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Edited by

H. P. V. BROWN, ZLSCG

N. W. LAUGESSEN, ZL3AS

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VOL. V., No. 5.

CHRISTCHURCH, N.Z.

MAY 2, 1932.

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VOL. V., No. 5.

CHRISTCHURCH, N.Z.

MAY 2, 1932.

Editorial

We are firm believers in the opinion that the life and soul of our organisation is very largely dependent upon live branches and have had this view ever since the N.Z.A.R.T. was first formed. The subject has already been lightly touched upon in a previous editorial but the time is ripe for a few hints which might assist to improve existing branches. Keen officers fully aware of their responsibilities is a most important factor and the secretary and chairman count most. The average member is quick to appreciate efficient officers and can be relied upon to follow a good lead. The chairman should use business methods for conducting meetings. Punctuality in commencing meetings, a reasonable knowledge of procedure and rules, the ability to keep members to the subject under discussion are important features. It is best to prepare an agenda paper and to have a clear grasp of all subjects for discussion, as well as form ideas or suggestions to assist members in facilitating business. The chairman should not take part in any discussion particularly if a contentious one, while in the chair. His duty is to control the meeting and guide members and the correct method is to vacate the chair if wishing to debate a point, and to resume his seat afterwards. The secretary's position is also important as he should be most prompt in attending to all of his duties. He should be prepared to refer to any past matter at a moment's notice and actually anticipate such possibilities. System is the keynote and a good secretary is a valuable asset. All officers should keep in personal contact with as many members as possible, treating all alike and with a cheery word for each.

CORRESPONDENCE.

PHONETIC PHILANDERINGS.

Editor "Break In."

Dear Sirs,—Now that telephony is reaching a high standard in New Zealand it seems necessary to revise the methods of station operation.

There are certain morse abbreviations which could very well be left out of speech from phone stations. I refer mainly to "FB," "OM" and the last, least and ugliest of all, to wit, "Hi! Hi!"

This last abbreviation is not necessary to emphasise a funny point. It not only spoils a good piece of humour, but it adds definite standing to the Darwin Theory that evolution of man is something we owe to the monkey. When, as a result of human generosity, Malcolm the Monkey receives a handful of peanuts, he makes a noise which bears a sinister resemblance to "Hi! Hi!"

This expression is far from beautiful; so are "FB" and "OM." Contractions are out of place in telephony despite their undisputed usefulness in morse. Moreover, when a listener who is not an amateur hears these expressions the appreciation of amateur transmissions weakens somewhat. At least, several have told me so.

I would like to include the word "ham" among those better left unsaid. What is a ham? Obviously, an outlying section of the anatomy of Percy the Pig. In the American language, which is somewhat different from English, a ham is a way-back village. It also applies to an actor who cannot act. How it came to be applied to amateur radio operators is, like the sausage, a mystery.

Yours very truly,

ZL3DK.

To the Editor.

Sir,—I have noticed in "Break In" reports on my transmission when I was not on the air. The dates I have been on are 7th January to the 17th of the same month and from the 25th March to the 1st April, and I won't be on again till the end of May. Any reports on the Pirates transmissions would be appreciated by me.

ZL2KO.

To the Editor.—Apparently the only excuse that can be offered by transmitters for failing to QSL official listeners' cards even when postage is enclosed is that the reports are incomplete. If this is so, would it be possible for headquarters to publish their idea of a perfectly complete report? If this is done transmitters will no longer have cause for complaint re listeners' reports and should QSL.

In closing I would like to express my appreciation of the information contained in "Break In" every month. Vy 73.—ZL113.

NOTICE.

The Gisborne branch are handling greetings messages from the Poverty Bay Winter Show from May 18th to 21st inclusive. Skeds will be arranged with main centres shortly. Outlying stations please keep an eye open for traffic for your part of district. Postage will be refunded.

(Sig.) F. HUNT, ZL2GQ.

NOTICE.

Radio 4CA is prepared to receive "Break In" notes over the air from 1st to 15th each month provided sent at 20 words per minute, Mondays, Wednesdays or Friday nights, 8.30 p.m.

These will then be sent by post to the Editors.—A. R. HARRIS, ZL4CA.

THE EXECUTIVE CHAIRMAN SPEAKS.

The first quarter of the present financial year has passed very successfully, and it is hoped that our operations during the remaining portion of the year will be equally fruitful. During the period that has just passed your representatives on the executive have worked many long hours in an endeavour, not only to keep pace with the enormous amount of business, but also to further build upon the foundations of the Association. During the short space of time many advancements have been made, while at the same time weaknesses in the structure have been repaired.

The membership has increased beyond expectations, and at the same time the wonderful fraternal spirit that exists between our members in every district has been constantly felt at Headquarters. Recently I had the pleasure of traversing a portion of the North Island on N.Z.A.R.T. business which terminated very successfully both from financial and organisational standpoints. During the trip I was constantly impressed by the wonderful extent of our organisation, the excellent type of men who comprise our membership, and last but not least the estimable status of the Association. That latter fact contributed greatly toward the pleasure of my trip and the success of the business negotiations.

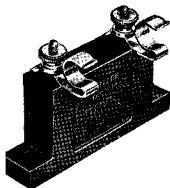
In preparing for the tasks

that lie ahead the present executive is determined that no detail however small, will be neglected; all that is asked of members is that they support us as they have in the past, and, being assured of that, I venture to predict that the year 1932 will be ever looked upon as a truly successful period in the history of the N.Z.A.R.T.

N. W. LAUGESSEN,
Vice-President.

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.



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- Radio Listeners' Guide, 2/6.
- Wireless Weekly (Aust.), 3d.
- Popular Wireless (Eng.), 4d. weekly.
- Wireless Constructor (English), 9d.
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- Wireless Magazine (Eng.), 1/4 mthly.
- Modern Wireless (Eng.), 1/4 mthly.
- Radio News (American), 2/- mthly.
- Citizens Call Book (American),
2/- monthly.
- Radio Amateurs Handbook for Trans-
mitters. (American). 5/6.
- Radio Timetable. For N.Z. 4d.
- D.X. Log Chart (N.Z.), 4d.
- Wireless Telephony (Bangay). 3/6.
- Wireless—The Modern Magic Carpet
(Ralph Stranger). 4/6.
- Radio Encyclopaedia (Drake). 30/-.



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CHRISTCHURCH

FEEDING ANTENNA SYSTEMS.

By ZL3CP.

Last month the radiating properties of antennas were discussed. This month we will have a look over the methods of feeding the power to the antenna, keeping to the methods that use non-radiating feeders.

An antenna may be either "voltage" fed or "current" fed. As the antenna has standing waves upon it, with maximum voltage and zero current at the ends, and zero voltage and maximum current at the centre, "voltage" feed is generally used at the ends, and "current" feed at the centre.

The commonest way of feeding antennas used by amateurs is the "Zepp" type, so called because it was first developed for use in airships. There has recently been some argument here as to whether this type is "voltage" fed or "current" fed. The writer cannot see any grounds for argument. It must be obvious that the "antenna" is voltage fed, though the feeders are current fed. The Zepp feeders each have a standing quarter wave upon them, and the only reason that the feeders do not radiate is that they cancel each other out, because the two quarter waves are of opposite phase.

Zepp feeders must have an odd number of quarter waves on each, so that they may be current fed at the transmitter end. This may be readily seen if the feeders are opened out. They then become a wire half a wave-length long, current fed at the centre. If each feeder was two quarter waves in length, the whole would be one wave-length long, and there would be zero current at the centre. The same thing holds good for multiples of

quarter waves. The length of Zepp feeders is not critical, as they may be tuned by condensers so that the electrical length is correct.

Antennas may also be voltage fed by one wire. In order that this one wire may be purely a feeder, and not radiate, the impedance of the wire must match that of the antenna. This is the reason that the wire does not go to the end of the antenna, but to a point near the centre, where the impedances match up. This point was found experimentally by Windom and others. (See QST). This one wire feeder may be of any length, but must run at right angles to the antenna for at least one-third of the wave-length.

Half wave antennas may be current fed at the centres by two wire feeders, which cancel each other's radiation just as the Zepp feeders do. In this method the antenna is cut in the centre, and an insulator inserted, with the ends of the feeder wires going to either side of the insulator. The feeders must be of an even number of quarter waves long. For example, a 7mc. antenna would have each half of the antenna 33 feet long, and each feeder would be 66 feet long. When straightened out, the whole system is three half waves long, current fed at the centre, and only the quarter wave lengths at each end radiate.

In the systems in which the feeders are current fed at the transmitter end, care should be taken to so proportion the secondary coil (the one in the feeders), that there is the proper step down ratio to match the impedance of the feeders and antenna to the impedance of the plate tank coil, which will be several thousand ohms. The impedance of the half wave antenna will be about eighty ohms at

the centre, and several thousand ohms at the ends.

This article has been very sketchy, and a great deal has been left out that could well have been put in. Those interested are referred to the many excellent articles that have appeared in "QST" and the "T. & R. Bulletin."

HAM ADS.

WANTED FOR BINDING—QST, 1925 to 1931. Wanted for set, 0-1000 AC voltmeter. Write ZL2AH, 39 Scarborough Terrace, Wellington.

WANTED TO BUY—QST, Jan., Feb., Mar., 1927. Apply S. R. Perkin, ZL2GK, Wellington.

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WRITE TO ZL2FY, Hastings, for quotations for all power equipment, modulation chokes, transmitting and receiving coils. Quotes for complete transmitters and receivers on receipt of specifications.

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.

A PORTABLE STATION.

By ZL2GQ.

Since the Hawke's Bay earthquake of February of last year it has been realised by many hams the necessity of having a really portable or QRP outfit to fall back on when called upon to rush to any place to establish communication or get the station on the air when the main power has failed. It was with this necessity in view that prompted ZL2GQ to build his present portable, although at the time of the 'quake there was a semi-portable outfit always ready for use, which was rushed down to Napier that night. It was obvious, however, that there were certain points in this outfit which could be considerably improved upon, so some time later it was dismantled and the present portable was built.

In building this outfit it had to be kept in mind that as well as being portable the outfit had to be solid to stand up to the unavoidable knocking about that it is likely to get when being hurried to a location.

The transmitter, receiver, 90 volts of B batteries, a 4 volt accumulator, head-phones and key are all contained in an old Crosley portable cabinet measuring 1ft. x 1ft. x 8in., and the aerial is strapped on to the back of the case, the whole being carried by a leather handle on the lid and weighs approximately 25lbs.—complete for operation.

The Transmitter.

This is the conventional Hartley, employing a Philips B403 valve with an input of approximately 1.5 watts from the 90 volts of B batteries. The key is plugged into a phone jack in the positive lead of the B supply so that the receiver can be operated

from the same batteries as the transmitter when transmitting, as the negative lead is of course common to both. The milliammeter is mounted on the key which is an advantage as it keeps as much dead metal as possible away from the field of the coil, in not mounting it on the panel, and at the same time it is in a place where it can be easily seen by the operator when the transmitter is in operation. Plug in coils are employed with a brass clip for the grid return lead.

Radiating System.

The aerial usually carried is a half wave 80 metre wire which is voltage fed by coupling it directly to the third turn of the coil from the plate end through a midget condenser. This seems quite an efficient method of feeding the aerial and simplifies the

erection. However, the set was built for some aeroplane tests also, a two turn coil is screwed inside the back of the cabinet so allowing current feed if required.

The Receiver.

This is completely shielded, being contained in an aluminium box with a slide lid. It has the same dimensions as the transmitter 5in x 5in. x 6in., and consists of two A415's in a Schnell and one stage of audio frequency, and gives all the "kick" necessary for head-phone work. It is inductively coupled to the aerial as this allows different aerials being used without much variation in the calibration. The coils are wound on five prong valve bases and the aerial change-over switch is a double-pole two-way switch so that a double ended coil

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Your Log is the most referred to book in your station and as such it should be of a design that will make it easy to keep tidy. This is a salient feature of the N.Z.A.R.T. Log. It has 74 pages ruled and headed according to the official system of logging, ample room for notes and remarks, and a wealth of handy data such as

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can be used for aeroplane work, so cutting out ignition noise.

Power Supply.

This is all contained in the bottom portion of the cabinet and if the headphones and key can be carried separately there is enough room to carry an extra 90 volts, so making a total plate supply of 180 volts. The B batteries are of course the small type of 45 volt block but have been used consistently for seven months now and have not dropped in voltage to any great extent. The accumulator is a 20 amp hour one, but could be replaced by three type 6 dry cells which of course are much lighter.

Operation.

The outfit has proved quite satisfactory in operation, all ZL districts having been worked on 80 metres. It has been taken up to Auckland; also to Waipukurau, and in both cases just put in the luggage carrier with the rest of the luggage without removing the valves, and on arrival has operated immediately, even though some of the bumps made ZL2GQ think that he was taking three perfectly good tubes for their last ride. Hi! It has also been used in various R.E.C. tests as outpost station and on one occasion was carried about 35 miles to a location by 2GQ sitting on the pillion seat of a motor bike and except for getting rather bruised knees from the bumpy road, it was quite a good ride! Tests have also been carried out from a 'plane flying round the district and the results proved quite up to standard, there being no trouble with ignition QRM. In fact it has been used under all sorts of conditions and has travelled over 1,400 miles.

It is hoped that this dope will give some ideas to the fellow about to build a portable, as it is undoubtedly

an asset to any station besides giving a fellow no end of a "kick" to be able to take his station with him on his annual holidays! There are no doubt many refinements that can be added, so get to it, OM's and have a really portable set as a standby in case of emergency.

1932 QRP CONTEST.

Details are being prepared at HQ for a QRP contest which is to be held in June. Full particulars will appear in next issue, so in the meantime, chaps, get that gear together.

A brief outline of some of the conditions are as follows:—

Power to be from a 45 volt battery.

Contest to be held for one week.

QSO periods will be from 7 p.m. till midnight of each day. This will eliminate the possibility of the contest becoming an endurance one. Watch out for full particulars in June issue "Break In."

APPRECIATION.

I would like to avail myself of the opportunity of thanking all those hams in various part of New Zealand particularly ZL2CX, ZL3AZ and ZL2HZ who so kindly helped me to secure my ticket. The fine spirit demonstrated by those hams is an indication of the wonderful fellowship that exists and contributes toward making amateur radio worth while.—W. F. DANCE, ZL2LK.



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HEADQUARTERS NOTES.

Owing to the enormous amount of business that has to be transacted at Headquarters it has been found necessary to make an addition to the HQ staff. The addition was made in the person of "Charlie" Parton, well known as a live wire in local ham circles. Charlie (ZL3CP) has taken over Ron Venable's post of QRA's and Distribution Manager while. Ron himself is now in charge of the organisation department. His new duties will be to deal chiefly with the numerous applications for membership, and other matters dealing with members.

Another new department has been created and will be filled by none other than "Harold" Brown, ZL3CG, who will assume the additional designation of "Technical Advisor." He will deal with all technical enquiries in addition to putting prospective hams on the right track. He is an excellent man for the position, and his technical advice will prove of great value to those who seek it.

"Norm," ZL3AS, still holds down the offices of executive chairman, treasurer and co-editor, besides looking after the advertising section. "Eric" Shipley, ZL3CK, our able secretary, and his assistant, "Bob" Stanton, ZL3AZ, have all they can do with their present positions, and they know how to do it, too.

A considerable amount of business was transacted at the last headquarters meeting. The financial statement indicated that the Association's finances were very satisfactory indeed. A substantial balance was being maintained in spite of the heavy expenses incurred through the tightening of postal regulations, etc. A

report from the QSL bureau showed that its officers were doing excellent work toward making it pay its way in spite of heavy postal charges. A report showed that a considerable number of members were still unfinancial, and it was decided that the Association could not afford to send further copies of "Break In" to them.

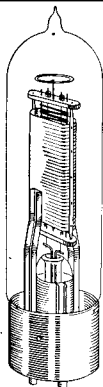
The report concerning "Break In" was very satisfactory; the advertising section had increased considerably. Advertisers had reported good results from space taken by them. After a considerable amount of ordinary business had been dealt with the executive made a start on considering the proposed alterations to the constitution. It is expected that the matter will be fully decided at the next meeting, after which the proposed constitution and several other matters will be put before all members for ballot.

WARNING.

During the present industrial strife amateurs must be careful not to discuss with other amateurs over the air matters relating to strikes, riots, etc. These conversations are picked up by representatives of foreign newspapers in a mutilated manner, giving a false impression of the situation. I have no doubt that the P. & T. Department will be watching the international channels and amateurs should not risk losing their licenses and bringing discredit on their colleagues.

W. G. ASHBRIDGE,
Communications Supervisor.

Wellington, 20/4/32.



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Output as Oscillator	-	-	-	50	Watts
Output Power	-	-	-	4.6	Watts
Impedance at 65 m.a.	-	-	-	3,000	Ohms
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1932 MESSAGE HANDLING COMPETITION.

A 1932 Message Handling Competition has been prepared and all financial members of the Association are eligible to participate. The first prize comprises three high voltage test Filter Condensers kindly donated by L. B. Scott Ltd., radio dealers, Christchurch, and is really worth while winning. Here are the rules:—

1. All entries close on Monday, May 10th, 1932.
2. Entries must be accompanied by 6d. in stamps to cover cost of stationery and postage.
3. Official N.Z.A.R.T. Message forms must be used and can be procured from Headquarters at cost price (1/- per 100).
4. Competition to run for 8 days only—i.e., 0000 NZMT Sunday, May 15th, to 2400 NZMT Sunday, 22nd May, 1932.
5. Competitors will receive by post immediately prior to the commencement of the competition code numbers and particulars.
6. The owner of the station must be the operator.
7. Off frequency operation disqualifies the competitor.
8. CW only to be used and the same station can only be worked once during the one day.
9. No power limit (except that provided for in the Regulations).
10. Stations sending copies of texts by post to stations worked will be disqualified.
11. Points: Message received, 2 points. Transmitted, 1 point. Relayed, 2 points. Special points for best kept log.
12. All logs and copies of messages to reach HQ by 28/5/32. Send your entry and obtain full particulars.

PHILIPS 4148 MICROPHONE.

In producing the new 4148 microphone the well known firm of Philips have turned out a complete instrument of very considerable interest to the phone ham. The microphone itself is spring suspended from an attractive oxy silver finish frame which stands some five and a half inches in height. A suitable length of cord terminating in a special three pin plug serves to join the microphone to the transformer unit (4149) which contains, in addition to the transformer itself a 4½ volt flashlight battery an on-off

switch. These are housed in a blue crackle finished casing with sliding side to permit easy replacement of the battery.

The fidelity of response on speech frequencies is excellent while the output level is very high—equal to that of a gramophone pickup so that additional preamplification is unnecessary. The Transformer secondary terminates in a twin lead for ready connection via a volume control potentiometer to the grid of the speech amplifier tube. Appearances all point towards this new product becoming very popular in ham circles—further particulars will be found in our advertising columns.

SOME METHODS OF CURING B.C.L. QRM.

By ZL3AD.

Many hams who have the misfortune to live in town, and who use much power, have at some time or other caused disturbances in nearby broadcast receivers. In these enlightened days it is becoming increasingly difficult to persuade the owner of the afflicted set that the local B.C. station uses cracked records or that the announcer stammers, and it becomes necessary to do something about it or stay off the air during broadcast hours.

cause clicks in nearby receivers even with the tube not oscillating or with the filament off, and further, these clicks cannot be eliminated by the use of a trap, nor will an ordinary thump filter always stop them. The writer has found that an R.F. choke in series with the key is quite effective in this case, the size of the choke not being critical. The other causes of trouble mentioned above are adequately dealt with in "Handys" and elsewhere, and need not be discussed further here.

The other cause of interference, namely broadness of the receiving circuits, is less under the control of the amateur, and the most useful method in many cases is to prevent

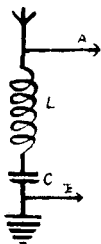


Fig I

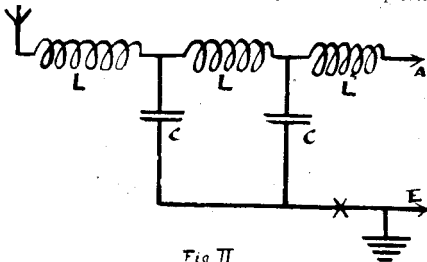


Fig II

Interference to B.C.L. sets may be due to two general causes, either broadness of tuning of the transmitted wave, or broadness in tuning of the receiver circuits. Broadness of the transmitted wave may be caused by incorrect aerial coupling, square-topped keying, excessive modulation of the wave by fone or A.C. ripple, or surging in the H.T. circuits due to sparking at the key. This last trouble has, properly, nothing to do with the transmitted wave and will

the sig from reaching the receiver circuits at all. If, however, the receiver aerial coupling system is accessible, it may pay to try loosening the aerial coupling, or adding an aerial coil loosely coupled, if one is not incorporated in the set. 3B0 has found with crystal sets that the addition of a tuned primary circuit loosely coupled to a tuned secondary circuits will cure QRM without reducing the signal strength of the B.C. station.

In order to keep the short wave sig out of the B.C. receiver it is necessary to put some sort of trap or filter in the circuit, bringing the interferences into the set. This circuit is generally, but not always, the aerial, and this can be decided to taking off the aerial and testing. If this stops the trouble it is evidently coming in via the aerial, but if it does not, and the receiver is run from the mains, the trouble is probably due to R.F. from the transmitter getting back into the mains at the station. In this case the best cure is a suitable line filter at the transmitter. If the interference proves to be coming in through the aerial circuit, a tuned circuit, tuned to the frequency of the transmitter can be used to cure it on this particular frequency. A good arrangement of this sort is shown in Fig. 1. The condenser C should be about .00015mfd (fixed), and the coil about 12-14 turns on a 3in. former (for 80m). The trap can be tuned up at home by adjusting the number of turns on L until the sig is reduced to a minimum with the trap across aerial and earth of the receiver, after which it can be put across the aerial and earth of the B.C. receiver without further trouble. This trap works fairly well as long as the frequency of the xmitter is not changed, but if it is necessary to QSY much or work in other bands it is not very good, as a separate trap for each band would be needed.

In order to get over this difficulty the writer thought of trying a low pass filter designed to cut off just above (in frequency) the broadcast band. Such a filter would leave all signals below a certain frequency unaltered in strength, while those above this frequency would be completely eliminated. Obviously this is just

what is wanted as one trap will do the job for all the ham bands once and for all, and without critical adjustment. The arrangement shown in Fig 2 constitutes a low pass filter and with the right values of L and C can be made to cut off wherever required. For a given cut-off frequency F the value of C is given by

$$C = 0.3183 \frac{\text{Farads}}{FZ}$$

and L is given by

$$L = 0.3183Z \frac{\text{Henrys}}{F}$$

The quantity Z is known as the iterative impedance of the associated receiving circuits and it is in finding this that the only difficulty in designing the filter lies. The impedance of the average aerial is rarely properly matched to that of the following receiver coil and finding Z is mostly guesswork and experiment. However, for the average receiver it appears to be about 10,000ohms or often less. If the aerial is directly coupled to the top (grid) end of the receiver coil, then Z is comparatively high and a small value of C and large value of L should be used, while if the aerial is connected to a tapping near the bottom of the coil, Z is low (it may be less than 1,000ohms) and L should be small and C large. If the best values of L and C are departed from much, the filter will still be fairly effective for reducing QRM but is likely to reduce sigs in the broadcast band as well.

Now for some actual figures. In a trap made for one set in which the aerial was coupled in either at, or near the top of the coil, the condensers C had a capacity of .0003mfd each, while the coils L each consisted of 80 turns of No. 28 enamelled wire on a 1½in. diam. ebonite tube, the

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Chassis	Aluminium	Steel
	s. d.	s. d.
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12 x 9 x 2 ..	6 6	6 0
18 x 9 x 2 ..	7 6	6 9
21 x 9 x 2 ..	8 4	7 3
28 x 9 x 2 ..	9 9	8 6

Any size made to order.

Panels	18g. Aluminium	Steel
	s. d.	s. d.
12 x 7 ..	1 6	1 2
18 x 7 ..	2 9	1 10
21 x 7 ..	3 3	2 2
28 x 7 ..	4 0	2 7

Any size cut. Price per sq. ft. 2/4 Aluminium, 2/- Steel.

Price of holes drilled:—6d. per doz.

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18 x 21 x 9 ..	21 0	28 x 21 x 18 ..	25 0

Shields 9 x 7 x 5, 18g. Aluminium, 8/6

Copper or Aluminium Cabinets made to order.

Tank Coils, 3/4 in. copper tubing. 12 turns lacquered 12/6.
Plain copper coil 10/-

Transformer and Choke Laminations. Black Iron.

Per gross pieces.

Width	Length						
	2	2½	3	3½	4	4½	5in.
¾ ..	1 6	1 8	1 9	1 11	2 0	2 2	2 3
1 ..	1 8	1 10	2 0	2 2	2 4	2 8	2 8
1¼ ..	1 10	2 1	2 3	2 6	2 8	2 10	3 2
1½ ..	2 0	2 3	2 6	2 9	3 0	3 3	3 6

MICROPHONE CASES, 25/-.

CALL SIGN for fastening to aerial pole.

6in. high, 2/6 each.

12in. high, 3/6 each.

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three coils being arranged so as to be mutually at right angles in the usual way, and the whole thing was enclosed in a tin case 6in. x 3in. x 4in. connected to the earth terminal. This arrangement was found to cut off at 150 metres, thus allowing plenty of margin for operation on 80 metres. In use it was found to completely eliminate key thumps and fone (previously R max.), while the broadcast stations slightly increased in strength. (This increase was real, as tests with a valve voltmeter showed, and is probably due to the trap circuits resonating on the B.C. band). If operation on 150 metres is desired a filter cutting off at say 200 metres is needed, and can be got by slightly increasing L or C. As long as the L C product of the filter is kept constant the cut off frequency does not change, and if the filter is found to reduce B.C. sigs this can be cured by increasing L and reducing C, or vice versa, keeping the LC product and the cut-off frequency the same. To find out whether the value of L and C should be reduced or increased the following should be tried if the filter does cut down B.C. sigs (tests should be made on the shortest wavelength signal to which the receiver tunes as the effect of the trap will be most marked there). The aerial should be removed from the position shown in Fig. 2 and connected to the point A (aerial terminal of set). If the B.C. sig comes up to normal L is too big and C too small. Next, with the aerial back in the position shown, the wire connected to E (the earth on the set) should be disconnected at the point marked by the cross. If the sigs come up now to normal then C is too big and L too small.

The condensers C can be ordinary

fixed mica ones, while the size of the wire on L is not important. No. 28 seems to work satisfactorily and give a compact coil. As the cut-off frequency is high for the values of L and C given, the sizes of either L or C can be reduced somewhat without impairing the effectiveness of the filter, while the reduction will make the values needed less critical. Conversely if the filter is made to cut off at 200 metres, careful adjustment of L and C will be needed. Finally, it seems to be necessary to shield either the filter or the receiver. With a shielded receiver the filter works quite well without its case.

A similar filter (wound with heavier wire) can be put in the power mains to the xmitter if trouble is found to be due to R.F. getting into the mains. The values of L and C are then not at all critical and could well be both increased. A filter in both phase and neutral is desirable. The condensers C should in this case have a test voltage at least three times the R.M.C. mains voltage.

SAY

Sing a song of sixpence,
A ham went all a'wry,
He'd four and twenty QSL's
And a sprat to send 'em by.

Then he had a brainwave
And rushed to our Bureau;
He cleared that pile of QSL's
And also saved some dough.

So when your cards are piling high
And when u've sixpence at the best,
Just shoot 'em along to the Bureau
And they will do the rest.

—ZL2FE.

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 2/6. Stickers 1/6 per 100.

EASTER CAMP.

The ham camp held this Easter at Kelcey's Bush, Waimate, was certainly a very lively affair, about thirty being present, including some YL's. From the Third District were:— 3AS, BB, BN and his second op, CP, CS, CN, AU, CI, AD, AH, DA, AZ, CL, CX, BM, and also ex 3CB.

The following came from the south: 4CH (from Invercargill), and from Dunedin: 4CZ, BO, BJ, CL, CY, BY, CN, BS, and Doug. Farquharson. 4DT and her second op (YL) together with another budding YL op were also there. The only B.C.L. in camp was 4DT's brother, who, it is hoped, will, after being introduced into ham circles, look more favourably on key-clicks. Hi! On Easter Sunday welcome visitors were 3BJ and party (Christchurch), Mrs 3AH and 3AH, and Mrs 3BD and 3BD and 4DD, also

3DA and Torchy. The Mayor of Waimate, who had previously been good enough to supply us with particulars of our proposed camping site, also paid a visit to the camp.

Several portables were used at camp, 3BN being the most active. Climbing, shooting, sports, preparing and eating meals took up most of the time, and there were no dull moments. All shared in the work, of which there was plenty in a camp of such a size. Meals were all cooked on log fires and eaten in the open, the weather being perfect. At night, huge log fires were built, and all joined in the singing, led by 3CI. The days passed all too soon, but when we disbanded it was the idea of another camp next year firmly in our minds.

The thanks of all the campers is due to 3CS, 3BN and Co., who did splendid work prior to the arrival of the mob, in pitching all the tents and getting things started.



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GBJ	16.146	GLQ	27.45	FYQ	55.04	FYD	14.92
GBJ	34.013	GLS	15.0	FYQ	33.85	FTA	25.125
GBK	16.575	GKT	17.81	FYQ	20.36	FTB	40.05
GBK	32.937	GKT	26.59	FYQ	13.23	FTC	14.25
GKP	11.95	GBM	56.02	FYR	20.5	FTD	15.12
GKP	62.04	GBM	34.72	FLF	73.5	FTE	16.44
GKQ	27.6	GBN	22.132	FYA	40.37	FTF	16.44
GKQ	52.49	GBN	27.37	FYA	30.48	FTG	43.921
GKS	15.0	GBN	32.538	FYA	24.79	FTH	27.422
GKS	22.01	GBO	15.275	FYA	18.78	FTI	27.72
GKS	36.81	GBO	17.40	FYB	39.96	FTJ	18.45
GLW	15.707	GBO	21.49	FYB	29.71	FTK	18.89
GLG	15.74	GBO	25.04	FYB	22.41	FTL	30.15
GLL	21.962	GBQ	15.82	FYB	17.34	FTM	15.5
GLH	22.165	GBQ	22.28	FYC	36.58	FQE	24.67
GLX	15.252	GFX	22.22	FYC	20.13	FQO	24.67
GLY	22.269	GFV	22.22	FYC	14.28	FRE	15.45
GLK	37.476	GFV	22.22	FYD	29.32	FRO	15.45
GLM	37.783	GFJ	22.22	FYD	23.07	FSE	22.32
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GBI	34.168	GBW	20.78				

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WEJ	44.51	WKM	15.907	PCK	20.69	PLK	21.3
WEM	40.541	WKN	20.299				
WEN	40.499	WQG	19.947				
WEO	43.118	WQL	20.249				
WER	44.709	WQS	21.631				
WEV	43.212	WQT	21.605				
WEX	22.305	WQU	21.661				
WEZ	43.305						

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Kcs.	W.-L.	Station		
7300	41.1	VIG	JRT	
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7325	40.955	DHE		
7400	40.54	WEM		
7420	40.43	GFA		

ZL's ON OVERTONES AT MOONTA, SOUTH AUSTRALIA.

Logged on 120-130 metres, period March 14 to April 12. The Zedders been making lot of noise on "overtone" band during past month, and some of the sigs heard have been of high quality (to ZL2GN and ZL2BX can the latter be applied). A bigger list this period, boys. Here is it; but please note that a number of you undermentioned fellows owe me a QSL. I did my part—please do yours. TNX The figures in brackets denote number

separate days during above period that particular stn sigs were logged. The list:—ZL2GN (7), ZL1CP (2), ZL2AJ (1), ZL2JW (1), ZL3CC (5), ZL2BW (2), ZL2CE (1), ZL3BJ (1), ZL1CK (4), ZL2BX (2), ZL2CW (1), ZL3CS (1), ZL3AW (4), ZL3AB (2), ZL2FI (1), ZL3DN (1), ZL2CI (3), ZL2AQ (2), ZL2FU (1), ZL4BT (1), ZL1AR (2), ZL3AS (2), ZL2CK (1), ZL4CK (1), ZL1AA (2), ZL1CW (1), ZL2GD (1), ZL1AK (2), ZL2AB (1), ZL2HI (1). 73.

ERIC W. TREBILCOCK,
"Overtone King."

INTERNATIONAL QRP CLUB.

This month let's start off with a motto for our club: "Mulum in Parvo," meaning much in little, or concentrated efficiency, suggested by the Wellington gang.

The following stations have qualified during this last month:—ZL2CF, an excellent fone and CW station using Heising modulation, with 4 to 10 watts input to TB04/10; 2DS, 11 watts to Hartley and has clicked 12 countries and 5 continents; 2DO, 2 watts to TPTG and utilizing a unique aerial strung up between two hills, 130 feet high; 3DG, 1 watt to an A415 in TPTG; 2JO, unfortunately xmitter and power not known here yet; and 2JA, from point 4 to 10 watts to PP TPTG.

Several fellows have reported difficulty with the Zepp fed Hertz when using low powers below one watt. Now boys, remember that the aerial is the "oscillator proper," fed by the Hartley driver or whatever the circuit may be, and the efficiency of the whole station is governed to a great extent by the characteristics of your aerial. Experiments have shown that the Zepp system of feeding the "oscillator proper" is not the best, for low powers below one watt. In some localities an ordinary voltage-fed sky wire may be hung to the best advantage, and then again a current-fed system or if the chap is content to stay in the one band, probably the untuned single wire feeder may prove the most suitable. However, it is entirely an individual matter and you may have to try several before you strike the best one.

Also several have requested dope on the best tube to use for QRP. This is a difficult question to answer, too. A lot depends on the filament supply, whether AC, or DC from storage bats., is to be used. The old time tested 201A is a good all-round tube which can be used on AC and DC; the 245 is a popular AC tube which, although inclined to be a little unstable at times, is a good AC filament tube when used in a TPTG or TNT with a grid leak of about 50,000 ohms. Probably the very best of the battery

filament tubes is the Philips A415 or 615 tubes.

This month members are requested to qualify as many stations as possible. Let's see who can get the most.

Vy 73's and best of jolly good luck to all.

The secretary's QRA, Box 26, Gisborne.—ZL2FE.

AMENDED GUARD SYSTEM

will take effect as from May 9th, 1932. The time has arrived for our Guard system to have a little overhauling. The majority of Guard stations have gained experience from their operations of last year, and the newcomers to the system are functioning so well that they will adapt themselves to the change without any trouble.

In the past it has been the practice for each guard to work either a relay station or a HQ guard station. The operator of a low-powered station has not had a chance to prove his ability to take his place among the "noteworthy stations."

The amended scheme suggested by the Ashburton Branch is identical with the "Army" system, and its value as an aid in the training of more guard stations demands its immediate adoption.

The scheme briefly is that every night a station in each district to be designated "the District Station," will work all the guards in his own district 7 p.m. Later on at 7.30 p.m. on the same evening, he will work a relay station, and then finish the evening by again working his district guards. **More stations are required,** and country operators are invited to apply to the supervisor for appointment.

Guard stations must understand that rag-chewing will be impossible if time-tables are to be adhered to.

Correct procedure and snappy operating (not necessarily 30 WPM) will make you the envy of other stations, and prove you to be a "cut" above the average.

HEADQUARTERS ROUTINE.

Day	Time	HQ Stn.	Relay Stn.
Monday	7 p.m.	ZL3DZ	ZL3CX
Tuesday	7 p.m.	ZL3BF	ZL3DN
Wednesday	7 p.m.	ZL3BZ	ZL3CU
Thursday	7 p.m.	ZL3CA	ZL3CU
Friday	7 p.m.	ZL3CM	ZL3AB
Saturday			
Sunday			

DISTRICTS ROUTINE.

Day	Time	District Stn.	District Guard Stations
MON.	7 p.m.	ZL1CR	ZL1FV ZL1AJ
	and 9.30 p.m.	ZL2BY	ZL2DW ZL2HI ZL2DL
		ZL3BQ ZL4CA ZL1BP	
TUE.	7 p.m.	ZL2CA	ZL2GQ ZL2GZ
	and 9.30 p.m.	ZL3AX ZL4BT ZL1BL	
WED.	7 p.m.	ZL2AB	ZL2JY ZL2BW ZL2DM ZL2AI
	and 9.30 p.m.	ZL3FH ZL4CA ZL1BF	
THU.	7 p.m.	ZL2CI	ZL4AU ZL1GK ZL1FG
	and 9.30 p.m.	ZL2CE ZL2GE ZL2GQ	ZL2JG
		ZL3AA ZL4BY ZL1CR	
FRI.	7 p.m.	ZL2GV	ZL4AD ZL2GZ ZL1BL
	and 9.30 p.m.	ZL2GV ZL3CX ZL4CL	ZL2GQ ZL2LB ZL2LB ZL3CS ZL3CS

RELAY ROUTINE.

Relay stations, as set out in the Headquarters routine, will work the district stations in their order, at 7 p.m. and 9 p.m. SHARP. When necessary other stations will be instructed to stand-by.

RAG CHEWERS' CLUB NOTES.

Here we are, once more, gang. Sorry I missed the notes last month, but I was away for a few days, so will make up for it this time. As promised in February notes, I will publish the names of the "First 50." Membership now stands at close on 60, so do your best to encourage

membership and let's see the century long befort next Xmas. Now I have had several applications recently for membership which fall short of the necessary qualifications and it seems as though hams have forgotten what is necessary to belong to "Ye Noble Order." If Mister Printer can find space he can publish the rules of the club for us. Here they are:—

Rule 1—All applicants to be financial members of N.Z.A.R.T.

Rule 2—Rag chews to be of not less than HALF HOUR between "overs" (exclusive of time taken in gaining contact and reports).

Rule 3—QSO's must take place with hams OUTSIDE the applicant's district.

Rule 4—Topic: may be general.

Rule 5—Both applicants to send their card to ZL2AR with full particulars:—Date, time, actual duration of QSO's between "overs," and any further comments. Stamped (2d.) and addressed envelope to be included for R.C.C. certificate. All enquiries and comments to be sent direct to ZL2AR.

Now then, read—mark—learn.

Several members have qualified more than once, and thanks to Hqrs., the club is now in possession of a very FB' block for endorsing certificates. Will those members who have qualified a second time please send along their certificates, not forgetting the stamped and addressed envelope? Those members will be known as "star" members, so go to it. Congrats to the first four, ZL1CI, ZL2BM, ZL2HR, ZL4DT. 4DT is a YL op and says she found no difficulty in qualifying!! Hi! hi! How are the YL ops to be, Kath? Well, just glance at the following list of the first 50:—

VK2NS, our patron.

ZL's—1BF, 1BL, 1CI, 1CB, 1CP, 1GF, 1GG, 1GW, 1GX, 1GL.

ZL's—2AX, 2BC, 2BM, 2BE, 2CP, 2CX, 2CA, 2CS, 2DG, 2DN, 2DZ, 2DI, 2FV, 2FP, 2GF, 2GU, 2HR.

ZL's—3AP, 3BF, 3BV, 3BD, 3CZ, 3CW, 3CS, 3CX, 3DN, 3DJ, 3DG, 3DA, 3DX.

ZL's—4AP, 4CL, 4CA, 4CJ, 4CK, 4CM, 4DB, 4DT, 4DY.

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45 volt Ever Ready Upright type, high capacity B batteries.
Made in England by the oldest and largest battery manu-
facturers in the world. And only 15/- each

B.T.H. 230 volt Gramophone Motors (induction type).

Price complete with turntable 70/6 each

Chatterton's Compound for Transformers, etc., $\frac{1}{4}$ lb sticks
1/- each

Ormond Toggle Switches. Rated at 230 volts, 750 watts.
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Are built up with alternate layers of finest ruby mica and special tinfoil and compressed. Complete with tags. Then moulded in highest quality bakelite, the whole condenser then being sealed to ensure absolutely no effect in the future from atmospheric conditions.

.0001	.....	9d. each	.001	.....	1/3 each
.0002	.....	9d. each	.002	.....	1/6 each
.0003	.....	9d. each	.003	.....	1/6 each
			.006	.....	2/- each

NEW CATALOGUE is now available. **Send 2d. stamp for yours.**

MP HOUSE LTD.

T, WELLINGTON

With the coming of longer nights and less counter-attractions, hams should settle down to rag chews much better now. Unfortunately I am not able to be on the air much myself, but when I do go on, I listen for those hams who sign off "R.C.C." Only heard one so far—how's that? Any ham wanting me—listen in every Wednesday night from 9.15 p.m. onwards. I will do my best to be on deck.

Well, guess I have used up all our space this time, so till next month—cheerio.—ZL2AR.

QRO ON 80M.

In recent times there has been a whole lot of unnecessary bother about QRM on the 80 metre band, and whilst things are not so bad as they have been painted, there is room for improvement and conditions can be ameliorated if we would only apply half as much brain power to the problem as we do to station operation.

Now, the 80 band is purely domestic. Except for more or less freak QSO's with W's our coverage limit is ZL and VK, and the ham who can't do the job on 20 watts input needs to have another session with his "Handys." Many of our stations have no trouble working VK on 'phone with less power than this, therefore why not bann high power, at least during certain hours, and reduce the QRM.

The spectacle of stations using 50 watts and over, working others a few miles away night after night is ridiculous. (Incidentally it is against the regulations).

There is a place for the QRO man and it is not on 80.

The next point is broad tuning. Some of the gang (and they are not all QRO either) have waves of astonishing width. This point need not be elaborated.

Then we come to rough notes and attendant QRM. We can't, perhaps, all have absolutely PDC carriers, but the notes of some of our stations are as rough as the worst of the "W's."

By far the worst offenders in this respect are the 4ths with the 3rds a close second. I don't want to hurt anyone's regard for his pet filter, but if there is any doubt about it I am prepared to back that statement up with numbers, times, dates and station calls.

All of the RAC fellows are not CW; some of the carriers they try to modulate would not discredit a Ford spark. Either they have insufficient knowledge to tell when the wave is too rough or they lack the ability to rectify the trouble. Another source of preventable QRM is the tendency for some stations to wander all over the band. These lost souls must have very unstable outfits. Any ham who is a ham can make his outfit perk on any part of the band with sufficient flexibility for a QSY of a few cycles either side to avoid QRM.

There are 50 channels available on the band and there have never been, at any one time during the last two years, anything like this number of stations on the air, so that a little attention to these details is worthy of serious consideration for the greatest good for the greatest number.

Let's have your opinions, OM's; a frank and unbiased discussion won't do the slightest harm. I am not in any way antagonistic to high power, but I do object to QRO with QRM.

—ZL1BL.



RADIO EMERGENCY CORPS

N.Z.A.R.T.



TAURANGA.

The local gang have formed a branch and have built an outfit using an A415 in a H.C. Hartley ckt. with 1.2 watts from 90v and a two tube Schnell det es 1 audio. The outfit was built up in a hurry to be ready for a try out during the Easter holidays, but has since been built up proper fashion and works FB.

On Easter Monday we held a local field day at Upper Papamoa. The trip was made in 1GF's Essex and after reaching the end of the road we proceeded to the edge of the bush (about a quarter of a mile away) over an old track, the car getting a good jolting. Hi!

After parking in a convenient hollow we slung up the ant. to a couple of trees and, while some of the gang practised on a piece of wood with 1GF's pea rifle, the rest called a CQ and getting no answer adjourned for lunch and grapes. F.B.

After dinner we clicked ZL2GQ who was outpost for the Gisborne section and was on field day in some ranges abt 50 miles from Gisborne. Several messages were exchanged. Our location was ideal for reception and we noticed several points from which good reception was had. Notably Auckland and Gisborne. Auckland sigs are usually rather poor during daylight in Tauranga but were heard well at Upper Papamoa, which is 1400 feet above sea level.

On a following Sunday we went to Whakamarama, which is south-west of Tauranga, and after pushing 1FH's truck and packing plenty of bracken fern under the wheels, we managed to cover the last half mile OK. With the ant. only 10 feet high we contacted the home station ZL1GF and were in contact till time to leave. Although it was a dull day and rained heavily just before we left, it was

quite a success. After some more hard work pushing the truck over the mud we got back to metalled roads and so to home.

Those present were 1FG, equip. mgr. es deputy leader, 1FC, 1FH, Mr G. West (old 1AQ), Mr Keith Gifford (who has just bought a key and buzzer hi!) and the writer.

Success to the R.E.C. and 73 to gang.

—ZL1CP, Section Leader.

CANTERBURY.

Now that the R.E.C. is firmly established the local gang are settling down and are eagerly investigating any proposals for the improvement of the corps. The boys are looking for a call from the H.Q. gang any time as they seem to be getting snowed in with work.

Since the field day we have had several meetings to discuss ways and means of improving the outfits. After considerable gesticulating and waving about of arms and legs, we managed to grasp the main features of signalling with the use of the flag code. This, however, is not a very satisfactory way of working mighty DX, but sure is an acquisition that may come in handy when we receive a real business call. The gang also had a very satisfactory code practice and except for the oscillator developing a nasty AC note everything went OK. Our section leader sure demonstrated that the age of chivalry is not dead when he said our fists were good despite the fact that a certain number just about wore the contacts off the key.—3DZ.

OTAGO SECTION.

Otago branch's zone station 4XD, which on National Field Day acquitted itself and operators as being very efficient, has more recently had a

more extensive try-out under more arduous conditions than hitherto. Comprising as it does of a power transformer supplying 400 volts, 4 volts and 5 volts, a 280 rectifier (Philips 1560), two aeronot 4MF electrolytic condensers and a 10oz 20 Henry choke as power supply, and a transmitter built to "the mighty atom" (T. & R. Bulletin, October, 1931), embodying the simplest P.P.T. P.R.G. principles, viz., positive of power supply to R.F. choke to centre of 16 turn No. 12 aluminium tank inductance, ends of which (shunted by .0005 MF condenser) go to the plate teats of two Philips TC04/10 tubes in push-pull. The grid coil, 96 turns No. 26 enamel on 1 inch former is centre tapped to a 15,000 OHM fixed carbon grid leak to which negative of power supply is attached, the coil terminating at grid teats. Keyed between CT of filament winding and negative of HT. Antenna coil is 8 turns No. 10 aluminium at one end only of tank coil and shunted with .0005 variable and if necessary .0003 MF fixed condensers. Signal ended antenna coil is found to be less critical of tuning than the double ended type and is almost as efficient a pick-up—judged from a wattage basis. The whole xtr is mounted on baseboard 6 x 20 and utilises the bottom of a 20 x 12 suitcase and leaves room for personal effects for safe packing of outfit.

Wattage at 70 metres is 40 while at 75 it is found to be 26 due to untuned grid coil having too low an inductance value.

Receiver and B batteries fit into another suitcase, former being a SGRF det and 2 audio, while A battery is from car. While at its home shack the xtr. has operated on a $\frac{1}{2}$ wave zepp, but on this trip it has been found that any old BCL antenna can be brought into resonance (with the amount of condenser available as loading). The trip was by car along a power reticulated area and was as follows. Left Dunedin 8 a.m. 11/3/32. Spent day at Outram but camped for night with speedometer reading 28 miles. Seven p.m., signals heard at first listen were 4DS, 4DT, 4BP, 4DE,

1GH, 3DC and 2FS. Transmitter antenna was BCL type, 60ft flat top, 20ft drop lead then xtr. and a 66ft counterpoise. Recr. antenna is 3ft flex but recr. earthed. First call made was to a CQ from 2FS and it proved a contact, he being xtal pure, DC QSA5 R5 sl QSS and 4CA signals there at Wakapuaka QSA4 R6 sl fade later QSA5 R7 PDC like xtal. QTC (a report to 2GP) was disposed of and a nightly sked agreed upon. Contacts were established with 4CL, 2HN (Chatham Islands) and 4BS, signal strength at 4BS and Chathams being R9.

Next day at 5 p.m. spedo read 52 miles from Dunedin. We set up stn with a friend whose antenna was 120ft long, but had to be in this case operated as Marconi. A CQ was answered by 4DT and 3BZ, both being worked simultaneously though on different parts of band. Contact was also established with 2CP, 4CC, 3FH, 3CT and QTC exchanged with 2FS, 4CL, and 4BY. My signals varied from R6 in Dunedin to R8 on West Coast (300 miles). Dunedin stations were unheard from 5.30 p.m. until after 9 p.m., although it was known they were working from calls heard. At 2 p.m. on 12/3/32 the receiver was set up to listen to the official broadcast to members of N.Z.A.R.T. (Otago) from ZL4XD. 3FL (on 74 metres) QSS, 3FD, 4CH, 4CL, 4DT, 4CK, 3CS, 3AD were all heard and also of course 4XD speech and test record R7 100 per cent readable. Congratulations, Bob de Gandhi.

13/3/32 being "Sunday the thirteenth," we had car trouble almost all day long, but though we made about 25 miles we didn't get near enough to power supply to set up business. In this we were disappointed, for I wanted to make a few points for the Dunedin lads in their QSO competition; but it was ridiculously funny to see a car which rescued us from creek bed to also stall in same creek and for us to have to aid out—the rescuer rescued.

14/3/32. Our spedo tells us we are 98 miles from Dunedin and though power available no BCL antenna in view so we have to utilise our epoise

as a 66ft Marconi operative against earth which is provided by wetting a piece of gravelly soil and driving in a screw-driver! Truly Central Otago is dry where the irrigation cannot reach. 7.15 p.m. QSO with our old friend 2FS at Wakapuaka, Nelson QSA5 R7 sl QSB.

Now, one thing I always think about Wakapuaka is that in ye "Blenheim days" the cream of N.Z.'s telegraphists were stationed there at cable station and now one of their descendants has a QRP radio shack there. One hundred and fifty volts of dry batteries, 1.8 watts input and the most consistent skedder and QTC man in the ham game. I commend him for the FB results he has achieved and is yet to achieve. Truly he must get maximum efficiency from that little set. He is 400 miles away by air distance and chiefly over mountainous country, yet he is consistently R7. Xtal DC on my trip.

15/3/32. I have now left my friend and car as his route lies to the south, while mine lies to the interior; and tonight I will establish camp at Alexandra where I know antenna power and home comforts await me! Next month I will give you some dope on stns worked there and what your notes are. Kai Oro.—4CA.

R.E.C. 80 METRE RELIABILITY TESTS.

With a view to obtaining reliable data about fading and skip distance on the 80 metre band, a portable station, ZL4CA, was given a trip through Central Otago during March, and the following conclusions arrived at: Power used, 20 to 25 watts in PP circuit TPRG and all types of antennas tried.

In daylight reliable communication on 80 metres can be achieved as follows:—

- 8 a.m., to 300 miles.
- 9 a.m., to 250 miles.
- 10 a.m., to 200 miles.
- 11 a.m. to 2.30 p.m., to 150 miles.
- 2.30 p.m. to 4 p.m., to 250 miles.
- 5 p.m., to 400 miles.
- 6 p.m. from 50 to 600 miles.
- 7 p.m., from 70 to 600 miles.

8 p.m., from 140 to 800 miles.

9 p.m., from 160 to 800 miles.

Thus the fading commences at approach of dusk and gradually extends until no contact is possible after dusk until nearly dawn with stations in the ring 20 to 150 miles.

A careful watch was kept on reception as well as transmission results. Signals from Dunedin to Alexandra (about 90 miles) at 7 p.m. would be R6/8 but a quarter of an hour later were unintelligible and quite a few contacts though established were lost at these times.

Absolutely reliable contact could be maintained with 2FS Wakapuaka (350 miles) from 7 p.m. onwards with steady signals night long if necessary.

The following is an accurate report on the signals from ZL2HN (Chatham Islands) on 79 metres over a 12 hour period on 18/3/32. (New Zealand summer time given). Air distance 750 miles.

8 p.m. previous night, QSA5, R9.

	QSA	R	Remarks
8 a.m. day of test	5	7	Steady
9 a.m. " "	4	6	Fading
10 a.m. " "	4	4	Fading
11 a.m. " "	3	3	Steady
Noon " "	2	3	Weak
1 p.m. " "	2	4	Steady
2 p.m. " "	3	4	Fading
3 p.m. " "	3	4	Steady
4 p.m. " "	5	6	Incrsg.
5 p.m. " "	5	8	Incrsg.
6 p.m. " "	5	9	Max.
7 p.m. " "	5	9	Max.
8 p.m. " "	5	9	Max.

4CA heard 9 a.m., 3FE (300); 10 a.m., 2KD (600 miles); 12 p.m., 3DX (250); and 2 p.m., 2DO (400 miles); 3 p.m., 3CS (140 miles), each calling CO. 3FE and 3CS were contacted with.

The transmitter at 2HN is Hartley with TC 04/10 with 25 watts from motor generator from 10 volt accumulator. Receiver at 4CA is SGRF, det and 2 audio.

Report by 2HN on 4CA signals is as follows (N.Z. times given):—

Previous night 8 p.m. QSA5 R9.

8 a.m. QSA3 R6/4 dropping.

9 a.m. to 3 p.m., no sign heard from 4CA.

4 p.m. QSO QSA3 R5, slight fade.

5 p.m. QSA4 R5/6, increasing momentarily.

6 p.m. QSA4 R6, more pep.

7 p.m. QSA5 R8.

8 p.m. QSA5 R max.

2HN heard 3DX call CQ at noon, but no contact.

4CA's signals had to work out against sun's rays for five hours.

Receiver used at 2HN was detector and two audio. Weather at both ends was brilliant sunshine. No QSY was indulged in after 8 a.m.

The results are not given because of any phenomenal feat but will serve as a reliable guide as to medium power 80 metre range and give indication of what can be achieved. It is intended to have frequent tests of this nature in order to confirm results.

"Interference."

In a country town considerable interference from power mains takes place. The local BCL's got their heads together and built a super-sensitive receiver and a loop antenna. All aboard the big motor lorry—she starts up—the receiver is switched on. "Well, well, its on its location is easy." A run is made through the main street. No diminution in the leaks—"Struth, it's everywhere!" A non-stop run five to six miles along the reticulation. Beads of sweat! "Turn her round next corner." No diminution. "This is why we pay power rates. There must be an enormous leakage at every insulator." Result: negative.

Yes, even spark plugs can cause QRM. Even the power engineer laughs when QRM is mentioned.

NOTICE TO CONTRIBUTORS.

In future do not radio your notes as it causes confusion. Contributors must also strictly observe the Editor's rule of having their notes in before 20th of the month. Failure to observe this has resulted in a lot of matter not being published in this issue.—Eds.

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STUDENT'S PAGE.

The space charge is the cloud of electrons thrown off from the filament and tending to fill the bulb by mutual repulsion and then retarding the emission of further electrons. With a positive potential upon the plate those nearest will be readily attracted whilst those nearest the filament will not be drawn so easily to the anode, due to the mutual repulsion of those ahead. However, as they approach the plate their velocity increases very rapidly as the electrons in front are being pulled harder the closer they are to the plate. At zero potential the grid picks up a few electrons which actually hit in on their way to the anode and this causes a very small flow of grid current. Applying a positive voltage to the grid means that the electrons will be given an initial pull which quickly accelerates them, but the grid current is only a fraction of the plate current because of the spacings of the grid and the side repulsion of electrons, only those passing close to the meshes of the grid in addition to those heading direct to the mesh being hauled in by a slight deflection of their paths. The majority of the speeded electrons shoot through to the anode which is also attracting them and having a greater control the closer they become. The mutual repulsing effect of the electrons (which also tends to retard further emission) is termed the space charge effect.

The addition of still another grid between the plate and control, or signal, grid, still further overcomes the sluggishness due to the space charge when a positive voltage is applied to this second grid. At certain low anode voltages and normal screen grid voltages, a curious effect occurs and this is that some of the electrons which hit the plate bounce off and are caught by the screen grid.

A dip is shown in the plate volts-plate current curve until with increasing plate volts, the plate current commences to rise again and then does so very rapidly close up to saturation point. In the penthode tubes a third grid is placed between the anode and the screen grid and this, being at zero potential by virtue of a connection to the centre of the filament, prevents this action. It screens the plate from the other elements just as the screen grid itself is a screen between anode and the control grid. The capacity effect between the last two is thereby greatly reduced and is one of the great advantages of the screen grid valve making it easier to prevent unwanted self oscillation between successive tuned circuits, provided the tuned circuits themselves are also screened from interaction of their fields.

A valve can be used as a rectifier, an amplifier or as an oscillator, or even combine the three functions at one and the same time. An oscillating detector is an example of this kind. As an amplifier, whether for radio or for audio frequencies, it is essential that positive and negative half cycles be produced equally or rectification, more or less, occurs with consequent distortion in proportion. If we examine a grid-volts plate-current "curve" of a valve we notice that the greater part of the curve to the left of the zero grid-volts perpendicular is straight and then curves at the bottom end. The top end also has a curve. With moderately high or very high plate potentials there appears to be a continuation of the straight part of the valve curve well over on to the positive side of the zero grid-volts line. It might well be asked why a negative bias is necessary for good amplification if this is correct. As a matter of fact this line is not perfectly straight but falls off ever so slightly on the positive side, though not noticeable to the eye. We all

know that when the voltage of a small cell is measured with a very low resistance voltmeter, a lower reading is obtained as against that shown by a high resistance voltmeter. The external resistance (in the meter) must be high compared with the internal resistance of the cell to obtain a true reading. The same fact applies to the resistance between grid and filament. This is infinity when the grid is at least one volt or more negative but possesses a definite value when grid current flows as a result of positive potentials upon the grid. Perhaps a better way to explain the point is to state that the positive grid voltages drop slightly the moment grid current flows. Therefore, for example, one volt positive applied to the grid would fall a little and actually be a shade lower than one volt. Negative voltages give the full value and therefore affect the plate current more than when corresponding positive potentials are applied to the grid. It is therefore necessary that a definite negative bias be applied to the grid of a valve which is to be used as an amplifier. The value must be such that with the particular plate voltages the approximate plate current will be half what is shown with zero grid-volts.

This brings forth a point which will be obvious if the curves of a different type of valves are examined. Some show that only a small input voltage can be applied, with the valve biased to the centre of the straight part of the curve, whilst others permit of a larger "grid swing." Still others accommodate a very large swing, without the grid becoming positive, or the plate current falling off the straight part of the curve at the lower end. With the ordinary three electrode valve we notice that the first class have a high amplification factor, the second a lower (medium) amplification and the third a still lower factor. The last named give the greatest changes of plate current and make good power of semi-power valves for the audio stages. The first class are

best for audio frequency stages or resistance-capacity coupled amplifiers. The medium ones are more of a general purpose type.

Furthermore, the impedance or A.C. resistance of the valve is generally proportionate (roughly) to the amplification factor in the triode. In the radio frequency stages we are handling only fractions of a volt input and therefore high amplification is required. Just compare a few valve curves as supplied with valves and study the points covered. A good grasp should then follow of the types and their purposes.

The reader should note that references are made to both the grid-volts plate-current curve, and the plate-volts plate current curve and should differentiate between the two. The latter is obtained by fixing the grid volts and screen grid volts and then noting the values of plate current obtained with different values of plate potential, the results then being plotted on graph paper. Other curves can be laid alongside showing the differences with different values of grid volts. In each case the grid potential is usually altered by one volt and a fresh series of readings taken with changes of plate volts in suitable steps (such as five or ten volts) from zero to the maximum. The student need not bother about the uses of these different curves until he has a clear picture of how the curves are plotted. With the early makes of screen grid tubes the plate-volts plate-current curves were often supplied instead of the grid-volts plate-current.

ON 3.5 M.C.

(By "Full o' Power")

Stations heard in Dunedin from 2nd April until mid-day 17th April on 75-85 metre band:—

ZL1: BF, CD, CE, CM, CP, DF, FI, FG, GH, GX, GZ, HB, HC, HD.

ZL2: AT, AQ, AX, CJ, CK, CP, CU, CX, DI, DP, DS, FY, GJ, GM,

WHAT ABOUT YOUR SUBSCRIPTION?

GN, GS, GQ, HC, HN, HQ, JB, JN, JQ, KJ, KL, KS, LB, LF, LG.

ZL3: AD, AF, AH, AK, AP, BD, BF, BQ, BU, BZ, CM, CS, CU, CW, DC, DD, DH, DI, DN, DS, DT, DY, DX, FG, FH, FI, XA.

ZL4: AD, BV, BY, CA, CC, CI, CK, CL, CS, CV, DB, DD, DE, DH, DS.

GISBORNE.

Owing to change of QRA I haven't had much time to listen but now things are straight once more I hope to be able to put in quite a lot of time fiddling round the old dials. DX seems quite good on the 7mc band, but the 3.5mc band is blocked with ZL's. Hi! By the time winter sets in and all the boys dust the cobwebs off their xmitters and get going there won't be much room for newcomers. They will have to draw for nights to go on the air. Stations heard lately include:—

On 7mc: W6AJA, W6NO, W6OJ, VK2BU, VK2WJ, VK2ES, VK3JK, VK3KA, VK3TR, VK3WL, VK4JU, VK6WI, VK4AH, VK4FB, VK3JT, VK3NG, VK2HG, VK2AH, VK2NR, VK2HQ, ZL4XC, ZL4AW, OM1TB.

On 3.5mc: ZL's 1HC, 1AR, 2BY, 2FE, 2LB, 2JN, 2BS, 3DN, 4CS.

—G.S.

SUNNY MARLBOROUGH.

These are the first notes from the listeners of this town, but hope to be able to send them in regularly now.

Horrie Simonsen was going to get going on his PCJ4 and hear all the W's on the 80 metre band, but owing to a piece of unforeseen bad luck he was unable to listen at all till lately, so hasn't much chance now. (Bad luck, OM).

Here are a few heard on March 12: VE5AG, W6YAU, W4FI, W6JCQ. March 13 and 14: W7AZV, W2CFI, VE5AZ, W5BXR, W6BXC, W9BKO, W7AWH, W6AEW, W8EFO, W9DEX, W9FRH. These were heard between six and seven in the evening.

Monty Wiffen, ZL2DO, is now at his home at Okaramio, es between pig hunting, prospecting es rag chewing

on 80 metres, he is sure having a lively time. Hi! hi!

I have been rebuilding my receiver es have just finished it, but the brute just won't go. I have been singing hymns (??) over it for two nights, but it still won't go. Hi! hi! Don't the ZL hams QSL now, or have they run short of cards? I have sent out about two dozen cards during the last two months and have received the astounding total of ONE card in acknowledgment. What about it, hams? One sure gets fed up of sending card after card and getting nothing back. 2KS has just had a brand new shack built him; electric light es hot points, etc. Also is getting a nice new power pack for QRO. Lucky boy. Don't bust it, Jack. Hi! hi!

Well, that's all for this time, so cheerio es 73's.—ZL242.

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DISTRICT NOTES

FIRST DISTRICT.

By ZL1CR.

Our last meeting, as usual, was quite successful. Present were the vice-president, Mr H. B. Arthur, in the chair, 33 members and visitors; apologies being received from a number of members, for absence.

Mr W. Illingworth, 1GC, the local R.E.C. secretary, explained the results of the R.E.C. tests, and a motion was carried, that three guineas be donated to the Auckland branch of the R.E.C.

New local members nominated were Messrs Baxendale, 1CD, Walters and Jenks, and the M.C., Mr Ed. McKay, 1BE, gave them a hearty welcome.

1FQ gave us the news concerning the 60 ton ketch "Waterlily," which is coming to Auckland shortly, and everyone was glad to know about it, for they certainly wish to make them welcome in their usual good-hearted manner.

Then there was a great discussion as to when we should hold our next beano. At last we decided on Thursday, June 2nd, and any member or visitor who attended the last beano will appreciate the holiday the next day. Believe me, our local beans are the real thing, and if you haven't been to others, come to this one; bring all your radio friends, and renew old acquaintances. 1AA suggests that this time we hold the morse contest before the beano, not half way through, because last time the words were swaying all over the paper!

The lecture at next month's meeting will be by Mr C. L. Button, B.E., ZL1AC, on the subject, "Recent Developments in Radio Telephony." Well, with Ced. giving the lecture, nuff sed—he knows his radio!

The local branch still want more members, for in unity lies strength, and anyone genuinely interested in radio, whether transmitter or listener, should attend the meetings, which are

held in the Ley's Institute, Three Lamps, Ponsonby, and join up with our Association. Each ham should help by bringing his radio pals along. Local sub. is 2/6 only, yet frequent beans, field days, picnics, etc., are held. Meetings are on the first Thursday in every month. Just climb aboard a Ponsonby tram and come along. Don't be surprised, fellows, if any of the Auckland boys come on the air with QRO soon, as quite a few were in town on the night of our little riot. Hi! They called out the police, the fire brigade and the St. John's Ambulance, while the R.E.C. were waiting to be called out too. Hi!

Not much news of individual members this month as only 1CC and 1CO reported. The rest of the transmitters were mostly, it appears, mental telegraphists, not radio telegraphists. However, I have some news, and also this month, news of the doings of some of the non-transmitting members.

ZL1AA's latest is a CQ machine—hard luck if it gets into reverse gear though. ZL1AN and ZL1FQ were down at FQ's island the other week-end with a portable station, working many of the gang on the 80 metre band. 1FQ, in his own words, has "an extensive rebuilding programme, but so far no activity." ZL1CC will be on the air on 80 metres at the beginning of July, when he moves into his permanent residence. He is second operating engineer at Arapuni, so he does not worry about the plate current of his tubes. Hi! ZL1CO still works everything on 80 with his wee outfit and is interested in QRP records. ZL1HB has been amusing the local crystal kings with his loop phone and inviting murder with his key clicks. ZL1CR is going to rebuild, but no activity yet either.

Messrs Frankham, Walters, Jenks, Don Dunn and ole Mark Churton are getting their ears hard and calloused

from their ear-phones, Mark having just received a QSL from a G heard on 3.5mc., and a very FB one from FM4AB. J. Metcalf has the number ZL108 now. Bob Townsend soon got sick of his new receiver, pulled it apart, and is now rebuilding it. When at home he is second op. of ZL2BE.

Well, QHM's—that's the lot, and I'll meet you all at the next meeting, so get your troubles ready to tell Uncle Wally so he can write them up in your district notes. 73.—ZL1CR.

HAMILTON.

The Hamilton hams are now in a state of considerable activity and the prospects for the coming winter are distinctly bright.

A sub-branch of N.Z.A.R.T. has been formed and further meetings are being held to put the organisation on a firm footing.

Mr Ted Pratt, 1GU, is the energetic hon. sec. and Waikato hams and near hams should get into touch with him.

The next step will probably be a branch of the R.E.C.

A successful field day was held on 17th April. Present, 1AZ (who is coming back again after several years' absence), 1BL, 1BW, 1FP, 1GV, 1HN, and a couple of interested listeners. 1FE stayed at home and kept in touch with the portable 1GU, whilst the rest of us tried to locate the latter with more or less efficient loops. A most instructive and interesting time was spent and we are looking forward to further stunts in the near future, and we hope the country populace will get used to us in time. Several sections of the "backbone of the Dominion" were rather bewildered at our activities.

More of our doings next month.

TAURANGA.

The greatest news of the month is the YL ops of the district. Miss Flo Mason, of Tauranga, has just received her call ZL1HF, and has been busy QSO'ing with 4 watts to a 201A in Hartley ckt, and is getting some FB reports. She already has an exceptionally large percentage of listener QSL's. Hi! FB es congrats

on being the first YL op. in the district, Flo.

Mrs Souper is on again with the call 1CN and has had quite a long QSO with 1HF. Rain started to fall in Auckland and 1HF had to QRX some time while 1CN got the clothes in off the line. Hi! hi! No cheese straws in the oven this time, Thelma? Hi!!

1FC has relicensed and will be heard soon. 1FH has at last got active and bought a tranny, out of an Emmco eliminator, thinking it had about 150v aside. 1FH and 1CP spent an afternoon blowing sundry condensers and making an old 200A tube oscillate with a plate current of 90ma. (measured with a first class Weston meter. Hi!). The tube lasted about ten minutes. Hi! After these distressing (hi! agn) occurrences, the tranny was tested at the local Electricity Dept. workshop and found to have 360v each side. Hi! 1FH now talking of QRO. Hi!! He is using abt 8 watts on a 201A and gets out FB. 1GF has a vy nice PP TNT with abt 25w to couple of 245's and works VK's FB. 1FG still ragchews with the local boys and keeps guard skeds. 1CP has been on 40mx a bit lately and works bit of DX but still finds time to come on 8T to QSO the locals. Also busy building a new three tube AC revr.

Several new hams, 1HB, 1HC and 1HD, are heard most nights. Several fones, 1CI (loop FB!), 1BL, 1GJ, 1GW, 1CO, are heard at times. 1BQ also on again after a spell. 1CD comes in with a roar on his QRP fone. 1FI not so good since rebuilding.

Well, cheerio es 73 to the gang.

—ZL1CP.

SECOND DISTRICT. NAPIER-HASTINGS.

Sorry, gang, that there were no notes last month as I have been out of town. Also have to apologise to 3CU for the non maintenance of guard skeds, but in this case the chap who was supposed to have kept them, fell down on the job.

There appears to have been little activity here during the last month,

as most of the gang has been kept busy chasing a crust.

2CR and 2FW have been busy building the R.E.C. transmitters and by the time these notes appear we will have seen how they perk. 2AT is very bucked these days as his grid modulated fone is getting into Nelson R8. 2CR is building a super station and by the size of it, it looks as if 2BE will have to get a few more K.W. tubes. 2KJ now very much in evidence these days, but then again the bread and butter comes first. 2KT still has a few more stories to tell and is occasionally heard with a decent DC sig. Haven't heard 2FY for a while now. How did the class B modulator go, Harry? 2GE off the air with the MOPA and working on portable. Batteries for MO and buffer ran out and no time to make another power supply. 2FW still digging into the innards of radio sets, and they tell me that his shack is now like a second-hand shop. 2BT reluctantly had to resign from the presidency of the local branch owing to private pressure of business. Hi! 2CR is now king pin.

Anzac Day will see if the local R.E.C. unit is any use or not, and judging by the keenness of the gang it should go off without a hitch.

—2GE.

WANGANUI.

The local club here will soon be starting agn for the winter months. ZL2AR, the club's secretary, has been out of town lately with the army volunteers; was hrd working ZL2GH, using loop mod. Alex. keeps a sked with ZL2BM, every Monday or Tuesday, I think it is. ZL2BY is still putting out his usual good fone and was hrd using QRO the other nite. FB, too. Charles is Wanganui's only C.C. station, but does not always use it. ZL2FV went to Wellington on his motor cycle and visited ZL2AW es ZL2CJ. His time was limited or else he would have called upon many more. Forgot to mention he also called upon ZL2FM. After seeing all the crystals at 2CJ's shack, Jack is building up CC MOPA. Jack also told us all

about the Western Electric Station in Wgton. ZL2KN, Wanganui's latest ham, worked his first VK the other nite. Hugh has been trying Heising mod., but not much success. ZL2JA still on consistently with the same outfit and power; works VK's and is giving 40 a try. ZL2CN now uses a 250 as an oscillator, and says he gets better repts on his sig than when he was using 210. Ernest also holds a commercial ticket. ZL2GH has installed a mighty printing machine to cope with all the QSL cards. Norm is great clobber of 2BY's. Often hear 2BY tell Norm that it is over a week since Norm paid Charlie a visit and wanting to know the reason why. ZL2CM gets out vy well on fone, for QRP was hrd calling VK vy late the other nite. ZL2CS is busy packing up to QSY to another QRA. Maurice is on fairly consistently now with fone and CW, wishing to renew old acquaintances. ZL2BR is still an active radio man, but is not on the air now-adays. However, "Old hams never give up this radio game, but return to call CQ just the same." Hi! ZL2CT and ZL2FV have been talking crystal control since 2FV returned from Wgton. 2CT will be shifting his QRA soon and has decided to go CC. He will be in Wgton. during Easter with his friend, ZLCRS, a listener. Things are getting brighter on the air here with the event of winter; nearly all the hams are active in radio. Au revoir from The River City, boys.—ZL2CT.

TARANAKI.

ZL2CB has been trying to be a little more active in the way of cleaning up his note. All the same it sounds like an aeroplane in flight, Fred. Hi! ZL2HI is another of those P. & T. ops that usually make things work well without the help of birdseed. The QRA of 2HI and 2XO is P.O. Box 11, New Plymouth. ZL2HI has been doing some damage among the Yanks and K6's. ZL2KO was up here over Easter and had the old mitter perking to some tune. Nobody here knows what it was. Any information would be very helpful. Hi! Hi! He

was using the old Hartley with loop modulation; 100 per cent loop, but where was the modulation? Ha ha! ZL2LD has arrived with the xmitter and power supply and a local lamp house. His power combined with 2HI's xmitter gained CC PDC from ZL1?? There must be some perfect liars in the first district. Hi! ZL2LD is still waiting for his licence, and say, OM, pse have pity on those poor BCL crystal sets near you. We have again with us our old friend, ZL2HV, who intends to rend the ether and the BCL's as he did in Brooklyn. We spent the whole night trying to make the old Hartley work but it did the other thing. Now the circuit is that late affair called TNT. Say, ZL2FE, yours lands here QSA5 R7. ZL2HV is a mobile station at present situated at 93 Powderham Street, New Plymouth, and any visiting hams are invited to the shack. This includes all people who are interested in amateur radio, especially N.Z.A.R.T. members. Have only heard one of the others in the Taranaki gang and that is ZL2HR. Sounds as if you have got a bit of power now, Pop OB. Does your filter condenser still go "bang" when you switch on? Hi! hi! ZL2HQ, ??? where, oh where has our little Leslie gone. Shake it up OB, QRO or QRP. Say, OM, look out for pirates down your way. ZL2DN and ZL2JH never heard now. ZL2DN's OM is a builder, so he must be putting up some more walls to cope with the bolshie wallpaper. Hi! hi! Has Tariki been blown off the map, or has Bill 2KV wrecked the power station in the quest for QRO? Not been heard for three weeks OB. Say, ZL2KE, Urunui is still in Taranaki so jam your foot on the gas OB. Hi!

Well, that makes me QRU, so 73's.

—ZL2HV.

GISBORNE NOTES.

We in Gisborne sing the praises of the R.E.C.—tra la tra la! It has taken us out of the rut—one might almost be constrained to say dragged or pulled. Unless there is some motive or instigation to make us do otherwise, we are liable to let our

radio lives go along somewhat orthodox lines, such as ragchewing on 80, DXing on 40 or 20, and occasionally rebuilding transmitter or receiver; but the R.E.C. has given us a diversion, in that there is an orgy of field days, building portables, trans portables, and the like. It seems that other districts are similarly affected—so good-oh, say we.

Easter seemed to be a good time to let loose our new ideas, so most of the lads betook themselves on motor bikes and cars to the various distant points with portables, and all in all spent a most enjoyable time. One party, comprising 2FE, 2FB and several BCL's, went as far as Lake Waikaremoana, but as far as radio was concerned—ND. The xmitter was more or less smashed on the way. Not only the xmitter but 2FE is still weeping tears of blood over the cold cash he had to pay out to have the gears of the lorry renewed. Had to do in his savings for his annual holiday—so there is general mourning in the shack of 2FE.

Another party comprising 2GQ, 2GD, 2DX and three BCL's went per lorry and two motor bikes to Mangapoike, thirty odd miles from Gisborne, and spent from Easter Friday to the following Monday there. What with cooking their own grub, pig hunting and various other diversities, a great time was spent. The portable of 2GQ went splendidly, and QSO's were held with Nelson, Hastings, New Plymouth, Auckland and Gisborne. Strengths of R6 to R7 were received, with only 1 watt, but they were only R3 to R4 in Gisborne. The outfit was screened on all sides by hills and bush, so that is evidently the reason of the weak local reports.

On the Monday 2 AC with a carload of BCL's went out to Waikohu and worked the other two stations with his outfit in the car. 2AE stayed at home as the base station and had a lot of fun working 2AC and the boys at Mangapoike. All the Gisborne gang reckon that it was the best Easter ever spent, and the general opinion is that we should have two or three Easters each year—but calendars will be calendars.

Our branch is having a N.Z.A.R.T. stand at the Poverty Bay Winter Show on May 18th to 21st, with exhibits of transmitters, receivers, portables, etc., and a whole transmitting station will be installed, from which it is intended to let loose messages from the people at the show. So some of you chaps be on the lookout for traffic.

ZL2FA has worked out a formula for perfect 100 per cent speech amplification and modulation, and he reckons that the frequency range is unsurpassed.

ZL2FB is still building that new mike. Hi! Won't it go, Bill? He has had fone reports from Dunedin of R7 on 8 watts. Those Dunedin receivers must be beauts.

ZL2FE, our QRP merchant, Standard Frequency Station, QSL Bureau, or what have you, has a portable—only it's not portable. Hi!

ZL2DM and 2DX recently paid a visit to the shack of 2AC, Gisborne's Old Man of Radio, and Ivan gave practical demonstrations as to how things can, and do, work—especially DX. At 10.30 p.m. QSO'd a W9 and W6BAX, getting R9 each way. Just goes to show that an 852 is no slug-gard with 300 watts on the plate. His numerous receivers, 80, 40 and 20 metre transmitters are really the Glorification of Ham Radio—and then sum.

ZL2AE is making a big hole in the air these days. Heard 2GQ mutter one day during our Easter camp, "Gee, Bob's a cracking operator"; so give that back of yours a pat, Bob. Seriously speaking though, you're not bad.

ZL2GQ, the Traffic King, is at it consistent as ever with those guard skeds. Some of you outside chaps should meet Frank; he's a great lad, rather nice looking, dresses neatly and—er—soberly, wears an occasional "seven-a-side" and peddles insurance for a crust. Say, you YL ops, he's unmarried, too, so watch out.

ZL2GD, the modest lad who buys all his radio gear with the "enormous" profits he makes out of selling the rest of the gang their suits and shirts, was busy building an extra

special portable last week, but got tired before it was finished, so the portable is still waiting. But he has traded in his motor bike for a Rover car, so maybe the portable will wait on for some time.

Say, if any of you outside fellows came to Gisborne and saw a tall "he man" walking up the main street, dressed in a plain grey flannel tennis shirt, well-er-creased sports trousers and a pair of black and white tennis shoes—you'll know that he is Bill, of 2FB. Oh, he doesn't wear a hat either, so you are sure to know him.

ZL2DM runs around on a B.S.A. motor bike that he bought pretty cheap, but he seems to be more interested in that darn bike than he is in radio, because he is never heard on the air nowadays. Why don't you sell it cheap, Clem, and get back in the game again?

ZL2DW has seemingly given up ham radio, and taken on the job of

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ZL3CD

N.Z. RAILWAYS, Tinwald.

second op at BCL station 2ZJ with Cliff Hands, 2FF. Those two think of nothing else but condenser mikes, relays and things. Every man for his likes—or mikes!

ZL2DX ??? Lost, stolen or strayed. Gosh, they must be busy in hair-dressing saloons these days. Or perhaps they aren't, and Norm can't raise a few bob. Why don't you visit the shacks, Norm, and keep your eyes open—and your hands shut. Hi!

Yes, radio is good in Gisborne.

—ZL2GD and ZL2DX.

WELLINGTON.

Although the Wellington branch has had little appearance in recent notes, we have been progressing in great style.

The bright spot at Easter in the Windy City was the radio picnic at Khandallah Reserve, where the local hams displayed their prowess in various ways. The dubious weather kept many away, but those who piled into the bus on Easter Monday morning returned a very happy and pleased crew.

The sports resulted as follows:—

Grand Easter 160 metre handicap: G, Scambury 1st, 2DB 2nd, 2BS 3rd. Novelty choke race: 2DB and Miss Anderson 1st. YL-OW handicap: Miss Hester 1st, Mrs Ramsden 2nd. QRP dash (for junior ops): Miss Ramsden 1st, Mr J. Hooker 2nd, 80 meter radio handicap: Mr Gilby 1st, 2BS 2nd. The QTC QSO: 2JE 1st, 2DF 2nd. Consolation race: Miss Dillon 1st.

The Wellington Branch N.Z.A.R.T. desire to place on record their appreciation of the assistance given by the radio firms of Wellington, by donating the excellent prizes listed below. They are enough to make an ham's mouth water.

Standard Telephones and Cables: 0-5 Weston milliammeter.

Philips Lamps Ltd.: PH245.

Marks Ltd.: £1 order for power apparatus.

T. Ballinger & Co.: 10/6 order for electrad resistors.

F. W. Fear & Co.: Morse key, R.A.F. type.

Electric Lamp House: Order for 10/6.

Bob Horrobin: Pair of 245's.

Jenkins & Mack: Two transmitting coils.

The event was followed up by a combined R.E.C. test and a local competition when, on Sunday, 11th April, 2CA and 2CD took 2CA's portable up to Waikanae and returned to Wellington via the Akatarawa Road and the Hutt Valley, making ten minute transmissions every hour. 2CA's Baby Triumph had to hold two enthusiastic hams, one portable transmitter, split colpitts, one 120 volt battery, one 6 volt accumulator, one monitor, various accessories, and one genuine photographer complete with camera, etc.

All types of aerials were tried, mainly in pouring rain, except the last, when we even saw the sun for fully three minutes. Although the current-fed Hertz was the normal type used, we tried Marconi, half-wave Hertz aerial and counterpoise, etc. All gave much the same results, though the first effort, 40 miles from Wellington, on an indifferent Marconi, with 4 watts input was exceedingly gratifying, as nearly the whole of the 56 word message was copied by 2HA and others.

We are planning more extensive tests of a similar nature in the near future.

A competition for the Second District Cup was held in conjunction with these tests and was won by ZL2HA-2XK, Mr H. C. McCabe. Mac was a popular winner and actually copied over 85 per cent of the messages transmitted.

At our monthly meeting on Thursday, 14th April, the presentation of the cup was made. With it went a 245, donated by 2CI, while an obliging photographer posed the whole meeting and used up the necessary magnesium power to celebrate the event.

Our monthly meetings are now getting very popular, as supper is always turned on and the gathering is usually treated to the sight of several hardened sinners slipping into the seats just before supper time. YL's should never interfere with

business, OM's! We are keen on seeing all the Wellington hams along at the meetings yet.

NOTES.

2AH has come to light again and wants spare copies of numerous radio publications. 2AJ is seen seldom and heard less still. 2AK is busy on a job ending in a pair of 47's as final power amplifiers. 2AA is busy on 80 metres and is always seen at supper time. So is 2FN, 2FZ and 2FT. 2AN puts out excellent phone and has plenty of punch up here. 2BF has been reallocated. 2BG is raking in all his DX QSL's. 2BH has changed QRA. 2BI is also in a different location. He puts on a FB stunt when he broadcast the inter-varsity boat race at Easter. The outfit on the boat used an xtal MOPA with a pentode modulating a 245. Excellent quality, too. 2BS acquired a 245 at the Easter outing, but as 2CD, who was handicapper, saw him run at the Christchurch Convention, he was due for quite a big handicap. 2CA knows all about neutralised amplifiers, eh what? On second thoughts he prefers the self oscillators but is investigating xtal. 2CD is very QRL with R.E.C. portables and secretarial work, but is planning a MOPA, using TC03/5osc and pair of 245's in PP amplifiers. Must get 2CA to neutralise them though. 2CE has a QSO marathon—22 QSO's in three hours. QSL'ed them all, yet Bernie? 2CJ is nearly as bad. He is working lots of DX, too. 2CI is leaving his beloved Belmont. He has about the finest note on 80 metres. Uses 227, 224 and 210. Also a 50 watter for 40 and 20. 2CP is going QRO. 2CW getting plenty of DX QSL's. 2CX is walking round the North Island, so northern hams beware! He talks xtal and screen grid buffers, so by this shall ye know him. 2DB was very successful at the radio picnic, but isn't on the air as much as he might be. 2DF turns up again. 2DG is hibernating, I believe. Never see him, but he is hardly worth worrying about anyway. 2DL went and got married at Easter and, despite frantic efforts on the part of the gang, remained hidden till he chose to return.

Congrats, Bob, but let's know next time!! 2DP has xtal, I believe, but not the true xtal note. 2DQ is contemplating xtal phone, so stand by for QRO. 2FM is another with visions of QRO. 2FN is too tired to haul his aerial up, but looks in occasionally. 2FR has left this city to 2CD's great joy. 2FT has a new QRA. Always has, I believe, so he built himself a vest pocket xmitted for convenience in shifting QRA. 2FZ is busy on a huge MOPA, but I think he ought to be discouraged, as he lives fairly near me. 2GJ is very quiet. What's up, Ken? 2GK still going strong. 2GM too busy to come in to meetings. You are missing a lot, OM. 2GP is thinking of cleaning up his note at last. About time, too! 2HS is stirring up trouble among Hutt BCL's. 2JE turns up now and again and is working a little DX. 2JI must be dead or married. He hasn't asked for his mike back yet. Would like to see you

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at the meetings, OM. 2JW embezzled his YL's prize at the picnic and hasn't been seen since. 2KL is busy burning up 245's in great style. 2KX is our old friend 2CE under new guise. 2LB is just warming up and ready to QRO soon.

Our latest ham, 2WL, is now in Auckland, as he is aboard the ketch "Waterlily." The local gang, including our worthy R.I. fixed up a QRP xmitter on 80 metres on the boat, but with the exception of skeds, QSO's were hard to get, till the station became known, as the locals thought he was a pirate. Any QSL's for ZL2WL should be sent through 2CD. He will be on 40 metres after leaving Auckland, so watch out for him and relay any messages he gives you to ZL2CA or to their people in Christchurch direct.

Cheerio to those who have managed to wade through all these notes.

—ZL2CD.

NELSON.

2FI busy DXing on 40 wid 60 watts to push-pull 210's. Needs an African for W.A.C. 2JO is chasing VK's on 80 wid QRP. 2JP dabbles with fone and tries to work 2LI duplex with quite good results. 2KF mostly on CW; heard trying out loop—quite good, too, OM. 2KG has given up bikes in favour of radio. Is going to build MOPA with push-pull TBO4/10's. 2LH hasn't been on much yet—calls CQ DX with his feeders off—optimistic Roy. Hi! 2LI has FB outfit. Blew his tranny trying out Heising, so tried loop. Heising excellent quality, loop quite good.

—ZL2JP.

CHATHAM ISLANDS.

Radioed via ZL2HO and ZL2GP.

Chatham Islands radio is having another change in its personnel. ZL2HN, W. Taylor, is returning to the mainland (YL's please note). His successor is A. E. Hayward, a keen amateur and a crackerjack with the bug. He will take over the complete outfit of ZL2HN including the call. ZL2XL is almost exclusively on phone

on 38 metres. After several months of experimenting, the outfit is now functioning perfectly. Daylight reports received from Australia say R8 QSA5 (vy FB, OM. Come up to the 80 band and give the boys a treat.—Eds.). ZL2HO with an input of 10 watts has worked WJ and VK. (FB, OM.—Eds.)

THIRD DISTRICT NOTES.

By 3DZ.

3AB is sure a busy man, what with R.E.C. guard and DX chasing. 3AC seems to have died a natural death. The receiver is coming up in the lift. 3AD is sure as keen as ever in all activities. 3AE finds time to keep the outfit going despite the war on the headquarters typewriter. That fone is still as FB as ever, Ron. 3AF is posted amongst the missing. 3AK ditto repeato. 3AS is sure QRL with all the N.Z.A.R.T. activities. 3AZ what's happened to the six o'clock skeds, Bob? Too much DX OB. 3BB had the gang round to put up a 60ft stick at his new QRA. 3FR shudders every time he looks out the back door. 3BC still chasing DX on his one flea power. 3BF sure can handle QTC in fine style; FB, Ernie. 3BG finds time to take a peep at 80 metres despite the worries of BCL's. 3BJ sure makes a hole in the air on 40. 3BM is a busy man with his BCL duties; rumour has it that there are some 50 watters in the offing; look out, gang. 3BO, how we miss you to-night. 3BR is on occasionally despite family worries. 3BS knocks the 80 band about occasionally, combined with 3CZ. 3BT is right in the thick of it with her various secretarian duties. 3BW—Frank sure can string the general public on and never a smile either, despite the outbursts of 3DB. 3CA still going strong despite the moanings of 3BR and 3DX. 3CC chases the froggies consistently much to the joy (?) of 3CP. 3CE—well, well, what about it, Bruce? 3CF heard occasionally but evidently BCL's are taking most of his time. 3CG is right in the thick of it at HQ but I am afraid there must be some cobwebs

on the outfit by now. 3CH—say, Mac, that outfit—nuff sed. 3CK, our worthy secretary, is still holding his clearance sale and has evidently cleared the outfit too. 3CL had his outfit at the fair for all the boys to admire, but say, Les, does it work? We haven't heard it for a long time. 3CM is none too welcome on the air by the St. Albans boys, and they are holding secret meetings, I believe, and building mighty power supplies to retaliate. 3CN is sure keen and is seen at every radio meeting in Christchurch. 3CP will soon ask 3CC how Chas is doing. Hi! 3CT still trying hard to improve that note. Here's hoping, Roy. 3CY is amongst the lost, stolen or strayed. Is it YL or work, Bill? 3DB—Sol sure got the rubbish shifted. Hi! hi! 3DC keeps the 50 watters from cooling down. 3DG is heard occasionally and then relapses. 3DK managed to drag the old body to a meeting at last. Loud cheers from the argumentative element. 3DL seems to be too busy pushing that old Lizzie round to push a key. 3DP dusts his key once a month and then puts it away again. 3DV, we believe, is cleaning up the note. Prolonged cheering from the Spreydon gang. 3DX has a wonderful note; what's the recipe, Ron? 3DZ, after much exertion, clicked a W7 on 80 and is now recovering. 3FC—say, OB, the Butler Timber Coy. want a new band saw. What about selling yours? 3FE away out amongst the turnips where QRM is unknown. 3FG sure knows more than Handys where peaked audio is concerned. 3FI is starting to wonder if it is the waves on the beach that cause the vibration in his note. 3FJ is trying to find enough chips to renew his licence. 3FK has developed one of those popular (?) notes. Come on, Len, clean it up. 3FL—anyone knowing the whereabouts of this ham please wake him up. 3FR is looking for a band all to himself. What with 3CM and now 3BB, he says life is becoming unbearable. Can anyone please advise 3FY the price of filter condensers?

3FZ pounds steadily onward, but oh, boy, that laugh!—ZL3DZ.

CANTERBURY.

By ZL3CP.

These notes will be pretty scanty this time. My request for news has been answered only by 3AK. Other gentlemen who have appeared in these notes before appear to have exceedingly tender epidermi, so we will give their quivering nerves time to settle down.

April 10 was a day of disaster. 3BZ said good-bye to a pair of 281's, 3BF mourns a power transformer, and 3CP lost his thermo couple ammeter. We understand that the blue glow in the various shacks was NOT from mercury vapour tubes.

3AK sends in a description of GMON, H.M.S. Whakakura operator, Arthur Richardson. The transmitter uses a Phillips B403 with 180 volts on the plate. This little set has worked England on 36 metres. The aerial is 60 feet long, with four wires and has a two wire lead-in 30 feet long.

3AK is not on the air as much as he would like to be, owing to night duty.

The stall at the All Nations Fair, run by the R.S.C. and N.Z.A.R.T. was very popular, and was very favourably commented on by the organisers. About three hundred messages were handled by the transmitter installed there, and working with the guard system.

In an endeavour to get better notes and operating on the air, the Christchurch branch has appointed a committee to observe the local signals. The reports will be posted up at meetings, so that the gang will have the opportunity to see and to discuss the observations of the committee.

On April 17, we were visited by eight of the Timaru gang. After lunch at the R.S.C. rooms, visits were paid to various Christchurch shacks by means of cars owned by 3BT, 3CN,

3CM and 3CK. The Timaru gang went home provided with quartz lenses, plate glass and grinding paste, and hope to be all CC shortly.

RANGIORA.

ZL3AI still QRL with lectures. When will they finish, OM? Wld like to hr u active agn. Had his plate tranny develop a leak to frame, but now OK; says he is gng to give FMSIH es FM4AB a go to get his wac; they are coming in at R5 to 6 abt 7.30 a.m., each mng but darn hard to QSO. ZL3DT reports little activity for a newcomer; expect he will get to it shortly. Come on, Jim; surely the lure of DX will attract you. We will soon boast of another new station. Mr W. Mitchell, who has just passed the ham exam and has call ZL3FW reserved, and judging by the enquiries, buying of parts and building trannies will be on the air vy sn. Hi! FB, Bill. ZL3DW now after greater DX as she now boasts a 7 es 14mc permit. Has already bn QSO W4, W6 es even the nerve to try a QSO with FM after the OM has gone to wrk; says she will be WAC before him or ZL3AI. Hi! AFRICA is hard to click tho. Hi! hi! ZL3DY full of disappointment re his 14 and 7mc permit—got lost in the mail. Hi! A real ham doing FB work with a QRP set hopes for great DX sn; trying out various antennas. ZL3AJ rising with the larks to beat the wife in getting that FM QSO. Hi! Has sold a few quartz wafers, but biz vy slack; depression es 10 per cent cuts. Hi! Trying out various antennas es finds third harmonic gives best DX.

—ZL3AJ.

WEST COAST.

During Easter the Coast gang had the pleasure of entertaining several visiting hams who fortunately arrived during our fine spell. ZL3DP and 3BZ arrived by motor car and visited a few shacks on their arrival. On Easter Sunday ZL3CM, ZL3DN and ZL2CL arrived per excursion train and were immediately taken away to

be fed, 3CM going to Myrt's and the other twø were taken around to ZL315 and 3BV's. After dinner, 3BV motored all the gang out to the Fox River and the Blowholes, where an enjoyable afternoon was spent. On arriving back at Grey more eats were indulged in and after a little "hamming," our visitors embarked for the trip back to Christchurch. Quite a lot in a little time. Hi! hi! ZL3BT and her mother arrived here on Easter Friday and stayed at Myrt's, 3AG, for a few days, then to the Glaciers and back to 3AG's and on the following Sunday off to Nelson. While in Grey, 3BT visited all the shacks and spent quite a wonderful time with the hams. ZL3AA is busy designing a super receiver. Not heard much on the air lately. What's the matter, Stan? ZL3DV has also been leading a quiet life lately. ZL3BQ now on with a MOPA, using a 245osc and a 255 P amp, has been on fone, using

CQ - CQ - CQ

DE

ZL3CF —...—

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a 20 watt talkie amp as modulator with plenty of punch behind it. Any regrets for the 50 watter, Chas? ZL3BU not heard much lately; thinking of shifting to warmer quarters. ZL3DD planning a xtal outfit, and is busy building a huge power supply to feed it with. ZL3BV a busy man lately, has been installing a 100 per cent 50 watt fone station, and of course not without troubles; but everything perking FB now, except for a shortage of ant current when the yanks are on 80. Hi! hi! ZL3DH continues to do good work on QRP reckons high power wasteful. Can be heard on fone with 3BC. Spends a lot of time at 3BV's, but not in the interests of radio. Hi! We regret to announce that our YL report station ZL315 is at present on the sick list, and we all join in wishing her a speedy recovery. ZL3AG has been too busy entertaining visitors lately to spend much time on the air. Has been reaping the reward of past labour in the form of DX cards, which are coming to hand slowly. ZL3AX has been getting his share of trouble also, a burnt filament tranny being the latest. We extend our congratulations to the four new hams on the Coast who are at present minus their calls. We hope to hear them all on the air soon.

SOUTH CANTERBURY BRANCH.

The following are the minutes of the first annual meeting held in the Cafe Carlton, Stafford Street, Timaru, on Monday, March 7, at 7.30 p.m.

J. Hill as acting chairman, presided over an attendance of eighteen.

The following were elected as members of the local branch:—D. Houston, D. Willcox, D. Sutherland, A. Duncan, T. Isaacs, T. Baker.

Election of officers:—President, H. B. Courtis, nominated by J. Hill, seconded by A. E. S. Hanan. This was the only nomination and was elected unanimously. The newly elected president then took the chair. Vice-

president, B. C. Warren, nominated by R. Kay, seconded by D. Houston; A. E. S. Hanan was also nominated but withdrew in favour of B. C. Warren who was elected. Secretary-treasurer, S. L. Johnson, nominated by R. Kay, seconded by J. Hill; J. Hill, nominated by S. L. Johnson, seconded by J. Reid. The question was put to the meeting, and S. L. Johnson was elected.

Committee:—The motion of A. E. S. Hanan, that seven members be elected to the committee was defeated, it being considered that four would suffice. The following were nominated for the committee: R. Kay, A. E. S. Hanan, J. Hill, S. A. Shrimpton, D. G. Wallace, N. Field, D. Houston, and G. M. Clark. A ballot was taken and the following were elected: R. Kay, A. E. S. Hanan, J. Hill and D. G. Wallace.

Constitution:—It was moved by J. Hill and seconded by A. E. S. Hanan that the club consider the Otago Branch constitution and have it suitably altered to suit local conditions. Carried.

Subscription:—A. E. S. Hanan suggested a subscription of two shillings and sixpence. J. Hill moved that the subscription be five shillings, but he withdrew his motion in favour of that moved by S. L. Johnson. That the subscription be ten shillings for seniors and seven shillings and sixpence for juniors, inclusive of headquarters subscription. Carried.

A committee meeting was called for March 15, and A. E. S. Hanan offered the use of his office. His offer was thankfully accepted.

This concluded the business and the meeting closed about 9.30 p.m.

OTAGO DISTRICT NOTES.

By 4AP.

Several new members at our meetings now and the lectorettes are proving a great success in inducing new members to join.

Our syllabus for the year comprises local competitions and numerous social

HAVE YOU GOT YOUR NEW MEMBER YET?

functions—the social events are well attended but there seems to be a lack of enthusiasm in the competitions (come on, chaps, don't be bashful). By the way, 4CL won the last competition—FB. Congrats, YL. 4AC is on the air again, and very keen, but sig wants cleaning up. 4AP, official observer station, has new quarters and is on the air chasing Yanks. 4AV very keen on R.E.C. work but too QRL to disturb the ether. 4BD is thinking of joining up with us again—welcome, OM. 4BI: Whither away, OM? 4BJ and 4CL off the air at present—had bad luck with tubes—a pity some tubes weren't built to stand 45 volts on the filament. Hi! 4BO has been busy building 75 foot lattice mast; 312 pieces of timber multiplied by 8 nails each, plus 40 hours labour and umpteen gallons of paint—no wonder he joined the Naval Reserve. 4BA has built an automatic xtal cutter. Just wind it up and away she goes. He is keen on 5 metre work and in this he is promised the co-operation of the local gang. 4BP, a new member of the branch, but an old-timer—he sure knows his stuff and is an FB lecturer. 4BQ has quality QRP fone. 4BS is busy rebuilding shack. He had a great time at Easter as camp sentry. 4BZ—lost soul—QRL YL. 4BT—another lost soul, we think. How about a comeback, OM? 4BU gives sterling service as our official broadcast station. Note these broadcasts take place Saturdays 2.15, so all members listen in to our club's activities. 4BV maintains that all correspondence should be addressed to the secretary, so HQ please note. 4CA—successful on loop antenna transmissions on 80 metres. 4BW is busy building a tranny. 4BY has a nice shack and is teaching a YL the code. Will she be second op, Jack? 4CC at Owaka is active again, but alas, with a buzz-saw note. 4CJ—QRA is now Ravelston Street, Anderson's Bay. 4CK—Second in our recent competition—gathered large bag of VK's. 4CN: Active in artillery section of volunteer forces. A pioneer in gun-

fire by radio. 4CS—Our congrats in getting your commercial ticket. 4CT has commenced operations with a hefty sig, and is gaining confidence. 4CY has changed his QRA to Hospital QRM vicinity. 4DB bagging Yanks on forty. 4DD—A good fist and sig. The latest successful applicant for a 40 metre ticket. 4DE now very active at Mataura. 4DF not heard much lately. Made an excellent host to the R.E.C. outpost party on March 6. 4DH has the best note locally; was heard recently working at 12.15 a.m. Trying to steal a march on the lads, OM? 4CW built a new bug—take our advice, OM, and scrap it. 4DN has a very powerful outfit. (Ask 4CL. Hi!) 4DS is rebuilding. 4DT third in our contest. FB achievement for a beginner, YL. Tell your second op to hurry and get her ticket. 4BX, at Methven, active on 80 metres.

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- "Radio Retailing" (U.S.A. monthly). 2/1 copy.
- "Radio Amateur Handbook" (Handy's 9th edition). 6/6.
- "Experimental Radio," by Ramsay, U.S.A. (explains theoretical and practical points not hitherto published). 22/6.
- "Collin's Wireless Diary, 1932." 4/6 (on its own).
- "Radio News," Oct., Nov., Feb., March, 2/- each.
- "Q.S.T.," Sept., Oct., Nov., Dec., Jan., Feb. issues. 2/- each.
- "Audel's Radioman's Guide," 6/9. (Recommended for serviceman's exam. with "Modern Magic Carpet." 5/-.)
- "Radio Amateur Call Book," (latest issue) 6/6. (Please note there is a rise of approx. 63 per cent. on all American publications, and don't blame us.)
- "Wireless: The Modern Magic Carpet," by Ralph Stranger. 5/- (New stocks just arrived—The "Radio Record" and Mr Dawson, Philips Lamps, say no set owner should miss this.)
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- "101 Hook-ups" ("Radio News"), 2/11.
- "Radio Physics Course," by Ghirardi—revised and enlarged. Answers every question on Radio, Electricity, Television and Talkies. First lot sold on sight. More stock arrived. 30/-.
- "Mathematics for Practical Man," by Howe. Simplicity itself. 10/9.
- "Radio: A Study in First Principles," by Burns, 13/- (Simple and clear.)
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- "Elements of Radio Communication," by Morecroft, 19/-.
- "Direction Finding," by Keen, 27/-.

OUR LOCAL AGENTS:

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 Napier: Storkey's Book Shop.
 Palmerston North: Radio Supplies & Service Co. (E. B. Borham), 245 Main St.
 Blenheim: Tomlinson & Gifford.
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