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CHRISTCHURCH, N.Z.

JUNE 1, 1932.


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VOL. V., No. 6.

CHRISTCHURCH, N.Z.

JUNE 1, 1932.

Editorial

Some two or three years ago we came across an excellent little editorial in an American monthly magazine. Bruce Barton was the writer and a series of editorials from his pen always proved to be excellent reading. A keen observer of men, his writings always stressed some useful feature drawn from a wealth of experience, and failures, not necessarily his own, moved him to the greatest heights in passing on the lessons in life. The particular article dealt with an occasion when Bruce Barton was approached for advice regarding a new business venture which two young men intended opening up. Against the older man's opinion the younger enthusiasts launched their enterprise—and speedily made good. The lesson learned as the result of reflections was, that as one becomes older he tends to become cautious; very often too cautious. The young man does not, or will not see failure ahead of him. He is full of hope, enthusiasm and energy—these very features carrying him to success in the majority of cases. Obstacles only stimulate his mental activities, teaching him to find the methods to be used in overcoming difficulties. Here and there the desired results are not achieved, but, on the whole, youth will be served—and rightly so. At the present time when the silver lining seems to be well obscured we can take a lesson from those two purposeful enthusiasts. We leave it to our readers to read this lesson and for each to apply it for his own particular needs—and with success.

CORRESPONDENCE.

To the Editors,—I crave a little space in our paper to answer ZL3DK's letter in the May issue regarding fone station operation. I endorse his statement re the cancellation of morse abbreviations during fone conversations, and will go further to say that the operator of a fone station using the most common of these abbreviations, namely FB, OM and Hi! hi! is unconsciously making himself sound, well, to be quite frank, light headed. Isn't it just as easy to say, "fine business, old man," and if something humorous is said, or meant to have been said, it is the correct thing to let the other fellow laugh. And now to answer 3DK, I refer you to June, 1931 issue of "Break In"; on page 80 there is an article on "Amateur Status," written by ZL2GP. There you will find one answer to your question: "what is a ham?" I have heard another answer, and that is, the word "ham" was the nickname of one of America's earliest radio amateurs, Hiram (Ham) Percy Maxim. In closing I would like to wish everybody, everywhere, the best during these hard times, not forgetting N.Z.A.R.T.

Yours respectfully,

R. G. TOWNSEND,
Z.L.Q.S.L.

* * * *

The Editors,—In the May edition of "Break In" I notice 3AK's remarks re my having worked England on low power (5½ watts). May I, through the medium of your magazine, express my appreciation and sincere thanks to all those amateurs who have so kindly assisted me in carrying out various tests on 7mcs, during the last twelve months, thereby making possible the fact that, to use 3AK's words, "this little set has worked England."

"GMON."

To the Editors.—In the May issue, 3DK writes a humorous letter under the heading of "Phonetic Philanderings." Regarding the expressions, "OM" and "FB" anyone interested in short wave radio, whether amateur or otherwise, recognise these terms as the very symbol of amateur radio. I might remark that the use of these terms helps much towards engendering the "fraternal spirit" eulogised by our worthy vice-president, ironically on the opposite page to the letter in question. Certainly "hi! hi!" can be overdone, but until we all have television it must remain as a substitute for a wink to pass off a sarcastic remark. Without claiming any laurels as a Sherlock Holmes, I would like to advance the theory that "ham" is an abbreviation of "hamateur" as a possible solution to 3DK's sausage-like mystery.

I sincerely hope that when our friend commences broadcasting with his "high standard telephony" he will spare us the agony of more bedtime stories of Malcolm the monkey and Percy the pig. Hi! hi! sez me. Vy 73.

ZL3DU.

APPRECIATION.

We have received advice from Mr C. Simpson, of 8 Gratton Street, Ponsoby, to the effect that he has passed his examination and has been allotted the call ZL2HM. He wishes to thank Mr F. Earland (ZL3AX), also IFJ, IAE and IFN for, as he says, "Bringing me into one of the finest games in existence—Ham Radio."—Eds.

FROM THE PRESIDENT.

The DX season is once again over with very few opportunities of reliable contacts before about the end of September. How are we going to continue our activities on the air during the intervening three or four months? In past years it has been the usual practice for a large number of stations to close down until the DX returns, while a comparative few resort to the 80-meter band for some local "rag-chews"—but what wonderful opportunities the long winter evenings offer us in the way of some real experimental work.

As conditions limit us to more or less local contacts, now is the time for exploiting the real high frequencies where ranges are limited to a few miles, possibly not more than from 20 to 25 miles at the most—wavelengths of 10 and 5 meters, perhaps less, using simple push-pull oscillators and low powers. What a lot could be achieved within a month or two by a few keen experimenters! If sufficient stations were interested, perhaps by the end of August a 5-meter relay chain could be staged relaying test messages from one end of New Zealand to the other via a score of intermediate stations. These high frequencies are reputed to be fine also for short-range telephony.

As an alternative to high frequency work, there is the old 160-meter band to exploit once again. It is quite possible this year that at night the 80 band will give more trouble than ever with skip distance effects making contacts very unreliable within distances of 200 miles or so. According to reports from Europe and America, the night time range on the 160-metre band is again exceptionally good, with an entire absence of skip effects. Undoubtedly there are great possibilities on that band with our present knowledge and experience behind us, for it must be remembered that when we occupied that area in 1923 we had little knowledge of oscillator circuits and antennae measurements, and re-

ceiver design was sadly lacking. The interference problems with BCL's will probably present itself in the city areas, but this in itself provides plenty of scope for more experimental work with key-click and thump filers and different systems of keying.

Unquestionably we should all benefit very much from this off season experimental work and return to our normal frequencies again next spring with a wealth of knowledge in a more practical form than is gleaned by most of us from page so-and-so of Handy's Handbook.

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

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THE SHORT WAVE A.C. FOUR.

By N. W. Laugesen, ZL3AS.

Previously I have described three-valve A.C. receivers but on this occasion I will give some constructional details of the A.C. Four. There is nothing much unusual about the circuit, except possibly the method of coupling up the r.f. stage to the detector circuit. However, even if nothing new is revealed, perhaps this article will be of assistance to someone who is contemplating something in the "all a.c." line.

Provided faithful workmanship is put into this receiver, and proper components used, the builder can rest assured that the finished article will turn out to be all that is desired. It is admitted that the average battery receiver is hard to beat for ordinary ham work, but if a receiver can be produced that will eliminate the costly batteries altogether while at the same time retain all the good points of the old battery job, then something really good has been produced.

The trouble as far as a.c. receivers is concerned has been the troublesome percentage of hum, or in other cases what is known as "parasitic hums." Considerable experimenting and the use of proper components, together with suitable methods of shielding, have satisfactorily eliminated these bug-bears, with the result that we can safely go ahead, without fear of producing "just another dud."

I will not attempt any technicalities or otherwise trouble the reader with matters that the circuit diagram will explain, but, instead, I will simply point out features that should be kept

in mind if the job is to be a success.

The first consideration is to procure the best components obtainable; I specially refer to the power transformer, choke and by-pass condensers. The power transformer should be a sturdy job delivering 200-300 volts and provided with a 5v. centre tapped winding to supply the 280 rectifier. Possibly the transformer will also be fitted with a 2.5 volt filament winding, but the builder is advised to purchase an additional filament transformer for the ordinary tubes in the set. I have found that the hum is considerably reduced when the filament supply is drawn from a separate transformer.

The filter choke should be the best procurable, and if possible should be of the centre tapped variety. When these items, together with the by-pass condensers, have been obtained, a start can be made on assembling the power pack. The job should be done carefully and the following directions followed:—

Make up a metal box, say, about 6in wide by 12in long and about 3in deep. Place all the filter condensers **inside**, and mount the choke, transformer and 280 rectifier tube on the top. A metal box should be placed over the choke and transformer, thus **shielding them separately**. The voltage divider is not included in the power pack.

When the power pack is completed, a start can be made on the receiver itself. First procure two pieces of 16 gauge aluminium sheet, using one piece for the front panel and the other as a sub panel, which should be mounted some 2½ to 3in up from the bottom edge of the front panel. Mount the two tuning condensers on

the panel, say, eight or nine inches apart, and follow on by mounting up the coil and tube sockets; in fact, proceed on by mounting all possible components before commencing the wiring. The r.f. and detector stages must be shielded separately by boxing them in with 18 guage sheet aluminium.

When all the rough work has been completed, and the principal components have been screwed into place, the wiring can be proceeded with. Start off by wiring up the filament supply—a good plan is to secure a length of $\frac{1}{2}$ or $\frac{3}{4}$ inch copper tubing and mount it above the sub-panel to act as a conduit for the filament wires. It hides the wires, improves to general appearance, and at the same time acts as a shield.

If the receiver is to be used for ordinary DX reception purposes the two tuning condensers could be .0001 or even larger in capacity. This gives a tuning range per coil of about 5 metres, but if the receiver is for "ham" work, a J23 Pilot midget in

series with the tuner in the detector stage is necessary to spread the bands. The matter of matching of dial readings is superfluous, but if such a feature is desired it will be necessary to add a trimmer condenser in the first stage.

On examination of the circuit it will be found that a six pin coil base is required to properly connect the three detector stage windings. This matter has been overcome, and an ordinary five pin base will suffice if the following directions are adhered to.

Procure a sufficient number of Standard condensers (C3) to provide one for each detector stage coil. Instead of building this condenser into the receiver itself, adopt the shunt feed system as shown, and place the plate blocking condenser (C3) inside the coil. (See Fig. 1). The condensers mentioned are a very fine production and can be purchased very cheaply so the additional expense is a trifle.

Care should be taken in making up the coils. First obtain some ebonite

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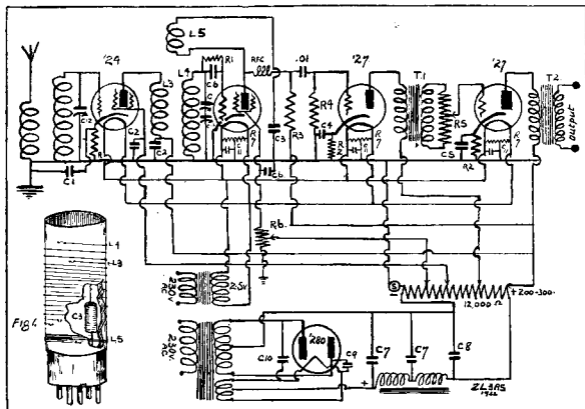
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CIRCUIT DIAGRAM OF THE A.C.4 AND POWER SUPPLY.

List of Components required.

- L1, L2, L3, L4, L5—see text.
 T1— $3\frac{1}{2} \times 1$ audio transformer.
 T2—Output transformer.
 C—Pilot J23 midget variable condenser for band spreading.
 C1—.01 or .015 fixed condenser.
 C2—.01 or .015 fixed condenser.
 C3—.0001 or .00025 fixed condenser (see text).
 C4—.5 to 1 mfd fixed condenser.
 C5—.5 to 1 mfd fixed condenser.
 C6—.0001 or .00025 fixed condenser.
 C7—4 mfd non-inductive by-pass condensers.
 C8—4 to 6 mfd by-pass condenser.
 C9 and C10—.1 or .25 high voltage by-pass condensers (buffers).
 C11—.006 receiver type fixed condensers.
 C12—.0001 variable tuning condensers.
 R—350 ohm wire wound resistor.
 R1—5 to 8 megohm grid leak.
 R2—2000 ohm bias resistor 2 watt type.
 R3— $1/10$ th megohm grid leak.
 R4—2 megohm grid leak.
 R5—500,000 ohm potentiometer (experiment for suitable value).
 R6—50,000 ohm potentiometer (reaction control).
 R7—50 to 100 ohm centre tapped wire wound resistors.

tubing that just slips on a tube base (if it is a little tight simply hold it in hot water for a moment or two) and cut it to suitable lengths. Wind on the secondary allowing a fairly wide space between turns, then wind on the primary between the secondary turns. (Vide Fig. 1). The proportion should be about two-thirds primary,

i.e., for 15 turns on the secondary about 10 primary turns would be used. Count ten secondary turns up from the bottom and drill two fine holes between the tenth and eleventh turns, then wind on the primary and finish off at the bottom end of the secondary. The tickler winding can then be wound on in the usual way parallel,

and fairly close (about $\frac{1}{4}$ inch) from bottom of the secondary.

It is impossible for me to supply the exact number of turns for given frequencies, but as a guide I would suggest that the following be tried first:—

Secondary	Tickler
20m. band . 8 to 10 turns	5-7 turns
40m. band . 18 to 20 turns	7 turns
80m. band . 35 turns	12 turns

If space tuning is not used less turns will be required; roughly about a third less per coil than those stated above will suffice.

Little further can be said except that the builder is advised to thoroughly shield in the whole of the receiver, that is, the bottom, sides, ends and back, also the lids for the r.f. and detector stage cans must be fixed in place before the receiver will work properly. If this is not done the receiver will be erratic in operation in addition to producing a considerable a.c. hum.

DENIAL.

ZL3CU desires us to publish a denial of the statement that the present Guard System was suggested by the Ashburton Gang, but that the scheme they suggested is entirely different to the present one.—Eds.

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.

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.

DO YOU KNOW . . . ?

That the antenna mast of station HRB at Tegucigalpa, Honduras, is four hundred and eighty-five feet high and can be seen at a distance of one hundred miles?

* * * * *

That the King of Siam is an active ham and is said to operate under the HSIBK call-sign?

* * * * *

That there are 28,080 licensed amateur transmitters in the United States, while the world's total is 40,927—with the exception of three, they were all heard on the 40-meter band recently?

* * * * *

That Russia has the highest powered radio stations in the world—the total power of four of the largest Soviet stations is exactly 522,000 watts!

* * * * *

That the new Radio City, owned by Rockefeller interests, and being constructed in New York, will cost \$50,000,000. Its highest building will have 66 stories.

TECHNICAL ARTICLES.

The Editors would be pleased to receive articles of a technical nature from members. Where possible each article should be accompanied by a circuit diagram or photograph. By way of suggestion, we invite articles dealing with the following:—

RECEIVER DESIGN AND CONSTRUCTION, TRANSMITTER DESIGN, CRYSTAL OSCILLATORS AND ALLIED MATTERS, ANTENNAS, INTERFERENCE ELIMINATION, EXPERIMENTAL DATA, HINTS FOR BEGINNERS, RADIO THEORY.

WRITE YOUR ARTICLE NOW.—Eds.

EFFICIENCY IN TRANSMITTERS.

By ZL3CP.

The word "efficiency" is here taken to mean the ratio of output power to input power in a transmitter, frequency stability and note being considered apart from this.

It is, of course, every ham's ambition to make as loud a noise as possible in the other fellow's receiver. Unfortunately, most of them try to do it by increasing the plate voltage, and so we have overloaded tubes and unsteady signals.

In this article the writer tries to show what affects the efficiency of a transmitter. In a self-excited transmitter, high efficiency and good frequency stability do not go hand in hand. A compromise must be made. But this will be discussed later.

The efficiency of a transmitter depends mostly on the grid bias and grid excitation, but also on such details as size of grid and plate condensers, and the resistance of the plate tank circuit. If the grid is so biased that the tube is worked in the centre of the grid volts/plate current curve, and the grid exciting voltage changes the plate current from zero to twice the normal value, the efficiency will be 50 per cent, and half the input will be dissipated in heating the plate, and half will appear as RF power in the plate circuit. If we can keep the plate dissipation down to the rated value while increasing the input, we will get more output, of course, or greater efficiency. This is done by increasing the grid bias, and bringing the operating point down towards the bottom bend of the curve, and then increasing the exciting voltage. The plate voltage may be increased to compensate for the smaller plate current. If the grid bias is such that

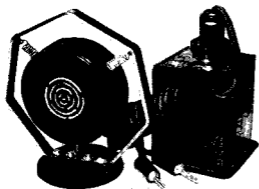
plate current only flows when positive half-cycles come on the grid, very little power will be wasted on the plate, and the efficiency will be high, up to 70 or 80 per cent. Under these conditions the plate current flows for very brief periods, but the oscillations in the tank circuit are maintained by these brief impulses.

The large grid bias is obtained by using a high resistance grid leaf, and the large grid swing by using a small C/L ratio in the tank circuit, that is, a large coil and small condenser. The plate voltage is limited by what the tube will stand across the pinch. This, it must be remembered, is the DC plate voltage, plus the RF plate voltage, plus the grid voltage.

An oscillator working under these conditions is not very stable. Therefore the grid bias, grid excitation, and C/L ratio in the tank circuit should be adjusted to give stability with reasonable efficiency. An anode tap is very useful for getting the best out of a transmitter. A coil larger than usual is used, and the plate end of the tuning condenser is tapped on to the coil some way down. The number of turns between this tap and the plate lead tap is varied to give best results. Various sizes of grid and plate condensers should be tried. They should not be too large, especially on the higher frequencies.

It should be obvious that the ideal transmitter is the MOPA, preferably with a CC oscillator. Then the amplifier can be adjusted for maximum efficiency, while the frequency is kept stable by the oscillator.

The information given above is largely taken from articles in the T. & R. Bulletin, by Z2RU, G6CJ and G6XC. Those hams who do not read the "Bulletin" miss a great deal of valuable information.



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RESULT OF 1932 DX COMPETITION FOR LISTENER MEMBERS.

Although not many listeners participated in this contest the quality of the logs submitted by those who did are of an exceptionally high standard and reveal the wonderful short wave field that is apparently open to the DX listener. The honours go to Mr A. W. Eddy, of Irwell, Canterbury, who on a PCJ4 with a doublet antenna piled up the amazing score of 616 points. He received in all 140 foreign broadcast stations situated in all parts of the world. To this competitor is forwarded a copy of Drake's Radio Manual. Well done, Mr Eddy.

His runner-up was Mr O. J. Stevens, ZL235, of 43 Coromandel Street, Wellington, who on a two valve receiver scored 346 points. He likewise received stations in all parts of the world and certainly put up a very creditable performance. Mr Stevens receives the second prize of 10/6.

Mr H. Simonsen, of Blenheim, was the only other competitor who also made a good showing.

We look forward to next year's competition and trust listeners will compete in greater numbers.

STRAYS.

A celluloid bicycle pump casing makes an excellent former for transmitter chokes.

3CM says that excellent crystal holders can be made from the hard

rubber stopper covers of ordinary motorcar batteries.

3BJ has discovered that a good 50 watt socket can be made from the porcelain base of an ordinary 10 amp tumbler switch.

3CL says that an attractive mike mount can be made from one of those round brass gadgets off grandmother's bedstead.

A broken strand or two in your aerial wire will add another peculiarity to your signal, while leaky insulators create a real demand for bird seed.

GUARD SYSTEM.

Arrangements have now been made whereby non-guard stations may link up with the guard system if they so wish.

Under the new system as advertised in May Break In, district stations have been appointed and at specified times each evening these may be contacted and any QTC for HQ or other districts may be sent. Hqrs trust that non-guard stations will take advantage of this.

District stations for the different evenings are as follows:—

First district: Monday ZL1CR, Tuesday ZL1BP, Wednesday ZL1BL, Thursday ZL1BF, Friday ZL1CR. Second district: Monday ZL2GQ, Tuesday ZL2CA, Wednesday ZL2AB, Thursday ZL2CI, Friday ZL2GV. Third district: Monday ZL3BQ, Tuesday ZL3AX, Wednesday ZL3FD, Thursday ZL3AA, Friday ZL3CX. Fourth district: Monday ZL4CA, Tuesday ZL4BT, Wednesday ZL4CA, Thursday ZL4BY, Friday ZL4CL.

Non-guards who have traffic may clear same through their district station between 7 p.m. and 7.30 p.m. and replies may be received between 9.40 p.m. and 10 p.m.

HELP THE POSTAGE A/C. AT HQRS., SEND STAMPED ENVELOPE.

A CONSIDERATION OF TRANSMITTER FILTERS, ETC.

By 3CK.

Recently there appeared the statement that the third district amateurs had the second worst notes in New Zealand. The truth or otherwise of this remark does not come into this discussion, but one has merely to listen for a short time to the notes heard on the 80 metre band and will most certainly come to the conclusion that a great improvement is required immediately. Transmitters often complain that the bands are becoming overcrowded; personally I do not agree with this, but maintain that if more attention was paid to quality of signals the air would hold room for many more hams that we in New Zealand are likely to have during the next ten years.

Why is it that we have so many rough notes on the air? Most of the trouble is caused by either overloading some part of the transmitter, or by using too little of an L/C value in the filter. The average amateur strives to get as much input to his oscillator as possible, trusting that this will give him a proportionally greater output. The usual result is an RAC note and sarcastic remarks from the neighbours. Some of the causes of poor quality signals are as follows:—

Use of "Ford" coils as filter chokes.

Not enough capacity in filter.

Choke saturated by taking too much current from filter.

Two parts of secondary of power transformer (full wave supply type) unbalanced, i.e., centre tap not at centre.

Rectified tubes not in good order or overloaded.

Centre tap of secondary of power transformer not earthed.

Oscillator.

Tube overloaded (the most common fault. Remember that the rated voltage for a UX210 as an oscillator is 350 volts. See label).

RF choke coil unsuitable value.

Centre tap to filament not correct.

Tube soft or of doubtful origin (five cent store type).

It will be noted that transmitters other than those of the self excited type have not been mentioned. I assume that the amateur who can get a xtal controlled of MOPA outfit going properly has a good note. In any case it is well known that the rough notes are owned by hams using self excited oscillators.

Handy's handbook and many of the recent issues of "QST" have all the necessary information concerning filters, etc., but, since the majority of hams here in New Zealand do not possess the handbook and, alas, do not subscribe to "QST," the following hints are suggested for the betterment of the game.

Transformer. Do not use a small core and then wind on a great number of turns of small size wire. This may give a high voltage but the regulation will be very poor and as soon as a high current is drawn the desired voltage will have disappeared. Follow Handy and use plenty of core material.

First Filter Choke. The writer is aware that it is customary to use but one choke in the filter. This choke is preceded and followed by the filter condensers. It is probably safe to state that most filter trouble is caused by this practice and in all filters

there should be included a first filter choke **without preceding condenser.** The good effects of using a first filter choke will be greatly reduced if a condenser is used ahead of it. This will cause very high peak currents in the rectifier tubes and reduce their useful lives. It is admitted that the voltage obtainable from the rectifiers is greatly increased by the use of this condenser, but it is the best practice to get the high voltage without danger to the tubes. In QST for October, 1931, page 15, it is stated that first filter choke should be so adjusted that it saturates at a fraction of the normal-load current. This means that the choke should have little or no air gap. Under these conditions this choke will have little filtering effect on the current, but will assist regulator greatly. The remainder of the filter will have to do most of the filtering and as the choke has a low inductance the first filter condenser will have to be of liberal rating in order to take care of the voltage peaks which now build up. The second choke and associated capacity now follow and these can be of somewhat lower rating. Owing to the first choke having no condenser before it, the transformer output voltage for a given output from the system will have to be greater than that necessary when a capacity precedes the first choke.

While it is true that this first condenser enables a much greater output from the filter unit as stated above, it is not considered good practice to use one owing to the very heavy load imposed on the rectifier tubes.

Second Filter Choke. This choke should be of large size and well made. Use large cross section wire and very thin but high quality insulation be-

tween layers. Watch the air gap and remember that the efficiency of the filter may depend on its adjustment.

Second Filter Condenser. The size of this condenser will depend on the use to which the filter system is put. If CW only is to be used it can be of 2MFD, but if fone is the object the capacity can be increased up to 6 or 8MFD.

Bleeder Resistor. Too much importance cannot be attached to the use of a good bleeder resistor. If some amateurs who do not use one were to watch the behaviour of a voltmeter across their filter output during transmission they would get the surprise of their young lives. When the key was up the voltage across their pet condensers (thousands of volts TEST)

No. 1.

ZL3SA

No. 2.

ZL3SA

TRANSMITTERS' BADGES

In heavy weight Solid Silver mounted
on strong pin.

No. 1, 6/6. No. 2, 8/6.

Other designs and prices submitted.

Petersens Limited

JEWELLERS
HIGH STREET CHRISTCHURCH

would be greater than they ever thought possible from their filters. The omission of a bleeder resistor is one of the main causes of premature deaths in the filter family.

When using fones, amateurs are often puzzled at the drop in radiation when the modulation system is in operation. This drop is caused by the increase in the load on the filter and the greater current draw causes a drop in the voltages supplied to the transmitter, with resultant decrease in radiation.

For use in the average ham outfit the following is suggested:—

Large transformer.

Mercury vapour type tubes.

First choke about two or three Henries.

First condenser (to be used after first choke) two MFD.

Second choke 32 Henries at 100 Mills.

Second condenser two MFD.

Bleeder resistor thirty to fifty watt capacity and from thirty to fifty thousand ohms resistance. This assumes a voltage output between 300 and 600 volts.

[Too tight a coupling—trying for more amps—is also a frequent cause of an RAC note.—Eds.]

IMPORTANT.

Members are advised that the subscription due for the period June 30 to December 31, 1932 is 2/6, being the last half of the 1932 financial year.

Some members are under the impression that if for instance they pay their subscription in the middle of March, 1932, that they are financial until March of the following year. This is not so as the financial year for all members closes on 31st December of each year. The subscription to N.Z.A.R.T. is only payable either yearly or half-yearly and is not otherwise reducible. Members who send 5/- to Hqs after 30th June will be financial at Headquarters until 30th June, 1933 should next year's sub remain at the same rate as at present; otherwise the 2/6 will be credited against the actual amount due for 1933.



Vic Johns, Director of Johns Ltd., a radio firm in Auckland—if not in New Zealand—and owners of Station 1ZJ.

Vic Johns says "COLUMBIA beats them all"

Vic Johns says: "We recommend Columbia Batteries every time. We use them at 1ZJ and know they can't be beaten for long service. Columbia keeps up a larger power output longer than any other battery. We have tested all makes and Columbia beats them all."

Factory Representatives:—
ELLIS & CO. LTD.
Chancery Chambers,
O'Connell Street,
Auckland



QRP CONTEST.

June 19 to June 26 Inclusive.

HQ, as stated in the last issue of "Break In" have decided to hold the QRP contest again this year, but with somewhat different rules. In the past these contests have been nothing but endurance affairs. Those who have had the most time on their hands have stood a much better chance of winning than those who are employed during the day. This year conditions will be as follows:—

1.—Power supply to be one 45 volt battery, bought, borrowed or——? No eliminators or other power devices to be allowed because these give all sorts of voltages from the 45 volt tap.

2.—Any number of tubes, or combinations of tubes, may be used. This will allow the use of MOPA circuits, push-pull circuits, etc.

3.—Times will be from 7 p.m. till midnight during week days, including Saturday; Sundays, from mid-day to midnight each of the two Sundays.

4.—Code words of five letters each will be allotted to each entrant. Code words will be sent in sealed envelopes and must not be opened before mid-day on the 19th June.

5.—Entries must be in the hands of HQ not later than the 7th of June, and must be accompanied by a stamped self addressed envelope for return of code words, etc. There will be no entrance fee, so nobody can complain about this little assistance to those at HQ.

6.—All contacts must be verified by QSL's. In order to avoid confusion and possible loss of cards, if all entrants sent in their cards to HQ we have decided that results should be tabulated and sent in to HQ. HQ will

go over the results and the five leading entrants will be asked to forward their cards in support of their entries. These cards will be returned by HQ to the members concerned.

7.—Results will be computed on a mileage basis.

MEMBERSHIP CAMPAIGN.

As a result of numerous suggestions, Headquarters has decided to conduct a membership campaign throughout New Zealand during the month of June. There is no doubt that this action will meet with the approval and co-operation of every member of our Association. The present executive commenced operations this year with a definite objective in view; that was to have a thousand financial members on the books at the end of the year. We have reached the 800 mark and the general indications are that the objective will be reached. However, a campaign will not do any harm, so let every member become a real campaigner with one object in view—**TO INTRODUCE ONE NEW MEMBER DURING THE MONTH OF JUNE!**—Hqrs.

HAMILTON BRANCH (FORMATION).

Deeming it time that the local amateurs got together and placed the name of Hamilton on the N.Z.A.R.T. map, a meeting was convened by 1BL, 1GU and 1HN with a view to ascertaining what support would be forthcoming. This meeting was attended by eight hams who unanimously decided to form a Branch, and it was further decided to hold a meeting to which all likely members would be invited. The response was somewhat surprising, a "full house" being obtained. Officers were elected and a Branch Executive Committee set up. The question of a clubroom was solved by two newly elected members who offered the use of a suitable room, rent free, which offer needless to say, was accepted with alacrity.

The branch is now established in its new quarters and new hams are being initiated into the mysteries of code and the old timers are finding their feet as lecturers. Further, the junk boxes are having a once over for parts for a Club receiver and transmitter.

Acting on the principle that it is wise to strike while the iron is hot, two field days have already been held, a variety of equipment being unearthed for the occasions, and the outings have been voted a great success by all concerned.

The Branch tenders salutations to all other branches and members of the N.Z.A.R.T.

HAM ADS.

WANTED.—Two only 2mfd. 4000v. test condensers—to buy.

FOR SALE.—Xtals, Osc. blanks, 2/3 posted. 400 "800" 1000 volt 200 watt Generator 4 volt separately excited fields, new ball bearings and armature almost new. £2/10/-. Two only TC 0/410, one slightly used and other new. £2/10/-, the two. Two only TCC filter condensers, 1 only 4mfd. 800v. test, 7/6; 1 only 4mfd. 1600v. test, 12/6. 1 transformer 300 0 300 volt 75 mill, 35/- or what offers. 1 Ferranti 60 mill 30 Henry choke 15/-. 1 bug 30/-. Apply to ZL3BN, 16 Campbell St., Timaru.

* * * * *
FOR SALE—Garrad Motor, complete. Sissen Pick-up with Arm. Pilot 500,000 ohm Control. All new. 35/- the lot. Apply to ZL2SL, 6 Alexander St., Wanganui.

RESULT OF MARCH TEST WITH U.S.A. ON 80 METRES.

Headquarters wishes to announce owing to the transmitters not sending in results of their efforts in this competition (not a single entry was received) the competition will be re-held at a later date.

The prize to the listener section (10/6) goes to Mark Churton, of Auckland, who carried off the honours for that section. The results shown in his log reflect great credit on him. During the period of the contest he logged 44 stations in all U.S. districts, Honolulu and England on the 3500k.c. band. As stated the contest will again take place on a date to be announced later, when we trust that transmitting members will co-operate and make this competition really worth while.

TRY
QSL **NORM HOPPER** **CARDS**
THE HAM PRINTER
38 DUBLIN STREET
WANGANUI
Send for Price List.

INTERNATIONAL QRP CLUB.

"Multum in Parvo."

From observations made during the last few months, there is every indication that the coming dark evenings are going to be the best ever for the 3.5mc. band. Not that conditions are likely to be better than last winter; the chances are that they will be worse!—but a number of FB QSO's are to be had almost every evening with the VK's who are beginning to take a real interest in the 3.5mc. channel.

Rejoice and be glad all ye QRP merchants, for we are going to have a ZL—VK contest in July—but stop, enuf said—details in next issue, so clean your condensers and polish up those coils; and you fellows with portables get ready; besides one never knows when a portable station will be called for these days. We must at all costs maintain our amateur status and "be prepared."

And now for the stations who have qualified for membership this month:—ZL1GP and 1AV, Hartley men. 7 watts to a 201A. ZL2KF. TPTG with 5 watts input. ZL4DD Hartley with 10 watts to UX245. ZL3DQ, also a Hartley man, point 3 watt to A415. ZL5MK, another Hartley man, 9 watts to UX245; VK2RH uses TPTG, input from 3 to 3 point 7 watts. VK5MH, also TPTG, input 8 watts to TC03/5. VK4KZ, Hartley with point 9 watt to a B695. ZL3FE. Hartley, 1 watt input to an A609. ZL2CD, Hartley with inputs varying from point 5 to 9 watts to various toobs, and is also secretary of the Wellington branch of the Club. VK3NQ, secretary of the Australian division, sends in the following dope: VK3NY broke his arm winding up his "Liz"; he wants ZL QSO's on 3.5mc.; VK3RN on 7mc. with very low power chasing ZL's but hasn't caught any yet; VK3YK works ZL's on his

few watts and sky-scraper aerial—80 feet high; VK3NQ reckons 3.5mc. is the only band worth using; wants as many ZL QSO's as he can possibly get; has 4 toob RX with ideal RX conditions, and always QSL's (hi! hi!) His 7mc. MOPA hardly ever used now, and 14mc. xmitter forgotten long ago.

And now, Mr Editor, that concludes our notes for this month. We thank you for the space allowed us, and wish all 73's and DX without any burnt out cans through the QRN.

—ZL2FE.

APPRECIATION!

As a direct result of constant appreciation voiced by our advertisers in connection with the results they are obtaining from their "BREAK IN" advertisements, we feel that we should make the following announcement to readers:—

"Up to the present not one single advertiser in "Break In" has been lost through lack of business response—every advertiser approached on the subject has assured us that the proportion of return for outlay has been highly satisfactory, while in several instances our advertisers have expressed a desire that we should extend to readers their appreciation of the support they have received."

Readers who realise the responsibility of the HQRS Executive will at once understand how encouraging such appreciative gestures are, and, now knowing the position, they will continue to support those generous business men who "took a chance" in the first place because they were sympathetic toward our Association.—Eds.

SEND NAMES OF PROSPECTIVE MEMBERS TO YOUR BRANCH.

ANOTHER SPECIAL

Buying for cash enables us to offer you some more remarkable values in radio parts. We wish to thank all those who entrusted us with their orders during our last splash and apologise to those to whom we had to refund their money owing to lines being sold out. This time we have bought all surplus stocks available but they will not last long at these figures. Our advice is order early.

Philips Resistance Coupling Units.

The name Philips is enough description of quality and any one wanting a resistance coupling unit should order now.

39 x 1026. List Price 21/-

Now 10/6

Telsen Fixed Condensers (Mica)

Supplied complete with non solder terminal connections. Moulded in best quality bakelite. Can be mounted upright or flat. Tested at 500 volts.

39CW91 .. .0001 mfd.	39CW92 .. .0002 mfd.
39CW93 .. .0003 mfd	39CW96 .. .001 mfd.
39CW97 .. .002 mfd.	

All 9d. each

Valve Base Former

1½ inch former for valve base coils, etc. Especially treated with high insulating bakelite spray. Ideal for short wave coils, etc. Supplied in 2, 4 or 6 inch lengths.

39F670.

2d. inch

Philips

All "Hams" know this and will be glad of these condensers at these prices at 500 volts.

36 x 166 2 mfd. U

36 x 167 3 mfd. U

36 x 168 4 mfd.

GU

Any goods in any way unsatisfactory when received within seven days will be refunded.

The Electric

Telsen Audio Transformers

Ratio 3½ to 1. List price 10/6 each. Catalogue No. 39X830. Yours for

5/11 each

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AMP HOUSE " OFFER

Valves.

Quality of Philips products
opportunity to buy these
bargain prices. Tested

4/6 each. **Now 2/9**

6/6 each. **Now 2/10**

7/6 each. **Now 4/-**

WARRANTY

Examined and proved
may be returned
and your money
refunded.

Amp House Ltd.

Henley

230 volt Electric Radio

Soldering Irons

British made. Complete
with cord and adaptor.
Pat. No. 393993. And
only

12/6 each

Valves! Valves! Valves!

A special purchase from a set manufacturer who
could not pay his bills allows us to offer you these
wonderful valve values—all well known makes.

Type 280—Arcturus. Listed at 14/-. Now .. 7/6

Type 224A—Arcturus. Listed at 16/6. Now 11/-

Type 201A—Arcturus. Listed at 9/-. Now .. 6/6

Type 224—Philips. Listed at 16/6. Now .. 10/6

Type 171A—Arcturus. Listed at 18/-. Now .. 8/6

Type 235—Universal Listed at 17/6. Now .. 13/6

Type 245—Arcturus. Listed at 14/-. Now .. 9/4

Type 222—De Forest. Listed 14/-. Now .. 10/-

Type 226—Arcturus. Listed 10/6: Now .. 7/6

Type 247—Universal. Listed 18/6. Now .. 13/6

Type 551—Universal. Listed 17/6. Now .. 13/6

Type 227—Universal. Listed 12/6. Now .. 6/6

Type 227—Apollo. Listed 12/6. Now .. 3/6

Ever-Ready 45 volt B Batteries.

Quality has not been sacrificed to sell these full
sized upright "B" batteries at this price. They are
British and made by the largest dry battery factory
in the world. Fresh too—just landed ex the s.s.
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15/- each

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RADIO EMERGENCY CORPS

N.Z.A.R.T.

Reports received at Hqrs reveal the fact that intense organisational work is being carried out by all sections of the Radio Emergency Corps. In one or two instances—through local happenings—sections have been called together in preparation for service. On each occasion, although no field work was actually indulged in, the efficiency of the units concerned were revealed. Hqrs is satisfied that the Corps either sectionally or collectively will distinguish itself with honours when the call for action comes.

Headquarters has not been lacking in its organising work; in fact, details in connection with the R.E.C. are continually being dealt with, and it is expected that the July issue of "Break In" will feature an official announcement of considerable importance. In the meantime, section leaders keep your units up to the highest standard of efficiency and "be prepared."

—HQRS.

* * * * *

CHRISTCHURCH SECTION.

Keen interest is being maintained in the R.E.C. by the Christchurch section. The members are anxiously awaiting the result of negotiations for official recognition of the R.E.C. and allotment of special frequencies.

At the meeting of the local R.E.C. held on Tuesday, 10th May, it was decided that in future meetings be held on the first Tuesday in each month. Rules for the local section were drawn up and adopted. Donations of gear have been received and efforts are being made to raise funds for the section. Much work has yet to be done and preparations are being made to place the section on a sound footing immediately the position of the organisation is definitely established.

—ZL3AB.

HAWKE'S BAY.

The Hawke's Bay section has been thoroughly organised and keen interest is being shown by all members. The section held a field day recently and a very enjoyable time was spent by all concerned.

The outpost at Dartmoor contacted zone at Pukitapu at 12 noon as arranged. At 12.10 the zone contacted the guard (2SE) at Napier. At approx. 12.15 2SE worked back to the zone station.

The local branch was held in readiness to go with a search party for three boys who were lost at Cape Kidnappers recently. They were missing for about three days, and it was decided that the R.E.C. should give some assistance, but they turned up OK—to the disappointment of the gang.

We experienced a fairly sharp earthquake on the 5th about 8 p.m., and five minutes after the lights failed the gang and transmitters were in readiness, but fortunately no damage was done, so their services were not needed. It is proposed to hold another field day shortly.

—Hawke's Bay R.E.C.

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.

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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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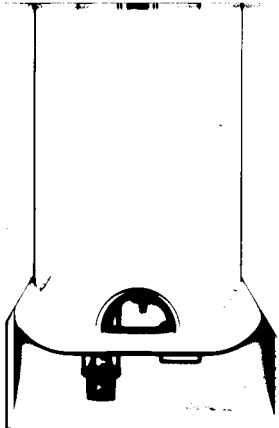
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FOR THE STUDENT.

For amplification purposes even reproduction of positive and negative half cycles is essential for best results; but when a valve is used for rectification, and more especially detection, the aim is to completely wipe out one set of half cycles. The distinction between rectification and detection should be noted, though it is a fine point. Rectifiers of AC as in power supplies, are not detectors but the term rectification is used rather loosely.

Valve detection can be secured in several ways. For example, "grid" detection occurs if an RF valve has zero bias, as then positive half cycles are not fully reproduced, whilst negative half cycles are, but the results are poor. Plate current detection, also called "anode bend," is provided by biasing to the bottom bend in the grid-volts plate-current curve. Positive half cycles of grid voltages cause very much larger charges of plate current than the negative half cycles, as the shape of the curve shows. The differences between rises and falls of anode current represent the amount of detection. This method has been commonly used for large inputs in past years but is not as sensitive as the grid condenser and leak method, though giving good quality. The top bend can also be used. The grid-condenser and leak system or cumulative grid detection is more sensitive to weak signals. If we study the shape of a sketch of a typical modulated wave, we notice that (in a 100 per cent modulated carrier) the successive RF impulses vary between zero (almost) and about twice the maximum amplitude of the pure carrier. These changes occur at audio frequency, that is, from crest to crest (or trough to trough) represents one cycle of the modulating frequency. Commencing at the bottom of a trough, picture the effects of the





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succeeding RF impulses on a grid with a grid condenser and leak in use. Each rising positive voltage draws electrons to the grid and inner (grid side) plate of the condenser, whilst the negative half cycles crowd these electrons on to the grid, causing a dip in the plate current each time. From the crest of the "wave train" to near the bottom of the next trough the electrons are rocking between the grid itself and the inner plate of the grid, the plate current changing in sympathy. About this stage the electrons commence to leak away and do so during the next few RF impulses. While the charge of electrons is accumulating the plate current is gradually falling and then gradually rising again to normal when the charge has leaked off at the bottom of the next trough—or end of the wave train. If we trace a curve showing the flow of grid current for one wave-train, it will show a rise and then a fall. The plate current will therefore first fall and then rise to normal in sympathy with the negative charge, for the grid current represents a changing negative potential.

It should be noted that two changes are simultaneously taking place in the anode current. As stated above, one wave-train causes a fall and a rise, but at the same time every successive positive and negative RF impulse super-imposes a small rise and fall at radio frequency. These latter cannot go through the phones (or primary of an audio transformer) but the audio component, as it is called, affects the phones, etc. As each wave-train represents one cycle of the modulating, or audio frequency, then we have this component reproduced or extracted from the modulated carrier, and detection is secured. Due to the fact that a succession of R.F. impulses of increasing amplitude—as in the first half of a wave-train.

HAMS! NOTE THESE PRICES!

PANELS, 16g. ALUMINIUM.

9 x 7	..	2 0	18 x 7	..	4 0
12 x 7	..	2 8	21 x 7	..	4 8
15 x 7	..	3 4	24 x 7	..	5 3

Panels Frosted, 1/- extra.

Panels cut to order, 16 guage, 3/6 per sq. ft.

Chassis aluminium steel.

12 x 7 x 2	..	6 0	..	5 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

Letters for call sign 6 inches high, 6d. each. 12 inches high 1/- each.

Sign ready to fasten to aerial pole, 2/6 extra.

Valve shields, 1/3.

CALVERTS LTD.

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CHRISTCHURCH

PHONE 31-398

CONDENSERS—

For Power Packs—Transmitters—Receivers, etc.

We have the largest selection in the South Island.

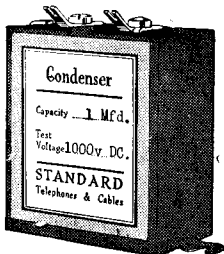
*Send for our latest Price
List. It will pay you.*

L. B. SCOTT Ltd.

"The Big Radio Store"

Manchester & Worcester Sts.,
Christchurch

Box 395. Telegrams "Scotrad"



builds up an increasing negative charge on the grid, then better rectification is secured as compared with plate current detection.

The student is advised to study other books in addition to Handys if the subject presents any difficulties. Handy's needs no apologies; it makes no pretence at going into full details, space being too valuable, and so the Admiralty Handbook or Scott-Taggart can be consulted. The latter especially is easy for the beginner to grasp and the former is also valuable. In fact, the Admiralty Handbook should be studied by every keen radio experimenter. In conjunction with Handy's it is a most useful reference for the fundamentals of wireless where more detail is desired.

* * * * *

SOME QSA5 FONE NOTES.

By 1CA.

1GC vy clear es consistent. 1CD spreads around the Pacific FB. 1BW also hrd clq VK. 1BL wkg duplex across town. 1BQ has an occasional look see. 1FI, 1GW silent, hw cum? 1HD a new man getting QSA5 fm all ZL on loop FB. 1GJ gone MOPA FB, but lost all the punch, hw? 1CH always ready for a gud chew. 1CN hrd but once since QSY, hw? 1BH, the QRP wid the wallop, FB always. ZL section pse note:—Eric 1FW baching on the edge of beyond is in the field for a DX widow who thinks CQ means okay, I'm coming, so's he can get that QRO fone perking. Hi! (Writer not at home to callers). AJAX as always 'n ever. 2BE slipped a bit, hw, Jim? QRP? 2AW got over being seasick, shifting the blues wid music. Greeting, ole timed. 2DY wid renewed enthusiasm. 2BQ keeping the River City on the map. 2GH QRL but still finds time to split a grin. 2BY—let's hope not. 2CJ hello, Tauranga, that's sure a QRM corner OM. 2 Flying Corpse wid IF in capitals. 2KC QRP and FB. 2KB, sa OM hw abt something more than a freq test fm that mouth organ? 2JC warming up

in great style. 2DW FB QRI nw Trev. 3BD xcellent fone OM. 3DC also fine business. 3CS more consistent these days, FB. 3BQ getting the bngs out, try a gun OM. 3CW only wen the shack is full of YL's, hw? 70 fourth dist fone hrd. VK's HC, GR, CR QSA, also occasional W's. W's on CW low freq end, consistent hr during last week April.—ZL1CA.

* * * * *

GISBORNE.

Conditions on both the 3.5mc. and 7mc. bands have been very good. The 3.5mc. band seems to be getting very popular on a Sunday morning now, probably due to the colder weather setting in. In a recent letter from a W6 he states that conditions on 7mc. band have not been very good for some months there.

Below is a list of stations heard between the 2nd and 9th May:—

3.5mc. band (all ZL's): 1AJ, 1BP, 1BL, 1CA, 1CH, 1CJ, 1FE, 1FN, 1FQ, 1GB, 1GF, 1GL, 1HB, 1HC, 1HD, 1HE, 1GD, 2AB, 1AE, 2AI, 2AX, 2BE, 2CP, 2DW, 2DY, 2FA, 2FE, 2FR, 2GQ, 2GZ, 2GP, 2HI, 2HR, 2HQ, 2JB, 2JN, 2JW, 2KD, 2KN, 2KQ, 2KY, 2LB, 2LD, 2LF, 2LN, 2LH. 3AD, 3AJ, 3BC, 3BH, 3BN, 3BF, 3DC, 3DI, 3DK, 3DW, 3DX, 3FB, 3FI, 4CC, 4CM, 4CW, 4DS

7mc. band: ZL's 1AT, 2HO, 3AW, 3AH, 3AZ, 3AX, 3BJ, 4AP, 4AO, 4BP. VK's 2AH, 2UG, 2DW, 2XH, 2JE, 2ZR, 2YR, 2XF, 2BR, 2FQ, 2YG, 3AX, 2VA, 2OZ, 2ZX, 3RJ, 3LQ, 3ML, 3LN, 3NG, 4JW, 3ZB, 3WB, 3AZ, 3DQ, 3DT, 3WL, 3JT, 4JU, 4AH, 5HG, 7LJ. W5BRD, W6BAX, W6DW, W6EER, W6EYF, W6FF, W6BY, W2FCL, W6EYF, W6AM, W7ACJ, W8DR, W9BM, K6ABI, K6AGJ, K6DV, K6EBR, VPIFR, X1AX, EAR96, EAR28, CM3FN.

7's to all.—G.S.

J. B. Sutton, Box 78, Gisborne.

* * * * *

BLLENHEIM.

ZL242 has been temporarily ordered out of town so send the following log, etc. Since last month here are DX for 80 metre band:—

W6FMQ, 6FEX, 6CTS, 6ABF, 6EGJ, 6CJQ, 6DTX, 6DZN, 6EJZ, 6CGE, 6ECC, 6SZZ, 6EFR, 6FHT, W5CT, 7AUQ, 7AWS, 7EX, 7EXV, 7BYV, K6AJA, K6BAX, K7CC, (R7 control), 9DTP, 9HBR, 9SE, VK's 2GM, 2HX, 2JT, 2NO,

2NS, 2HC, 2HW, 2OU, 2SD, 3PR, 3HG, 3GR, 4JU, 4KX, 4UU, 5MH, 5ML, 6SA, 6WI (fone), 7AG, 7AR.

One morning on 40, EAR227; one evening of 10 minutes, YN1NI, OA4U, dozs of W's es VK's. Blenheim now has ZL2HZ, 2KS, 2LG, 2LK. Any room for compiling a rist if 242 es I stage an "all night" sitting on 7mc. Last Oct 23—Oct 24, to 7.30 a.m. in 8½ hrs continuous listening on 40 metres bnd a total of 162 stns in 27 countries were logged. Of these 57 were Australians es 50 were Americans. Others hrd were XX3BMD, KN2, FM3AB, FX7C, XA8A, HA7 es ZS4R, all on 40.—ZL241, Horrie Simonsen, "PCJ4."

ZL's ON OVERTONES.

Period April 14—May 9, 1932. Have heard a nice lot u chaps here on 120-130 metres with ZL1AR again at top list but this time ZL2BW joined him and I could not separate 'em. Am very psed to hear ZL3DW again—Mrs Black's sigs copied 100 per cent here so her fist must be OK. Guess VK2YR had shock wen ZL3DW told him she was "OG" Hi! ZL3AZ has been heard with very hefty sig. Still 'ere ZL1AR calling 'em Uncle Sam boys with "QTC." Thanks Laurie (ZL3BJ) for the long awaited QSL from you—received OK. Heard Ivan (ZL2AC) tonite (9th May) so evidently he is back on 7mc. trying hook the world. Why on earth I can't log but one ZL4 on overtones in a month got me thinking, as I read in "Break In" that there are plenty of ZL4's who operate at times when other ZL districts are heard here. I might mention here that I am much indebted to ZL2CL for QSP-ing reports from me for various ZL's whose QRA are unknown here. FB Eric OC. To all ZL's I would like to offer my congrats on the quality of sigs emitted from your rigs as received here on "overtones." Of course there are one or two of you I hear who have QRI of KA1HR type, but that type of note is in minority as far as ZL's heard concerned. Well, 73, chaps; thanks to those who have QSL'd my reports and thanks in anticipation to those who owe QSL's. ZL's logged on "overtone" band (of

120-130 metres) by "overtone king over period April 14—May 9, 1932. Numbers in brackets denote number different days each particular call logged:—ZL1AR (4), ZL1CE (1), ZL2JG (1), ZL2BW (4), ZL1CN (1), ZL3AB (1), ZL3DN (3), ZL1CK (1), ZL3AW (1), ZL1CP (2), ZL2AC (1), ZL3BJ (1), ZL2FI (2), ZL2AJ (1), ZL3BV (1), ZL2GN (2), ZL2BE (1), ZL3CS (1), ZL3AJ (2), ZL2BX (1), ZL3DW (1), ZL3AZ (2), ZL2CE (1), ZL4CK (1), ZL3CC (2), ZL2GJ (1).

C U next month. Best luck.

ERIC W. TREBILCOCK,
"Overtone King."

Moonta, Sth. Australia.

RADIO SOCIETY OF CHRIST-CHURCH.

The Radio Society and local gang of N.Z.A.R.T., after a lot of discussion, decided to go for a walk to Kennedy's Bush on 17th April. However a heavy storm invaded the city about

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9.45 a.m. and apparently most members decided bed was the best place for them. Five heroes and one heroine thought different. They were V. Robinson (3FJ), Freeman (3FB), Wickam (3FG), two budding hams and one young lady. Having reached the tram terminus in twos and threes we faced a cold south-wester. On the way radio was the topical subject till we reached Kennedy's Bush where the inner man was satisfied and reels of film used. Reinforcements now arrived in the form of Les Hurrell (3BG), Les Evans (3AB) and two young ladies. This necessitated more film. While names were entered in the visitors' book bottles (not 852's) were flung around by irresponsible hams. On our way back we decided that some people were rather scared of a little rain.

May 5 marked a visit to the hospital to see the xray in action. Our technical committee were unable to insert a filter system in the outfit. The 8in. spark seen there made the old hams sigh for the "good old days." Back in the rooms Mr Sewell was thanked for arranging the demonstration and operating the apparatus. Mr McLennan then gave us the theory regarding these tubes.

Messrs F. Byrne and N. Johnson have been elected to membership, and I know the N.Z.A.R.T. is waiting to welcome you as hams, so go for your ticket, sons!

The P. & T. ave informed us that Mr Copp has obtained his ticket, gaining 100 per cent in theory and code. Fine business, Les. His call is 3AM, and I believe he is doing good work. The Radio Society's receiver, of which there has been plenty of discussion, is expected to be completed in June (loud cheers). It consists of four tubes—detector 2 audio plus 1 stage of power audio if extra speaker volume is required. A novel system of coil changing is used so that it is not necessary to open the set.

Lecturers for the coming month:—

June 2—Lecture by Mr Russell.
 „ 9—Beam Transmission.
 „ 16—Photo Electric Cells and Application.
 „ 23—Movies.
 „ 30—Questions and Answers.
 Mr Russell is doing great work with the new members and they seem to appreciate it by the attention given.

—BILL D.

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DISTRICT NOTES

Correspondents are earnestly requested to write their notes legibly in ink and have them in the Editors' hands by 20th of the month preceding publication. It is also requested that the notes should be as brief and concise as possible, and avoiding the too frequent use of amateur abbreviations.

FROM THE QUEEN CITY.

By ZL1CR.

"Commercials' nearly all remind us
We may make our notes sound fine.
And, signing 'SK,' leave behind us
Echoes of signals—tone T9.
Echoes that perhaps another
With T1 sigs that give such pain,
Some careless and misguided brother
Hearing, may retire in shame."
(With many apologies).

While our last meeting on May 5 was not quite so well attended as previously, it was pleasing to note that many non-transmitters were present, getting to know the local men. As stated last month, our general meetings are held in the Ley's Institute, Three Lamps, Ponsonby, Auckland City, on the first Thursday in every month, the sub. for membrs being 2/6, but non-members are cordially invited to attend. Tram fare is only 2d, but if you have a more luxurious tastes, then get in touch with 1AF who is a big noise in a local taxi firm, and he will quote you a price for transport. Hi!

The details of our beano were discussed and some inhuman person suggested making it dry. Ed McKay, 1BE, warned younger members of the pitfalls and temptations they would encounter, while Vic Penny, 1AF—you ole timers all remember Vic of course! He was the original Z-1AB back in 1923-24—strongly opposed a "Pussyfoot" gathering, adding that it would rule him and his pals out. Hi! Fred, 1BC, was selling beano tickets and, at 3/- each, there were not a great many left. Alas! by the time this is in your hands the great event will be over for another year.

There was quite a heated discussion at our last meeting over conditions and lack of ham courtesy on the 80

metre band. Remember, OMS, the meetings are the proper places to thresh out these little differences of opinion and by speaking up and getting our real or fancied grievances off our minds, we save a lot of bad feeling.

Our old friend, "Bill" 1GC, the local R.E.C. secretary, seems to have had an intimate acquaintance with the famous Blarney stone, for so good is his line of talk, combined with his pleasant manner and winning smile, that the first firm he approached for the parts to make portable transmitters and receivers—Johns Ltd.—gave him the lot.

1FQ, 1AR, and 1AN have been giving the operator of ZL2WL—the "Water Lily"—a helping hand with their transmitter, but their frequency is inclined to vary considerably. Vic 1AF suggests that this is due to the rise and fall of the tides. Hi!

ZL1AA is becoming a crackerjack on roller skates as is ZL1BR. ZL1AC gave a lecture at the last meeting that was enjoyed by all. ZL1AF went to Wellington, met all the hams who float around ZL2DL's stronghold, got himself appointed guard station, resigned from this because they didn't keep their skeds, got a 50 watter, and was greatly impressed by the second district good fellowship. ZL1AI heard on 3.5mc. with about a 200 cycle RAC note—it sounds great in Auckland—just like a high-power Yank. ZL1AN, a good vice-president. ZL1AO actually attended a meeting. ZL1AT: c'mon OM! dead? ZL1AV: sold the set yet Frank? ZL1BA too shy to tell me any news. ZL1BC cannot get such good phone with crystal control owing to lack of frequency modulation. Hi; ZL1BE: his bright smile haunts me still! ZL1BF

mucks around with aeroplanes and pumps out a big fat sig. ZL1BH: remarkable field strength for 2 watt phone; clear and precise. ZL1BP admonishes naughty guards who don't keep skeds. Hi! ZL1BQ: where, oh where? ZL1BR runs into motor car on his mo'bike so has to buy a new bike before transmitting recommences. There are rumours that ZL1CA is still on the air, but haven't heard him lately. ZL1CD: FB phone station. ZL1CE wants an FM to QSL so he can apply for WAC; congrats, Tom, OM. ZL1CH: ole Harold back again with FB fone and a PDC note. G'boy, Harold. ZL1CK, with due respect to past secretaries, seems one of the best we have had. He can work the DX too. ZL1CM not on much but very keen. ZL1CN, our local phone queen. ZL1CO came in from the "never-nevers" and attended our last meeting. After meeting him, the local gang are all the more eager to QSO him. ZL1CP has been heard a little on 40 metres. ZL1CR lost his CQ pole in recent gale and is on the air with temporary xmtr and antenna. ZL1CY has made an AC rcvr. Wonder if it hums like his 'mitters used to? ZL1FN hopes to produce some hi-power phone shortly. Glad he doesn't live too close to me as I get enough QRM already from 1HB. Hi! ZL1GC heard a little on CW and seems absorbed with R.E.C. duties. ZL1GP at our last meeting, and glad to see you, Eric. ZL1GW: where? ZL1GX worked W on 80. ZL1GZ worked W on 80, fone and CW, with about 30 watts! It's the talk of Auckland. ZL1HA on fone again, and will sell some four electrode tubes cheap. They have been converted from triodes by the simple process of the filament breaking. ZL1HB works many VK's on his new Zepp and gets to bed in the "wee sma' 'oors." ZL1HF: we all want to QSO. ZL1HI: is he a pirate?

Many thanks this month to information and scandal supplied by ZL1GZ and AF. FB OMS, and thanks. Now gang, roll up to the meeting next month and do your best in our membership campaign. Yards more dope next month. 73.—ZL1CR.

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PAPAKURA.

One QSO a week is the order of 1BV. According to him you can't have a wife and a xmitter also, so to the shelf goes the radio. 1FV has visions of a PPTNT job, which is to be premanently adjusted on 8T. This eliminates coil changing when QSY to 4T, and improves chances of working DX if the same QRG is maintained. 1GJ steadily working away on his QRP fone, which is about the best for the power in Auckland district. The layout would do credit to any B.C. station. From the racehorse centre of N.Z. comes 1TC who places great faith in his horse "MOPA." Wait till he meets the favourite "Push Pull," OM. 1HD vies with 1CA in effort to capture the Huntly ham shield, donated by friendly BCL's. No such being OM; ask 1CA. Hi! High quality signals heard recently include: 1BH, 1CN, 1FG, 1GW, 1HC. Amongst the SW listeners or nereabouts, Mr Jack Mason, ZL102, of Taikau, seems the most enthusiastic. Sa OM, pse don't attempt to wreck any more lorries with ur motor bike. Hi! Leo Goodwin, of Paeroa, busy swotting Handy and learning code. An old timer; ask 1AO. 73.—G. EVANS.

HAMILTON BRANCH.

Through the generosity of two newly-elected members, the Branch is now in occupation of a suitable club room and Branch activities are in full swing. The membership stands at 24, with several prospectives. Code classes are being held each Wednesday evening, each class being followed by a lecture. It is hoped to make a start on a club transmitter and receiver in the near future. A second field day was held on the 15th instant, about 20 members participating. Although difficulty was experienced through the breakdown of a transmitter, much useful experience was gained. 1AZ's edition of a lead pencil resistor was FB even if it didn't work. (What's that, Reg?). However, difficulties must be encountered before they can be overcome and the experience gained more than compensated for ruffled tempers. Jim, Lou and Eric are to be congratulated on the very FB cup

of tea they produced "out of the bag" as it were. 1BL is still putting across an FB fone with his 8 watt Splitt-Corpitts, but is considering going MOPA and also thinking of having a look at the 160 metre band. 1BW is using reduced power but still rivals 2YA for strength on the Claudelands side of the river. 1AZ is punching holes in the blue with a new TPTG outfit; very FB, Reg. 1FP was heard testing on a recent Sunday. Get her going for the next committee meeting, George. 1GU hopes to have his new MOPA on the air in the near future. Has been doing some two-way simultaneous telephony with 1BL and 1HN. The latter is on the air from time to time with an FB portable outfit. 1FE comes up to the 80 metre band from time to time, has a QSO with the gang and then slides back to 20 metres. Our optimist, Alf, has negotiated the barrier for his ticket and is awaiting his call sign. Auckland hams please note. Come on, you Huntly and Te Awamutu hams, let's hear something of your doings and drop in to a meeting sometime. 73.
—ZL1GU.

RANGIWHAI.

2AP has received his high frequency permit and is now tasting the joys of DX. After building a QRO power pack he found that the local BCL's did not appreciate his efforts. Hi! Several remedies were suggested, but a sawn off shot gun seems to be the only real cure. 2JC still continues to put out some fine telephony and is also using high power. Old Reg, of 2KC, is also another phone artist and shows a very keen interest in the monthly meets of the gang. He comes about 35 miles or so to attend. 2KB is Reg's sparring partner, but is not heard much—hw OM. Our genial pal, 2KH has had a shift to Pongaroa and takes with him the best wishes of the gang. 2KQ is still on deck with a QRP Hartley but dreams about CC, MOPA and other things after seeing 2HQ's fine outfit. Several of the local lads are saving up to have a pop for their ticket—well, here's hoping, boys!
—ZL2KQ

(We note with interest the keenness of 2KC who travels 35 miles to attend branch meetings. This is a very fine example and should be noted by all members.—Eds.)

* * * * *

TAURANGA.

ZL1CP has had some bad luck lately and is off the air pending the arrival of two tubes for his xmtr. ZL1HF, the YL opr, has also been up against it, having blown part of the power pack, and is now awaiting a new one from brother Maurice, of ZL2CJ fame. ZL1FH manages to get on the air when he is not wiring up houses. ZL1FC is on deck at last with a QRP portable, but no startling results as yet. ZL1GF is working everything he can on 20 metres, going all day and half the night. He reports conditions good for DX on that band. ZL1FG not on the air lately, having been out of town. ZL1FI, when last seen was trying to get AC hum out of the first stage of his speech amp.

—ZL1FG.

* * * * *

TARANAKI.

ZL2CB has cleaned up his note a great deal. He'll be getting CC depts soon if he keeps on. Hi! ZL2HI is rejoicing among the W's again as there is a rumour of QRM at ZL2XQ. Hi! ZL2LD is a'l ready to go on the air but still no licence. He is talking about QRP and 250's and will mainly be heard on fone (modulation?). Rumour hath it that ZL2KO will be returning here about the end of the month and is talking about QRO (say, Bert, what price that BC set next door?) and don't forget to bring up that coke-crusher of yours. Hi! ZL2HV worked a D and a G and he reports that his hat no longer fits. Also is knee deep in QTC at present and delivered one message before it reached him. That's a second op for you. Hi! We welcome to our ranks another ham. Charlie Ambury gained is ticket about two weeks ago but has not yet received his call. He intends to use a TNT circuit on QRO. ZL2KV

still seems to be knocking big holes in the ether, but what about that card, OB? ZL2KE seems to be still another of the Taranaki gang who has been lost, stolen or strayed. What's happened, OB? ZL2DN has been heard testing a lot recently. 245's are very plentiful at ZL2JH. Oh, yes! How's our little ZL2LF? Hank says he is quite enjoyin' taking the QTC down there among the frost. ZL2HR sends radiograms two days after delivered. Hi! The VK's are coming in here with astonishing strength recently. ZL2HV fated to go on QRP again; the power transformer is wanted by its owner. Hi! 73.

—ZL2HV

* * * * *

WANGANUI.

The past month has brought forth nothing to startle the natives here, but quite a few listeners are getting very keen to get on the air. The local club commences again this month with ZL2AR as secretary. ZL2GH says QRM to the BCL's has restricted, if not put an end to his transmitting hours. He has just put Heizing mod in too. ZL2JA has just finished building a new receiver, SGRF, SG det, and a pentode valve; is still on key with his PP outfit. His note is much more clean cut and steadier now, too. FB Don. ZL2BY is our QRO man. Uses 40 watts on fone now. He is kept very busy with skeds, etc. Was out of town nearly all last month. No rest for the wicket. Hi! ZL2FV says he will be on again very soon, this time using TPTG. ZL2CT is nearly settled in his new QRA. Is using two only 245's in parallel now. ZL2CM still on fone es reports no news. ZL2KN is still on QRP, but has QSOed two or three VK's on 80. ZL2BR has not gone out of business yet. Hi! Has just completed a public address system amplifier. ZL2AR is on occasionally but is very QRL. ZL2CN is our local R.I.; but you can't fool old Ernest. Hi! Have not hrd him on; but I suppose he is listening for me. Hi! ZL2CS is building a fone transmitter, using 45 watts out-

put. Ye gods! My kingdom for a 1 valve receiver! Will all local hams please send in all their month's doings to ZL2CT, because in sum cases the writer has to be a thought reader. TMX OB's. Au revoir from the River City.—ZL2CT.

NAPIER-HASTINGS NOTES.

Amateur radio is becoming more popular in this district, and we welcome 2KI and 2KK to the ranks; and there is also prospect of more enthusiasts qualifying for their tickets. So far the gang have had two false alarms since the forming of the R.E.C. One was for two juveniles who wandered astray to Cape Kidnappers, but returned without radio assistance. The other was on Thursday, 5th, when a quake of no mean intensity arrived unannounced, whereupon the R.E.C. portable was hied to the shack of 2GE who was found "kind all het up," dropping candle grease into his power tranny. At this stage we will inform all who answered the QST from here on that night that funny noises began issuing from nowhere, and until located it was impossible to use the receiver. The results of the field day held on Anzac Day were very gratifying as will be seen in the R.E.C. notes. 2AT is very pleased with grid modulation, having reached Nelson with it. What did you do with that jimmie-o-goblin. Eric? 2BE continues to rebuild. 2CR now ex-2CR, embarks for VP in June. We are sure losing a keen member. All the best from the gang, Ron OM. 2FQ busy with crystal control (hm! hm!). In between times QSO's on QRP on 240 cycles (?). 2FW trying bridge rectifiers and finds fascination in burning contacts off 2FQ's new key. 2FY is also rebuilding but QSO's on QRP in meantime. 2GE building BCL receiver and how! 2GY lost in a maze of haywires. 2JQ heard working W's quite often. 2KD is not heard so much lately; s'pose QRL. 2KI and 2KK also not heard much. 2KJ is very QRL, but when he does come on, "O Ether, look out!" 2KM at Poko-

whai, heard occasionally, 2KT still doing strong. 2JB is at Masterton, we believe, and the boys send you 73's, Stan.—"The Bing Boys," 2FW and 2FQ.

WELLINGTON.

Hello, everybody! This is Wellington Branch, N.Z.A.R.T. announcing that business is good and getting better every day, and that this branch as a whole thinks amateur radio in the capital city is worth talking about.

Apart from some skip, which makes us think all the hams in Christchurch are dead or departed, conditions here are good. 20 metres is patchy, 40 is going off and DX there is scarce, but 80 metres is Paradise. Hardly any QRN, no serious QRM, unless you live

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NOTES AND NEWS.

2AB is on 80 and comes bouncing in here R9. 2AH runs two transmitters and a broadcast receiver from the same power supply and doesn't get any QRM either way. 2AI is after those condensers from Christchurch. 2AJ is amusing the R.N.V.R. and, with 2FL, is showing the BCL's what a warship transmitter is capable of. 2AQ is busy on 80 metres. 2AW lights up the bathroom lamp by turning on the transmitter. Fact! 2BC thinks he is better at rifle competitions than at DX. 2BE must be QRP now. Only R9 down here. 2FY is nearly the same. 2BG and 2BX seem to be better known in Poland than in Wellington, judging by their DX QSL's. 2CA intends rebuilding with Colpitts in view. 2CD has a guard sked. 3CE is boosting the revenue of the Electricity Department. He is sufficiently notorious to require no further description. He worked a Yank with his aerial on the ground QSA5 R5. 2CH occasionally treats us to an excellent imitation of a buzz saw. Try an axe, OM; that cuts out the ripple. Hi! hi! 2CI heard calling Yanks on 80 metres. 2EJ may be held responsible for the noises from 2ZX. 2CP is shaking the hills of Paekakariki with a terrible roar. 2CU heard occasionally. 2CW bought a nice big enlargement of the group taken at the last meeting. Thinks it is FB. He is in it, too! 2CX is praying for his card from that 80 metre Yank worked in February. 2DL is too busy to do much DX. Cheer up, Bob. I will just work out the aerial current from that 45 volt input. Er—about 3 amps isn't it? 3DQ has a FB multimeter reading current or voltage from fractions of a milliamp or volt up to 1250 volts or 500 mills. 2FM is QRL. So is 3GJ, for which many thanks. 2FN has changed QRA again! 2FR has been allotted to a new ham located only a few yards from the original 2FR. 2FU is contemplating MOPA.

2GK is getting down on 5 metres. 2HA had a nice cruise on the Matai as radio op. 2HI is heard occasionally. 2HS is selling out and leaving for England. 2JG is putting out fair fone. 2JJ is MOPA, but the last time I heard it, the oscillator was stronger than the amplifier. 2JW is overloading his 45 on 80 metres and getting good reports. 2JY has a guard sked and knows how to handle a key. The K calls seem to be all on 80 just now; but when that six months is up, then —!! 2KX has a very poor fist, but with experience should improve. 2LB is pounding away in great style. When do you sleep, Bill? 2LE is only R5 up here, but gets R6 in Aussie. I heard 2LZ the other night, so it looks as if the second district will be having three letter calls pretty soon. Eh, what? 2WL has left New Zealand and by the time these notes appear he will be well out in the deep blue on the way to Vavan. He is on 80 metres and will appreciate news when at sea.—ZL2CD.

RANGIORA.

We now boast of another new ham, ZL3FW, ho is now on the air with a TNT PP xtal rig and he reckons he will soon clean up ZL3DT as regards QSO's. FB, Bill. ZL3AI is absolutely silent. Don't know when he is gng to perk up agn, but expect it will be soon as those lectures must be nearly through nw. ZL3DY has at last QSO'd UK after many attempts. Nw has a 7 and 14mc permit. He is not satisfied with results and is rebuilding. ZL3DW bn doing FB DX on 7mc and is increasing the DX wall paper. Still likes to have a local chat on 3.5mc. Had first QSO with ZL3FW on his opening night. Hi! ZL3DT still too busy for anything; has bad QRM fm the YL over the river, but he may blossom out soon; at least he has found time to QSL. Hi!! ZL3AJ: QRL grinding an xtal or two; has installed remote control for winter work and nw parked alongside the fire—no more cold feet and frozen stiff

at the key. Hi! DX not excellent and still no WAC.—3AJ.

* * *
CHRISTCHURCH.

By ZL3CP.

3AB reports nothing much doing at present. 3AC has been off the air for lack of a receiver, but apparently a pirate has kept the call on the air, as some DX cards have come in. 3AD is keen on 56mc. now and is getting some of the gang to give that band a pop. 3AE puts out some good phone in the intervals between typing letters at HQ. 3AF is active again, with a very FB sig. 3AM has been re-allotted to a new ham, Mr L. F. Copp, whose marks in the exam prompted the R.I. to write a letter of congratulation to the R.S.C. where Mr Copp studied for his ticket. Vy FB, OM. 3AS has been distinguishing himself in spheres other than radio. Wear cricket pads next time, Norm. 3AW, though never seen, is often heard, and the cards continue to roll in. 3AZ has a nice MOPA perking, using push-pull 245's as the oscillator, and push-pull 210's as the amplifier. He is making a separate 3.5mc. set to keep that sked. 3BF has a new power tranny, and puts 100 watts at 1000 volts on two 210's. Poor tubes! 3BG is busy building a new receiver for the R.S.C. 3BJ, after buying a large choke, found that his RAC note was caused by a defective tank condenser. That condenser certainly caused some language! 3BK reports that he is pushing 60 watts into a pair of 245's in push-pull. The only DX he mentions is the BCL next door. Hi! Get those two budding hams as second ops, Don, and keep the set perking 24 hours per day. 3BM has a 50 watter perking, modulated by a UX250. Thank heaven he isn't near me. Hi! 3BS wants a YL to take to the R.S.C.-N.Z.A.R.T. dance. Keep in the queue, please, girls! 3BT has a new receiver, built by 3AX and 3BV, so she will be on the air again. 3BW reports ND except a visit to the "Rangitira" with 3BG. 3CA has moved to a new QRA at 432 Gloucester Street. Won't the

Rose brothers be pleased! 3CC, with tears of shame, admitted that he worked a VK. Tut! tut!! Last mail brought him 30 Yank cards. 3CG is rarely seen and never heard. Hw cum? 3CK has been seen at HQ. 3CM has, after a lot of trouble, got his CC going well. It uses a 201A oscillator, a TB04/10 as freq doubler, and two 210's in parallel as amplifier. 3CN has become a fortune hunter. Not the male vamp type, you ass, but the West Coast variety. Good luck, Ian. 3CP does little with the key, but lots with the pen. 3CT reports some DX on 14mc., but can't work that elusive South American. 3CZ has been seen alone a lot lately. Confide in your uncle Chas., Fred. 3DB is posted among the missing. You sure do miss you, Sol., We hear that 3DC is very popular with the neighbouring BCL's.

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3DI wants to know when his HF permit is coming to hand. Page Mr Ashbridge please. 3DK has changed his QRA to 74 Wychbury Street. Spreydon. Try a kite aerial, Carl. 3FB is trying out duplex phone with 3FQ. 3FF is rebuilding and can't make up his mind as to what his new receiver is to be. 3FG is building a MOPA with two 245's as oscillator and two 247's as amplifier. 3FK has a 245 in a Hartley circuit that works sometimes. Smack it when it is naughty, OM. 3FL is often heard on phone. 3FQ is putting in two 210's push-pull with 750 volts on them. 3FY has three chokes in his filter. Guess they must be in the conspiracy, too. Hi! 3CW visited Christchurch and great was 3BZ's concern. Pinched half his outfit, but left a nice big tube as compensation.

WEST COAST.

ZL3AA has been on the sick list lately. We all wish him a speedy recovery and hope to hear his fist on the air soon. ZL3DV has been quiet lately; suppose he is acting as nurse-girl to 3AA, who is his brother. Have you got that power line yet? ZL3DH has been heard frequently, and is thinking of giving 40 band a whirl. Watch out for QRM down there, Bob. Hi! ZL3BU still getting his winter quarters ready; says as soon as he gets his shack warmed up he will break out once again. ZL3BQ has been heard on his mighty atom fone lately; believes in making tubes work for their living, as he puts 750v on a 245 for fone. Gee! no wonder there is a depression. Hi! ZL3DD continues to put out a FB sig with QRP. Has QRO outfit nearly complete.

Gee the QRM. Hi! ZL3FN heard occasionally is partner to 3DD and will help run the QRO outfit. ZL3BV has been entertaining the BCL with some ham fone. Hi! Congrats on working your first Yank, Len; suppose you got that million dollar feeling. Hi! Hope he QSL'd OK. ZL3FX is making a big noise in Hokitika; has all the gear for a QRO outfit which should rival 3BV. Hi! Has his mother as second op. ZL3AG divides her time between fancy work and radio, which she says is also fancy work. Hi! Complains about the number of QSL's she doesn't get. Hi! ZL315 is still on the sick list. We hope to see her about again soon.

* * * *

ASHBURTON NOTES.

Things in the village are looking up. 3CU has three candidates on the way for an appearance before the R.I. Two of them are almost ready with morse and the other is coming along well. 3DN and 3AQ are still working DX on 20 and 40. 3AR and 3CX making pots of money out of BCL's (and spare tubes, Doug? Hi! hi!). 3CV: ND; how come, Bob? 3AO ditto and likewise. We would like to see more of you, OM's. 3CD spends most of his spare time gazing at a broken mast and wondering when the . . . etc. he will get it up again. Too busy grinding crystals.—3CU.

* * * *

SOUTH CANTERBURY

By 3CL

"The field day has come and gone" should really be the theme song of the S.C. gang's write-up this month. The date was the 15th, Sunday, and cars conveyed the three portable

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stations to points several miles distant from the headquarters station, the idea being that they should click with hdq in order to find out where the picnic was. Coded messages were to be sent to each group and in the event of a party failing to make contact by noon, a sealed envelope, containing directions as to the place, was to be opened. 3DA and 3AU manned the hdq outfit, and these stalwarts made Pleasant Point their base of operations. However, they were faced by the swiftly-flowing Opihi River on one side and badly screened by dandelion and ragwort on the others, so all three sealed envelopes were opened. 3CS, 3BN, 3CI were the portable calls used, and these stations whiled away the morning asking one another where "Ben" was.

In the afternoon, QRP phone tests were carried out between moving cars. 3CS and 3CI found out that phone came in best when the back bumper of one car was in contact with the front bumper of the following car, and to Alan Shrimpton was the difficult task of keeping the call 3CI a foot or so behind 3CS, while the cars were travelling anything up to 40 m.p.h.

It was certainly a great day, and thanks are due to those non-transmitter members who supplied cars, and to the headquarter station group for the organisation of codes, etc.

The new local branch is increasing rapidly and the club room becomes more of "a home away from home" with each meeting. Congrats are due Jack Reid upon his gaining his licence. He is now 3FP. 3AH still MOPA's about and has taken on crystal-gazing as a hobby. 3CJ has power-pack troubles—a whole flock of 'em. Come on, Stan, we want to hear more of you! 3DA is the organiser of the slow-morse classes and sacrifices much of his time, both on the air and down at the club room, with the ops-to-be. 3BN is somewhat hampered by restrictions as to operating hours, but is doing good work. 3AV is on occasionally, but the ex-Dunedinite makes up for his absence on the air by his activity at the club. As a secretary he certainly is the goods. 3CS has

been heard by a "G." Yes! a whole "G" heard him on 80 and sent a QSL. Joe won't be persuaded that the "G" had mistaken 3CI's call. 3CI is still QRP on 80, and anything over 5 watts is very QRO these hard times—sez he! 3CS and 3BN want it known that all credit for the organisation and running of the Waimate camp is due to Mr and Mrs Cameron, of Dunedin and their merry men. Believe it or not! It was an FB camp whoever was responsible.

* * * *

OTAGO BRANCH.

Social committee report a very satisfactory function which took the form of a social and dance, was tendered by this committee to members of the Otago Branch and was held on April 9 in Scurr's Hall, Princes Street. There was an attendance of 40 YL's, OW's and OM's. The programme of entertainment comprised of games, competitions and a fine

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selection of dances. The music was provided from a Stewart Warner radio loaned by Messrs Radio Sales, to whom we are indebted. Mr Bob Dawson (otherwise 4BW, our theoretical xmitting ham) hi! acted as M.C. and proved himself to be a very capable person for the position. A FB supper was provided at the club rooms, where we all adjourned and spent a FB half hour. The very bright and pleasant evening was brought to a close at 12 midnight. Even at that time I believe the younger members would have kept going. In presenting this report I would add that the committee thanks those who supported its effort to entertain you and trusts that this function will be a forerunner to many more during the season.

On behalf of the social committee.

—H. JUPP, 4CJ, Chairman.

* * * *

OTAGO.

By ZL4AP.

There's not much to report this time, fellows of the Otago district. I have been QRL owing to sickness in family. Hope to make a better showing next time. ZL4CS was recently QSO on 80 metres with two Yanks—W7AUQ at midnight, and W6DHE at 1 a.m., gaining R4 in each case. Hopes to have a class B mod and a class C amp going soon. 4CA undergoing extension at present in the direction of MOPA, but has the portable operative as standby for QTC. Having cleaned out the ZL's, he is now looking for bigger game. Hi! 4CJ building new outfit—two 852's, xtal controlled fone in aluminium frame. This is for QSO with Melbourne, so watch out, chaps. 4BU on QRP but causing clicks to BCL's in the next room. 4BT been touring the north again. How's Christchurch, Jack? Did you manage to dodge it? 4CV heard working in the test—good sig, OM. 4CK not heard so much lately. How come, OM? 4CD was seen at last meeting. Welcome back, OM. 4CN QRL with military business. 4BP is changing his QRA. He is doing splendid work in our club. 4BY has built an AC receiver, but is having trouble curing a hum. Try curing a ham, Jack. 4AP paid a visit to Invercargill and called

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the south gang together for a rag-chew at 4CH's shack, which was enjoyed by all present. FB, gang.4BO now belongs to the "bell bottom" boys—he had a great time in Wellington on the Diomede, getting up at 5 a.m., scrubbing decks. You can imagine the rest. Hi! 4DU on the air and with a good sig. A silent worker but gets there, and very methodical. 4DB still calling CQ and landing fair DX. 4CI back in Dunedin again and will soon be on the air with fone. How are the clicks, Doug? 4BW has still got "YL-itis"—guess you had better get married, OM. 4BV still QRL but will soon be on again. 4BS knows all about electro-static shields on transformers—soldered his on made a good job of it, too. Hi! Too bad about the shorted turn. OM. 4BJ and 4CL very quiet lately—too much neon interference in their vicinity. 4DT was off the air for a time, trouble with receiver, but active again now. 4DS has not been heard much of late. The Otago branch staged a beano (some beano—ask Casey) and all had an FB time. The chief point of interest as regards our club, however, at the present time is the instruction in technical matters given to members every Tuesday by our lecturer, 4BP. These lectures draw crowded houses every week, and are giving a great boost to our club.

SOUTHLAND.

The local gang has gone MOPA mad and there is a race on to see who can have one of the outfits on the air. 4AD has now a new DC receiver and he thinks it is the berries, but it is evident he has not heard 3CH's new AC receiver. VK sigs are the only ones which are not R max on it. Hi! The southern hams have at last come to life with a bang. New hams on the air here are 4FE and 4FG, and 4BG has been burning up the ether with a PPTPTG and sigs put our receiver out of oscillation. Hi! 4FG is not content with working the West Coast on fone but he has to click with two VK's before he has been on the air a week. FB, Alf. We had a visit and a lecture from 4AP which was much appreciated by the local gang, and it is he who is responsible for the feverish activity in the MOPA line. 4DZ and CH have been experimenting with super grid modulation with fair success but 4CH has been told not to murder so many fowls before the mike (they don't know a whistle when they hear one). The gods descended and left 4AD with a $\frac{1}{2}$ kilowatt tube, but he does not know what to do with it. Send it to me. OM. 4FE had the misfortune to blow his power pack, but much ought to be heard of him in the near future.—4CH.

Q.R.A. SECTION.

This section is provided for the purpose of listing new or amended QRA's. If you have been allotted a new call or have changed your address please advise Headquarters immediately.

NEW AND AMENDED QRA's.

ZL1AZ	.... J. R. Sherson, 22 Lake Rd., Hamilton.
1GF	.... R. Castles, Third Avenue, Tauranga.
1GO	.... L. A. Tattersfield, 3 Hemi St., Devonport, Auckland.
1GX	.... F. L. Hawthorn, 10 King Edward St., Mt. Eden, Auckland.
1HD	.... H. B. Harrison, Raynors Rd., Huntly.
1HK	.... J. Metcalf, 13 Haig Ave., Mt. Roskill, Auckland.
1HM	.... C. Simpson, 8 Grattan St., Ponsonby, Auckland.
1HN	.... W. J. Service, c/o. Telegraph Engineers' Office, Hamilton.
ZL2FR	.... N. Dyett, 8 Duthie St., Karori, Wellington.
2JI	.... W. R. Schroski, 8 Queen St., Wellington.
2KH	.... V. H. Bennett, Pongarua.
2LH	.... R. Sharland, 142 Nile St., East Nelson.
2LJ	.... Nelson College Radio Club, Nelson.
ZL3AM	.... L. F. Copp, 44 Vogel St., Christchurch.
3CA	.... C. A. Hughes, 432 Gloucester St., Christchurch.
3DK	.... C. E. Holmes, 74 Wychbury St., Spreydon, Christchurch.
3FF	.... P. T. Hainsworth, 51 Fitzgerald Ave., Christchurch.
3FO	.... W. V. Blackmore, 7 Clarke St., Sumner.
3FP	.... J. A. Reid, 32 Rathmore St., Timaru.
3GA	.... W. T. Gale, 51 Slater St., Christchurch.
ZL4BP	.... W. G. Collett, 33 Barclay St., Dunedin.
4CV W. Booth, 49 Kaikorai Valley Rd., Roslyn, Dunedin.
4FG C. A. Ellis, 319 Herbert St., Invercargill.

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 Cameron's "Sound and Motion Pictures Encyclopaedia," 18/-.
 Loomis's "Radio Theory and Operating" (U.S.A.). 32/6. A good book for any amateur or operator.
 Henney's "Principles of Radio," 26/6.
 Morecroft's new book "Experimental Radio Engineering" (51 experiments). 25/6.
 "Wireless Constructor," Feb. 11d. (Full size blue print of S.T. 300 Scott-Taggart's amazing new set.)
 "Practical Testing Systems," by Rider, 8/-.
 Leutz & Gable's "Short Waves," 19/-. (A wonderful book on subject).
 "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.)
 "Radio Call Book and Technical Review," (formerly Citizens' Call Book Quarterly), 2/-.
 Mack's List of World Short Wave Stations, 7d. (Don't miss this.)
 "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/-.
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