *

WAIKATO.

The Hamilton hams are mostly active now. 1BW has had to reduce power a bit so as to be able to work during BCL hours without causing QRM. Our R.I. has built a very neat portable which puts out a nifty sig on QRP. 1GU still QRP but is gathering together the gear for a more formidable outfit. 1BL is trying to decide whether to rebuild the old Split Colpitts or join 1BW in 56MC experiments. 1FE still Dxing on 20. 1CA Huntly still rebuilding. 1CJ Paeroa again on fone with a little more power. 1FW Glenmassey is now QRO. Been trying out a crystal but had trouble with filter. Visitors to the town lately included 1CI and 2BX. The former on his way to look up the Taranaki hams. BX says he is going to try his new QRO outfit on 80. He seems to have worked just about everyone there is to work on 20. FB OM.

—ZL1BL.

* * * *

TAURANGA.

During the past year many new hams got on the air in this district, and we hope to see more during the New Year.

The first district is a bit behind the others when it comes to YL OP's, but rumour has it that the beginning of the invasion by the fair sex of the ham fraternity of this district will

soon be seen. Hi! What say, Flo?

Conditions have been deplorable here lately. QRN vvy heavy and this has spoilt otherwise good QSO's. Two new first district fones have been heard often lately, namely 1GJ and 1GW. Both these are received well here; 1GC is not heard so much lately. 1AP was heard giving 80m. a flutter and had a good signal. 1AV, the bug merchant, was recently hrd on this band too. 1BF on Guard skeds usually hrd R8 hr. 1BG is not heard much these days. 1GL with a n.d.c. note is often heard; say OM—hw abt putting that sig of urs thru a milk strainer? Hi! 1CL also at Rotorua gives us some fb cw when the OW lets him have a look at the brass. 1CA was heard on fone a few weeks ago. Say, Harry, what's happened? 1CB was on 80 for a bit but seems to have disappeared. 1CI, the R.C. king, is busy on this band again with QRP. Fb Claud! 1CP studying Handys, Mutual Conductance, and "What's It." Hi! 1FC has joined the gang hr. He is a DX fiend and says he's going to raise Hades on 80m. with a portable. Hi! Hw, Norm? Attaboy!! 1CR is doing good work on Guard sked. 1FH has not done much on the air yet; says he is too busy. It is gud to find someone working overtime these days. Hi! 1FG is still active and keeps several skeds a week, also a guard station and, complains that the new relay stn is not hrd hr in daylight. 1FI, the super fone of the north, is vvy good hr most times, but sometimes affected by skip distance, notably in the day time between 10 a.m. and 12 p.m. He recently wkd W5 on fone. Fb. Chas. OM, 1GA, a new ham, has a 1932 sig; 1GB also fb. 1GF only QSO'd by the local gang personally. Not heard on the air nw. Has a car now es it's not a Baby Austin. Hi! 1GG is a QRP man with a good sig. 1GI, another QRP and fb. 1GU also hrd well.

Many of the new hams are badly given to long calls (without signing). I counted my call over three doz times from a couple without the chaps' sign once. Then it was a gess as to how many went before. Say, chaps, how abt getting a copy of Handys and

absorbing a bit of the chapter on Operating a Station!—ZL1CP.

* * * *

ROTORUA. (ZL1BN)

ZL1BG has been off the air for several weeks owing to illness. He is now in the far north enjoying a change of air. The local gang hope you soon get well OM. ZL1CL is still busy on the 80 band and is enthusiastic about the proposal Radio Emergency Corp. The local gang is small in numbers but they hope to secure enough apparatus from the various shacks to build the necessary portables. Don't be afraid to send at top speed OM as Mr and Mrs 1CL can copy most commercials one hundred per cent. ZL1GL has his new transmitter on the air now though he is not yet using the 50 watts available. ZL1GT is seldom heard these days. He is erecting a new sky wire. ZL1BN came up to the 80 band after being down on 40 for almost a year. The number of new calls heard and worked on 3.5mc. was indeed a surprise to him. W6BVC says that Wallie Gee—W6EGH—is leaving the States to take up residence in Auckland. The Rotorua trio, ZL1CL, ZL1GL and ZL1BN, are polishing up their outfits for the coming tests on 80 metres. They are particularly keen as W signals are frequently heard on that band. On February 8, 1BN heard four W6's, two W7's, one W5 and one W2. Peculiar conditions were noted on 7mc. on February 1. At 6.30 p.m. the W signals were coming in at unusual strength but quickly faded out until by 7 p.m. they had disappeared almost entirely. During that time, Rotorua signals were being reported at R6 and R7 in California. Soon after the Americans faded out, signals from Japan, China and the Philippines arrived very strongly and were easily worked, R6 and R7 reports being received. By 8 p.m., all signals west of the 180th had completely disappeared and east of the line were heard once again. The following evening DX was completely absent though conditions returned to normal on February 3. The single wire, Fed Hertz wire, is popular in Rotorua and

is in use at each station, though no two stations use the same system in rectifiers. ZL1BB is using a 281 in a half wave circuit with 750 volts on the plate, ZL1CL uses a test tube rectifier and ZL1GL uses the good old "slop jars." ZL1BN is punishing a couple of W.E.205D's in a full wave circuit with 1000 volts on the plate. They stand the "racket" OK and have been in use for nine months.

—ZL1BN.

* * * *

GISBORNE.

Hello fellows! Here we are right at the start of 1932 with a brand new executive to help the Gisborne branch on toward a year of prosperity. In the past the Gisborne branch has held down the reputation of being the most progressive branch of the N.Z.A.R.T.—but watch our smoke this year!

One step where we are ahead of the other branches for this year is that we now have our monthly magazine bearing the title "QTC." The first issue is out and words of thanks go to Basil Adair (ZL2GD) our worthy secretary, for the fine way in which he promoted the idea and edited the journal. "QTC" contains all the doings of the Gisborne boys, R.E.C. notes, QRP notes, and other interesting matters. Bob Patty, ZL2AE, is kept pretty busy at the Harbour Board's outfit. Hi! He has to keep a regular daily sked with 2AS at Portland Island, the main idea being to keep in touch with liners in the Bay by means of a duplex telephony system.

Basil 2GD says that DX has been patchy for some time on 40m., but Yanks have been worked consistently for the past few months. Other DX worked by him on that band has been D, EAR, J, and F; in spite of the solid QRM that he says exists. He is now on 80m. with a QRP outfit and yarns with the boys on loop. Jack Vautier, 2FE, who is QRP mad, has been the man behind the formation of the QRP Club, which has its headquarters in Gisborne. Jack is also our local bureau and looks after the local gang's cards, posting them in bundles to the Hq bureau.

At the last general meeting the following officers were elected to the

executive of the Gisborne branch:—Secretary, F. Hunt, 2GQ; chairman, Ivan O'Meara, 2AC; committee, I. Smith, 2DM; N. Fitzgerald, 2DN; J. Vautier, 2FE and C. W. Patterson. This year we intend having many hamfests and "getting together" evenings when the gang will visit different shacks. We congratulate Ivan O'Meara, who was visited by the Stork a short time ago—the little fellow's name is Francis Barry O'Meara. Ivan also had a FB portable transmitter, and what a noise it makes on 4.5 watts. It has Heising modulation and he gets fone reports QSA5 R8 from Wanganui in the afternoons—beat that for QRP! Our traffic king—Frank Hunt, 2GQ—has been away to camp at Waipukurau lately and took a portable with him. He kept a nightly sked with 2AC. Also works 2GP every morning at 7.30, handling traffic. He says that Yanks are showing up well on the 80m band and should be good for the March tests. The QRM on 40m is solid with 2FE, 2FF, and 2GG hard at it. Trevor Hughes, 2DW, was also away at camp at Waipuk and reports a FB time there. Says he will be back on the air shortly, pounding brass. 2DM and his cobbers still have their shack and good times at Kaiti Beach. Often see him signalling to the liners in the Bay with a lamp—FB idea OM. Norman Fitzgerald, 2DN, complains long and mournfully about the awful QRM. George Butler, 2FN, is back on the air with a bigger and better xmtr—50 watts in MOPA and matched impedance antenna are his specialties. He is breaking up the 40m band and waiting for the postman. Hi! Bill Bullivant, 2FB, is now using a couple of 256 tubes in PP.TPTG. He gets FB reports from Auckland to the Bluff. He is announcer at the local BC station, 2ZJ, so that is probably the reason why he prefers fone to CW. Arnold Perry, 2FC, at Wairoa, has a super QRO station using a W.E. 50 watter, but will soon have quarter kilowatt tubes—"wow!" The power supply is a 2000v affair with 866's as rectifiers. All contained in a double shielded affair weighing 2cwt. The modulation sounds 100p.c. in Gisborne,

OM, so you can take the cake home this month. Harold Shelton, 2FD, is now out of hospital, we are glad to say, and is back at work with thoughts of a KRP outfit at the back of his nut. Jack Vautier, 2FE, our QRP merchant, has been on 40m lately, working Yanks with 4.5 watts, and sure sends things along. Guess he will give up DX and devote his attention to roping in members for his QRP Club. Cliff Hands, 2FF, is still running the local BC station, 2ZJ, but in his spare time goes in for brass pounding on 40m. Cliff specialises in condenser mikes and has about six of them—all 2FF made.

—ZL2DN—radioed via ZL3BC.

NAPIER-HASTINGS.

Haven't been able to scribe for the past month as the writer went on a ham visiting expedition around Gisborne and Rotorua way over the holidays and has also only just returned from a business trip on the West Coast of the North Island. Quite a number of shacks were visited but time did not permit of a visit to all. The gang hr has lost Secretary Jack Chew (2AL) who has been transferred to ZLW but you can trust the Commercial attracting our best men.

The last meeting of the local branch took place on the 5th inst, as it was supposed to be our annual meeting we decided to throw it open to a gallery by broadcasting the proceedings over 2CR's phone transmitter, and any listening ham schooled in the rules of debate must surely have thrown a fit at the unparliamentary method of running a meeting. However, every case on its merits, and we sure know how to keep the gang together and 100% N.Z.A.R.T. The only thing that we were scared about was that the mike might be open while 2KT was entertaining the bunch! At this meeting the boys fell good and hard for the H.Q. idea of the R.E.C. and a strong working committee was formed to get it going. Nobody knows better than we do that such a scheme is needed, and as a matter of fact we already had a similar scheme on this year's programme. Jimmy Mills, of 2BE and QRP fame,

was elected chairman for 1932, while 2GE took on the doubtful honour of sec and treas. Quite a number of new hams were enrolled and we had much pleasure in welcoming an old timer in the form of Eric Beale, 2AT, who years ago was ZL2BC.

The Bing Boys (2FQ and 2FW) are again on the air and making the writer's life miserable with local QRM. The brothers Spittenkoff (2CR and 2FY) had a fone QSO—but there, that's enough of that. Hi! 2KT is thinking of taking a trip round with the next J. C. Williamson crowd that comes over from Aussie and the local boys are thinking of presenting him with a fone outfit in order to cut out the QRM on 80. Nobody would work while he was on the air. 2AT got a letter from a YL on the other day, and did the OW go crook? Ask Eric. Comrade Weaver, one of our non-transmitting members, is taking a trip to the Old Country next month and is taking a receiver with him to report on the local gang's signals while on

the way, and it is learned that 2CR is going to run ten 210A's in parallel with the hopes of bagging the world's CQ endurance contest.

The younger members of the fraternity are getting seriously alarmed at the number of YL ops that are breaking into the game and are suggesting that, shortly they will be dubbed "Queens" if they are caught looking at a copy of "Break In."—ZL2GE.

FEILDING—RANGIWAHIA.

These are the first notes from the boys of the Feilding and Rangiwahia districts, and it is hoped that they will not be the last. At the time of writing we are trying to form a branch of the N.Z.A.R.T. (We are pleased to hear of this and hope that you will be successful.—Eds.) ZL2AP has received his 40 meter permit and as soon as he gets his receiver to perk OK he is going to get "R MAX" from "G." Hi! ZL2JC is putting out some very nice fone. He gets reports from all over New Zealand with his



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P.O. BOX 382.

DUNEDIN

low powered Hartley. Reginald, of ZL2KC, runs QRP fone and can be heard everywhere giving hints on milking cows. Hi! ZL2KB is usually to be heard brass pounding. ZL2KG is getting fine reports with his QRP Hartley. ZL2KH, "the voice of Kawa Kawa"—any QRP merchant who thinks he can step on it a bit is earnestly requested to QSO ole Ben and complete their education. Hi!

—ZL2KQ.

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WANGANUI.

This month we welcome back ZL2CS, who is with us again on QRP, for a while, with QRO coming up in the lift. ZL2KN, still on QRP and mounting up the QSO's. Was seen riding a motor bike the other day; where's the car, Hugh? ZL2BR has his time taken up with business, and operates a talkie outfit at the pictures at night. ZL2FV Jack has not been on the air for months. Has been seen out with YL's and has been riding a motor bike. Yes, as on the key, Jack is a fast lad elsewhere. Hi! ZL2BR says he is going to give DX on 40 another go. Will soon have WAC. ZL2CM is on fone occasionally; has Xmas, but of course Alex says, "Click and qualify" and is naturally busy with R.C.C. ZL2BQ is down on 40 meters; have not seen Jack, so don't know how DX is with him.

The writer paid a visit to ZL2GH the other nite together with ZL2FV, and if you want to hear QRM, go to Norm's. He was QSO, 2CR and QRM fm power lines es tramcars was deafening. He is thinking of QST'ing. Hi! Have not hrd ZL2CN for some time. His 2m op will soon be on the air. 2CN uses 1000 volts to a 210!! ZL3CM is on fone occasionally; has not tried DX yet. ZL2CT is back on 80 now; has QRO'ed to abt 25 watts, using a 245 and a 280 rect. wrd 800 volts on plate. Received a rpt from Hungary on 40 metres. News this month has been very scarce. No one from here was at the Convention, so are looking forward to news in "Break In."

Here's luck from the boys who make the River City famous.—ZL2CT.

WELLINGTON.

At the annual meeting of the Wellington branch the following officers were elected:—Chairman, R. Slade, ZL4AG; secretary, F. A. McConnell; treasurer, J. K. Hooker, ZL2DQ; committee, W. G. Ashbridge, ZL2GP; S. Perry, ZL2BC; W. A. Wilson, ZL2CI; W. H. Jensen, ZL2CW; R. Carr, ZL2DL.

ZL2AB now president—FB Danny boy. ZL2AS is still the guiding light of the sailors, FB sig, FB op. Hi! ZL2AJ is not heard much, too busy learning gunnery in the R.N.V.R. ZL2AW just returned from a trip to VK and had a FB time visiting shacks in N.S.W. ZL2AY is never heard—come on OM, where's that super power you started? ZL2BC is very pleased with his new receiver. He is building a T.P.T.G. in P.P. using two 50 watters. ZL2BG is still working plenty of DX on 20 meters. ZL2BS has his high frequency permit—here's hoping you have FB DX. Going QRO? ZL2BX is still faithful to the 20m band. ZL2BY has FB fone and morse; he is assistant control station for second district guards. ZL2CA is trying out 20m work these days—any luck? ZL2CD is still chasing ZL2DG in connection with scandal in Wellington last December. Hi! ZL2CE is working Europe regularly and only needs Africa for W.A.C. He did good work on the Janey Seddon during Coast Artillery big gun shoot—good work, Sergeant Bernie. ZL2CF is putting out good fone these days. ZL2CI is building MOPA CC. ZL2CJ gets plenty DX and puts on FB parties. Hi! ZL2CW works plenty DX on 40 and 20m bands. ZL2CX is now in Wellington. ZL2DL was recently heard in U.S.A. with only 45 volts power. ZL2DJ is going MOPA and is chasing those Yanks. ZL2DQ is working up an arrangement using only a 0 to 1 meter to read OC and AC volts and amps. This may provide an interesting article later. ZL2FL also too busy learning gunnery in the R.N.V.R. Thank God we got a navy, eh Wally! ZL2FM threatened to QRO but came on with 3 watts input. ZL2FO is never heard these days. How cum OM? ZL2GJ is

getting all the DX that is on with his new CC rig. ZL2GK has not been heard for a long time. Get her perking, Syd. ZL2GM is thinking of going MOPA. ZL2GP still hangs rather trustfully around the old Hqs P.O. Box. Hi! He has just returned from camp where he cleaned up the section champions. (Much to ZL2FM's disgust—a rival champion). ZL2GQ has resumed the famous 8AM guard sked with ZL2GP. Wally reckons he will like getting up in the middle of the night. ZL2GZ, the greatest ham there is, made a four-days' journey on horse-back to pick up radio junk. One of these days he will give you the story of how he put up his 50 footer by himself, etc. Hi! ZL2JS is putting out self, etc. Hi! ZL2JS is putting out a nice signal, using a UX250 with about 280 volts. He gets R6 in VK on 80 meters. ZL2JX is moving to Australia early in March. Sorry to lose you, Mac, and here's hoping for many QSO's from VK—best luck OM. ZL2LB—W. Fouhey, is a new ham and using 245's in PP with 30 watts input. Welcome to the ranks.

—QRU 73 ZL2CI (Radioed via ZL3CM)

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RANGIORA.

ZL3DY busy piling on QSO's and chasing cards and trying hard to click a VK; says he is going to have a go at the 3.5mc. W tests. ZL3AI back again from a tour of the east, where he had a FB time and visited many AC and J hams; now pounding away on 14mc. and wkg DX. ZL3AL seems to be having a spell since ZL3AI's return. How, OM? ZL3DW sure enjoyed convention and looking for the next. Hi! Still chasing cards and fotos and marking new contacts. ZL3AJ QRL grinding crystals, and still looking for an African. Hi! Working DX on 7 and 14mc. If you want xtals, write him. ZL2FI visited gang while on holiday here and had a FB time; says receiving conditions in Nelson poor.—ZL3AJ.

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CANTERBURY.

3AC is on the air again with a new xmitter, the MO having two 210's in

a push-pull Hartley, and the PA two 210's which will be modulated later. 3AD is working mostly on 3.5mc. phone, and he sure knows his vegetables. 3AJ is busy grinding crystals. Here's hoping that he has plenty of customers. Hi! 3AM has sworn off several times, but still seems to have an outfit perking. Mostly phone. 3AS is a very busy man, as he is both Treasurer and Co-Ed. of "Break-In." But he seems to thrive on it. 3AW is pretty active on 7mc. He must have bought some filter condensers, because his note is greatly improved. No more buzz-saw. 3AZ utilizes the short periods between his skeds on 3.5mc. to work on DX on 7mc. He is doing well in the BERU contest. He was recently observed in the tender (?) hands of 3CG. Hi! 3BJ is going to rebuild again. Apparently this is his favourite pastime. 3BM is to be heard occasionally, but is seen more often these days, on his iron steed. 3BT promises a comeback, and has a young sister in training as 2nd op. 3BZ is rebuilding his speech amplifier, and intends to rival 3YA with his new phone outfit. He would like some wealthy ham to present him with an automatic addressing machine for "Break-In." 3CA is pluming himself on getting a DC note on 7mc. at last. 3CB can't do much operating, as he is now sole op. on S.S. Wahine, which means no sleep at night. 3CC has his push-pull outfit going well in the BERU contest, and the walls are getting well covered with cards. 3CE has applied for a 56mc permit. But will he use it? We wonder. But he actually put up a new pole. 3CF is active again, and is building a new xmitter. 3CG says he is too QRL for brass pounding. 3CK is mourning his 100 footer, which lost in an argument with a nor-wester. 3CL is once more on the air. His note is not all it might be. 3CM seems to live on 3.5 mc. these days. 3CN has built a nice little portable station. But he can carry it. Hi! 3CP is still chasing DX, with usual poor luck. And those he does manage to QSO don't QSL. 3CT is in hospital. Hard luck, Roy. But wait till you see the pile of QSL cards waiting for you. 3CZ and 3BS are getting quantities of the variegated wall paper beloved of the ham.

3DB is QRP again, and not on the air much at present. 3DC is not. In other words, his sigs are not like his call. Hi! 3DD had a nightmare, and his card is the result. It looks OK in the dark, though. Hi! 3DK is selling his junk. Does this mean QRO, or QRP? 3DX wants to know why a hefty filter won't give him DC sigs. 3DZ is active as a guard station.

* * * *

OTAGO.

4DS, QRA, Inchclutha, via Stirling, comes in with nice fist and nicely filtered note, especially as he is a self-trained ham. Our congrats, Bruce, OM, on becoming a member of the great army of hams. 4DD, at Kurow, comes in well PDC sig. He had to QRT for a few days because of clicks, but after various remedies were unavailing he tried grid keying, much to the BCL's delight. No more clicks. (Say, Mr Editor, how about enumerating some key click cures).

4CR, at Ettrick, has portable license now and has xmitter at Owaka. His phone comes through 80 per cent modulated, 100 per cent readable, with grid modulation. One of our keenest members. (Note—Since these notes were written, Matt has departed along with his portable to Sunny Nelson, indefinitely. Good luck up there, OM). 4DH, a new ham, but not heard much yet—has an MOPA outfit and fb note. Give him a call, fellows. 4AO has installed his xmitter at Karitane, and along with 4AI and 4BT, has been making things hum working dx in the BERU contest. 4BK selling out—sorry we are losing you, OM. Well, he would get married. Hi! 4CA, our worthy president, has earned for himself the nickname of Mussolini. Hi! Well, he certainly keeps the Roslyn gang busy. 4BJ has an 852, so look out, you chaps. Fb OM. 4CL, 4BJ's life-mate, has guard skeds, and she certainly knows how to shoot traffic. Is having a great time at present with 3AG who is on holiday here. 4DT, a new YL operator, is located at Balclutha—rumour hath it that 3AZ is on a flying visit to Balclutha—guess he is a fast worker. Hi!

the N.Z.A.R.T. 4DB heard calling DX on 40 metres during the early hours of the morning. What luck, Ken, OM? 4BY is now a guard station. 4BS has been quite active lately. Fb sig, OM. 4BW, 4BU, 4CK, 3DA and 4DT did a round of shack visiting one Sunday recently, but with the temperature at about 80 degrees (typical Dunedin weather, Hi!), they found most of the hams had deserted the shack for the beach.

Another new ham is 4DU, Mr D. Wilson, who has been a member of our club for some time past. We are all glad to hear that you have got your ticket OM, and hope to hear you on the air soon. At present 4DU is QRL erecting aerials and varnishing a fb Hartley transmitter which should put out a good sig.

4BA is still plodding along in his quiet fashion, but getting plenty of good work in for all that. 4BI is on the look-out for a couple of 245's for some experimental work on the 10 metre band. Good luck, OM. 4AP is still working plenty of W's on 40, but says other dx nil.—4AP.

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SOUTHLAND.

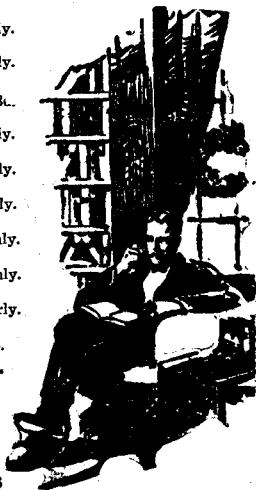
ZL4DL has a fifty watter but is waiting for the Power Board to increase the power output from the Monowai (Hi!) before putting it on the air. 4CG is our lone fone ham and is getting 111% modulation with a 210 modulated by a '199 of 1922 vintage. Hi! 4DZ, our latest arrival, has at last, after none years plucking up courage, secured his ticket, and comes on the air with a fb PDC note. But wow! what a receiver he has—Yanks with no plate voltage!

ZL4CH has altered his feeders and now puts the juice all into the Zepp instead of as formerly into his people's potatoes which had to be topped to stop fouling the aerial. He is rebuilding the transmitter and "inhaler"—going over to MOPA with the former and to AC with the latter. ZL4AD radioed via 3CA.

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