

LOW POWER RADIO RESEARCH AND NEWS.

No 29



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QRP

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THE JOURNAL OF THE
Q R P
RESEARCH GROUP

EDITORIAL

I wonder how many of you have noticed the gradual drying up of ex-service surplus gear markets. There is still quite a lot of stuff about, but the variety is much less and the prices are tending to rise. I have no doubt at all that similar conditions will shortly affect the general "spares" markets and anyone who can afford to lay out a few shillings (or pounds, as the case may be) now, would be well advised to do so, using discretion and common sense in compiling the shopping list. Transmitting valves (807s, for instance, which were almost ten-a-penny some time ago) are getting scarce, while, on the other hand, there appears no likelihood of shortage in Rx valves for some time to come. Restriction on non-ferreous metals is bound to reflect upon such items as transformers and money spent now on good mains trannies would be soundly invested. And, if you see any heavy guage aluminium sheet for sale, don't let the opportunity pass. I foresee the time when once again we shall be making use of all sorts of substitutes like gauze screening and tinfoil on wood.

When that time comes the QRP amateur will be in a favoured position, not only because his essential gear is less elaborate, but, even more, because he is well used to home construction with the natural use of substitutes. There are many such wrinkles which are still in use, having proved themselves as good, and sometimes better than the commercial product they were forced to replace

during the lean war years.

Have YOU got any tips like that which your fellow members might benefit by sharing? If you have, let us pass them on in a series of concise articles on substitutes.

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18-SET Rx. MODS FOR 160.

The type 18 Rx chassis has proved one of the most popular ex-service surplus bargains and we have had repeated requests for data enabling the inclusion of Top Band in their repertoire. In most cases very little modification, if any, is required apart from rewinding the coils. This can best be done by first removing the two formers. The RF coil is clearly visible above the chassis whilst the oscillator coil is located underneath. The diagram on the opposite page will give all the necessary connection sequences and the existing component values which can all be retained are as follows:-

C1, C5, C6, C7, .1 uF. C4, .0001 uF. C8, .00008 uF.
 C9, 622 pF 350v. R1, R7, 1 K. R2, 50 K. R3, 500 K.
 R4, 3.3 K. R5, 2.2 K. R6, 70 K.

All resistors are $\frac{1}{4}$ watt rating.

The new values for the coils are as follows:-

L1, 83 turns, 24 swg enamelled (anode coil).

L2, L3, 24 turns, 30 swg enamelled (reaction coils).

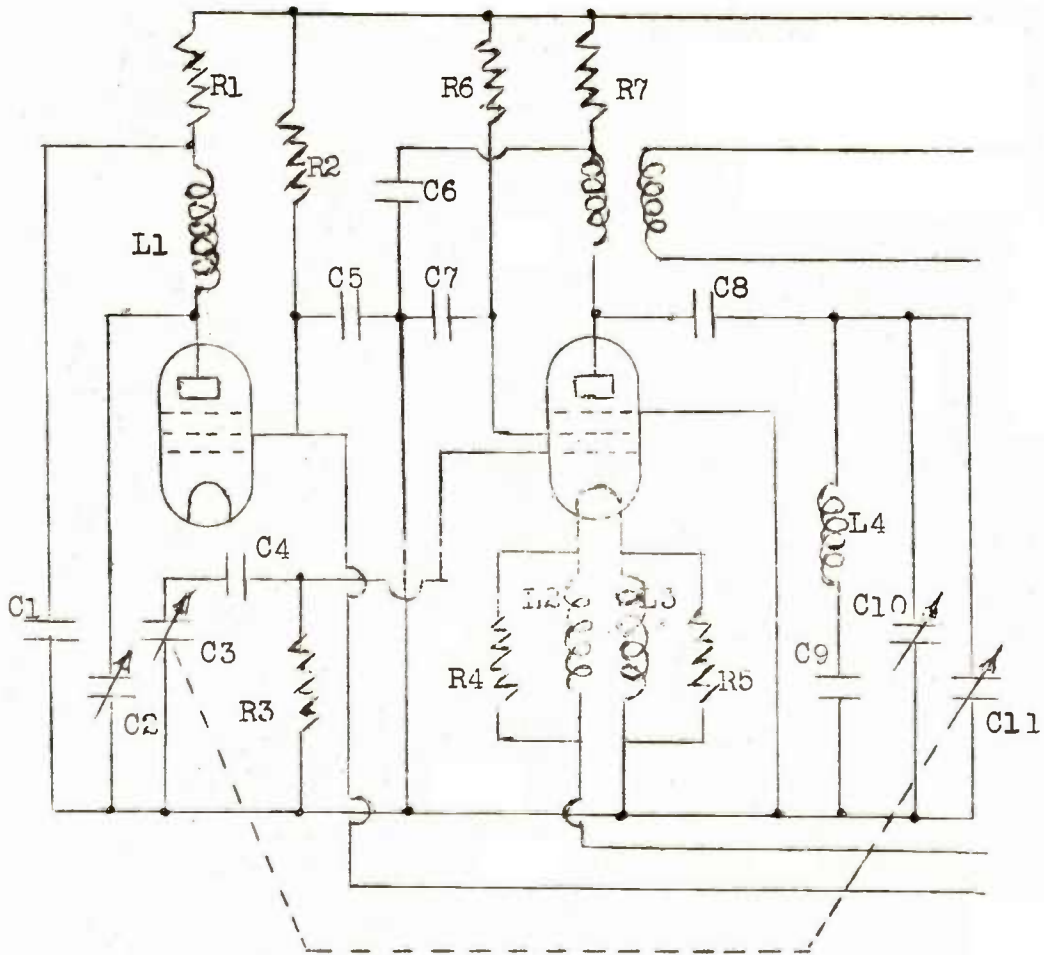
L4, 7 turns, 30 swg enamelled (het. osc. coil), wound over

L3, using Selotape separation. The existing slow motion tuning will be found to be quite adequate on Top Band.

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Reports for next issue should be sent in by Mon March 3rd.

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STATION G 3 A G Q.

Bob Eldridge who, in 1946/47, was D2GQ, lives with his wife and two children in Gomeldon near Salisbury. He is 31 and holds WAC, WBE, ARRL Morse Certificate and ARRL Dx CW contest medallion. He is a member of RSGB, FOC, TOPS, BTTC, BSWL, RAFARS and RCC. He sends us the following description of his station.

"There isn't anything very interesting about the gear at G3AGQ, these days I'm afraid. The Tx was described in the September 1950 issue of the RSGB 'Bull' and can be run fairly efficiently at anything from about .5 to 25 watts or so by fiddling with the HT voltage. These days I use 250 volts HT from the Rx section of a B2 power pack, so the 807 has something like 250 on the plate and 100 on the screen and just to make things easier for the anode I use about 30 volts battery bias in series with the secondary of a mic transformer which is plugged into the grid of the 807. With 4.5 polarising volts across a GPC carbon mike insert I can modulate my carrier a good 50% to 60% after adjusting drive conditions and ant loading, but I use one only for local top band net, being fanatically anti-fone. The receiver is a Phillips HMZL/340KM, a ten tube job with audio filter and very effective muting diodes and neons all over the place inside the works. Externally I use a little metal rectifier peak clipper which is absolutely invaluable for removing clicks from my own transmission and bringing my own side tone down to the same level as the station I'm working. I work break-in all the time with this Rx without any relays or such claptrap. The antenna is about 100 ft long and I suppose it runs about E-W. I have reason to believe it resonates as a quarter wave on 160 and I suspect it does so on 80 too, because there's an awful small series condenser in the aerial on this band to get any peak at all. As you may have gathered, this ham is a bit of a hay-wire specialist, but it wasn't always so. I have so many things to

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keep me busy that I can never get around to tidying up in the shack. But, though I may be in the trough of the cycle at present, I've had my moments! In 1947 I won the ARRL Dx contest on CW from D2, though to do that I did a rather disgraceful thing - I stepped up to 25 watts to compete with those D4 fellows and their BC610s. When I do manage a session on the air it's usually between 9 and 10 pm on top band around 1810 to 1850 Kc/s or so."

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I S W L DATA BOOKLET.

We have received a copy of "THE ART OF Q.S.L'ING", the first data booklet to be produced by the ISWL. Selling at 1/- it is a well laid out, duplicated manual, approximately the same size as "Q. R P". There is no doubt at all that it does provide much essential information which the newcomer to QSL hunting (and a good many old-timers, too) cannot obtain anywhere else.

We strongly advise anyone who finds their reply ratio low to obtain a copy from ISWL HQ: 123 Sturla Rd, Chatham, Kent.

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Q. R P RESEARCH SOCIETY SPARES SERVICE.

This unique service, which is restricted to the use of Society members, covers the sale and exchange of all manner of radio gear, from individual components to complete stations. For the guidance of new members the service functions as follows:-

(1) List any spare item which you have for disposal and send to Mr G.Partridge, G3CED, 17 Ethel Rd, Broadstairs, Kent. Every item should be priced and marked post paid or otherwise.

(2) Copies of current lists can be obtained by sending a SAE to G3CED. The list should be returned as soon as possible together with a BLANK PO for any item required. The PO should be left

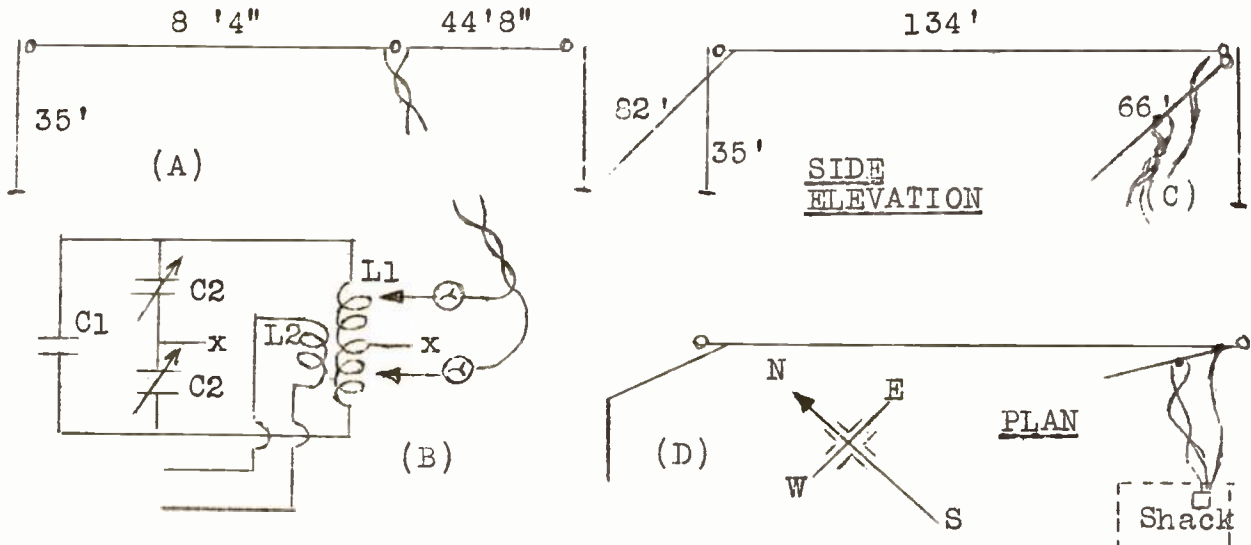
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blank in order that it may be forwarded to the right quarter without having to be cashed and a new PO drawn.

Extracts from the list appear in "Q R P" from time to time, but the full list can only be obtained from G3CED. You can help to make this service a still greater success by sending him YOUR list of spares. Never forget that those parts which seem of little use to you may be just what the other fellow is looking for.

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ANTENNAS AT G3EDW.



The diagrams above show two sets of antenna arrangements, (B) being the tuning unit used with the (A) layout. In this unit C1 is 90 pF mica, 3000v wkg and is ex-TU5B; C2 is a 200 pF two-gang, ex-T1154; the leads from L2 link to the PA tank coil; L1 is 30 turns of 16 swg enamelled, double spaced on a 2" dia former,

the feeders being tapped in at 5 or 6 turns from centre. The feeders themselves are 300 ohms twin, 90 ft long. This was the antenna in use when 3EDW won the RSGB Low Power Contest which is sufficient comment on it's quality. It might be worth trying an earth connection from the points X.

The remaining figures (C) and (D) show the side elevation and plan respectively of an alternative arrangement rigged between the same masts. On 1.8 and 3.5 Mc/s the 260 ft end fed section is used for the Tx, the 66 ft dipole being used for the Rx. On 7 Mc/s the arrangement is reversed, the dipole being used for transmission.

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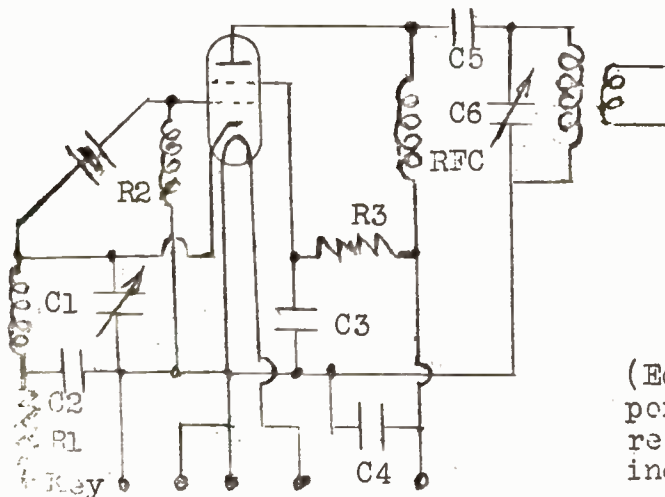
THE MONTH'S BEST LETTER.

This month Mr E.H.D.Coates, G3NA, takes us back to pre-war days with some interesting recollections:-

"I am not at the moment (and infact never was) licenced for more than 10 watts, never having been at all interested in QRO. The full 10 watts is but rarely used. Crystal control has always been the rule and the technique adopted has been to set the Rx on the frequency in use and to vary a small fraction HF or LF of it. Anything heard is called and the use of CQ is kept to a minimum. This has yielded excellent results. For years the Tx has been a tritet CO alone - there have been occasions when a CO/PA or CO/FO have been used for a length of time, but somehow I always return to the little tritet. Prewar rigs have consisted of an 'Ostar Gang' M43 pentode CO with regeneration - incidentally I would like to know how many could produce an 'Ostar Ganz' M43 in complete working order today! My own specimen went through the GPO war time storage unharmed and I still look at it with affection. It was my initial effort when I was first licenced. It glowed a beautiful apple green when in action - I could never understand why, but

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but three specimens I possessed did the same, so I conclude it was a characteristic of the valve. Incidentally G2MI will probably remember my signal using this valve. It made a neat, compact Tx and gave excellent results until the great 'close down'. Another pre-war Tx was a pair of PX4s as a push-pull CO. Although I have not used such a rig recently you have yet to convince me that a p-p CO is not a first class QRP transmitter! But enough of the past. With the return of tickets the first effort was an APP4C tritet modulated for phone via the suppressor grid. It gave excellent quality but the most interesting thing to happen with it was a QSO with ST2AM using a 7 Mc/s crystal, extracting the 4th harmonic and modulating the said suppressor grid. The input - $2\frac{1}{2}$ watts! That QSO, witnessed by two people, took place on 28 Mc/s about two years ago using a half wave dipole, but, like many other people, I am still waiting for the QSL from ST2AM. The APP4C tritet was in use for



quite a while but was eventually followed by a 6L6 tritet which gave slightly better RF output and is still in use. This has become a favourite and the circuit is attached, the values being:

C1, C5, C6, 100pF. C2, C3, C4, 0.01uF. R1, 400 ohms, R2, 200K, R3, 20K."

(Ed:- Please NOTE that the component shown at R2 should be a resistor, not an inductance as indicated).

29/9

..... THE Q R P 200 CONTEST

Our new contest has broken no records in it's opening round - it has hardly had time yet to become widely known, but the general consensus of opinion seems to be that it has the makings of a good contest. It needs more support and that, I am sure, will be forthcoming now that the introductory stage is over.

This month GC2CNC has taken the lead, but I have a strong idea that Monty is going to have a tougher job here than he did with Trantest since his QTH is quite a handicap.

| Returns for | 1.8 Mc/s | | 3.5 Mc/s | | 7.0 Mc/s | | GRAND |
|-------------|-------------|----|-------------|----|-------------|----|-------|
| Jan 1952 | Jan - Total | | Jan - Total | | Jan - Total | | TOTAL |
| GC2CNC | 30 | 30 | 14 | 14 | 1 | 1 | 45 |
| G3AGQ | 33 | 33 | -- | -- | -- | -- | 33 |
| G3EDW | 9 | 9 | -- | -- | 2 | 2 | 11 |
| G3FAU | 8 | 8 | -- | -- | -- | -- | 8 |

For those of you who have retained the numbered list of counties published last month, and especially for the other competitors, a record of the counties worked in obtaining the above scores will be of interest:-

- GC2CNC, 1.8 Mc/s: 4.17.21.25.26.32.34.38.39.41.43.47.48.53.54
55.56.59.65.66.67.70.83.85.86.87.88.91.95.97
- 3.5 Mc/s: 9.38.39.43.47.52.53.54.65.68.82.86.87.96.
- 7.0 Mc/s: 67.
- G3AGQ, 1.8 Mc/s: 4.5.11.14.17.21.26.27.28.34.39.41.43.47.48.
52.53.54.55.56.59.65.67.68.82.83.86.87.88.

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91.95.96.97.

G3EDW, 1.8 Mc/s: 10.26.28.38.39.46.47.55.68.

7.0 Mc/s: 34.60

G3FAU, 1.8 Mc/s: 14.34.46.48.56.59.65.91.

Regarding equipment, GC2CNC used two watts throughout, into a 6J5 Clapp - 6AC7 Cathode Follower - 6V6 PA. His Rx was an S640 and his antenna a 132 ft long-wire with a universal coupler. Power was obtained from a standard power pack giving 150 volts. There can surely be little need to remind members that his QTH is Jersey! G3AGQ also used the full two watts input and he has promised us an account of his gear in time for next month's issue. The input at G3EDW was one watt for the 1.8 contacts and 1.5 watts for those on 7 mags. The palm for power goes to FAU this month for he used 0.9 on all his QSOs.

All we want now is for you other chaps to join in. As you will remember from last month, there is no time limit for the acquisition of a "200" certificate, but we would like you to come in in the early stages so that we may watch you increase your scores month by month, rather than have one massive report at the last.
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Tx ACTIVITY.

I wonder how many of our members realise that Mr Clarricats, who must be known to every radio amateur in the country as the General Secretary of the RSGB, was, from 1926 to 1936, one of the leading British exponents of QRP technique. During that time he worked nearly a hundred countries with an input of less than ten watts, including 28 countries in one week with one watt input. The whole of that time his power supply consisted of Petrix dry batteries. G6CL still runs a QRP transmitter though his spare time for such relaxation is very limited these days.

29/11

G5QI (Birmingham) is hoping to be on Top Band shortly (1836 Kc/s) with QRP fone. He would appreciate and QSL all reports from members. The same, he says, applies to his QRP CW on 3505 Kc/s.

G2MI (Bromley), our President, is making an excellent recovery from his recent operation and "hopes to be in general circulation quite soon". He worked GC2CNC the other evening, adding another 1.7 contact to his total for WAE.

G3HJL (Boreham Wood) has quite a record, seeing that he is rock-bound on 80. He has accomplished 168 QSOs, including OZ, SM, PAØ, DL and GW, all with less than one watt. (There's a place for you in the "200" contest; OM)

G3EDW (Rayleigh) made up a 4-stage Tx especially for the RSGB Top Band Contest. Running 10 watts, he collected a total of 173 QSOs in the 11 hours and hopes to be not too far down the list. With that contest over he tried out the rig at an input of one watt and found the results most encouraging. We hope that Peter will give us very full details of the Tx shortly as it promises to be of exceptional interest.

GI2DZG (Belfast) is still QRT pending the completion of his new house, but hopes to be active again by the end of March.

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ENFIELD RADIO SOCIETY.

A nice letter to hand from the E.R.S Hon Sec saying that a number of their members are interested in QRP. They propose to run a series of lectures on the subject and apply the results in practice later. They are anxious to co-operate with us in the pursuit of QRP and I can assure them that there is nothing we should like better. What about starting an Inter-Society QRP Contest, Enfield? We might get some other Societies interested too. It would be good fun anyway, OMs, so let us hear from you.

THE NEW "S W N".

It is with real pleasure that we welcome Arthur Gee, G2UK, back to the editorial chair of Short Wave News. His deft touch is very evident throughout the Jan 1952 issue which (under the extended title "...and Radio Amateur"), in one magic sweep, has regained all the old "life" and interest for which those early numbers were so deservedly popular. It was a great pity that G2UK had to relinquish the reins and we hope that such a necessity may not arise again.

Although not himself a QRP devotee, 2UK has always been most sympathetic towards Low Power and it is interesting to note that the first "SWN&RA" carries a two page article, "Talking of QRP", by J.N.Roe, G2VV. I particularly liked 'VV's paragraph in which he pointed out the relative efficiency required to run a QRP station compared with one of the QRO breed. We should like to hear more from you, Mr Roe.

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Rx ACTIVITY.

G.E.Verrill (Gosport) has turned up again after a very long silence caused by protracted illness. We are glad to know that he is now fully recovered and is looking forward to an active season.

Geoff Holebon (Southampton) has put up a half wave VS1AA, S/N and some 20 ft high. He is quite enthusiastic about the Student Adoption scheme since he has joined forces with Bill Harris as tutor. Can anyone help Geoff with a SPARE COPY OF JAN1952 QRP? (I have only one file copy left here, OM).

W.F.Pothecary (Kettering) has been doing a lot of rebuilding and has also acquired a couple of "u/s" receivers, both of which he has got working well again.

29/13

C.E.Atherall (Tunbridge Wells) has been hunting unsuccessfully for Ten on a new O-V-O. Take heart, OM - a lot of folk with much more powerful gear have been unable to find it lately!

Harry Wells (Waltham Cross) is another who is QRT due to rebuilding programmes. He is using the same circuit (Oct 1951 "QRP") but is redesigning the layout. So far the RF and detector stages are complete.

Bill Hardie has now joined a RAF signals section and is temporarily "off" amateur radio. He is hoping to get hold of a small American Rx on the lines of the MCR1 shortly.

Ian Glen is also square bashing somewhere in the RAF. He has a few more floors to polish yet and then hopes to be posted as a radio op

Bob Kenyon (Liverpool) has sent in an entry for the 1952 Carter Shield which we hope to publish next month. It is a mains/battery O-V-1 and looks quite promising.

E.W.Gardiner (Diss) collected a couple of snips on 14 Mc/s early in Jan - ZS2MI on Marian Island and MP4KAT, Kuwait.

Peter and Ronnie Huntsman (Hexham) are still fighting out the vexed question of O-V-2 versus SH4. At present the TRF is in the lead (that's Peter) which says a load for the reliability of his components as they have been in constant use in one Rx after another since 1947.

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W. F. S. R. A.

On Dec 1st 1951 the World Friendship Society of Radio Amateurs held a meeting a few blocks away from the Woburn Place and, under the guidance of G3CED, I stole a few moments from the RSGB Exhibition to pay them a visit. It was well worth while. Not only did I find several of our own members already "in residence", but

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I was given that very genuine kind of welcome which makes you feel at once that you are among friends and not just "the stranger in the camp". Like ourselves WFSRA is an organisation without territorial boundaries, their monthly "SKYWIRE" taking the place of our "Q R P", and, among their other functions they run a section known as THE BEDFAST CLUB, the purpose of which is to mitigate the tedium of any radio enthusiast who has the misfortune to be temporarily or permanently bedridden. The Secretary is Arthur H. Bird, G6AQ, 35 Bellwood Rd, Waverly Park, Peckham Rye, SE11.

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C - Z PANEL, 1952.

| | <u>COUNTRIES</u> | | | | C Total | ZONES | Grand Total |
|--------------|------------------|----|----|----|------------|-------|----------------|
| | 3, 5 | 7 | 14 | 28 | | | |
| P. Huntsman | 12 | 29 | 58 | -- | 65 | 21 | 86 |
| E.W.Gardiner | 16 | 10 | 28 | 5 | 40 | 12 | 52 |
| R. Huntsman | 1 | 21 | 23 | -- | 32 | 9 | 41 |
| D.G.Gordon | 10 | 8 | 23 | 2 | 29 | 11 | 40 |

It has been suggested that we might run the C-Z Panel in two sections this year - CW and phone. Well, we could do so but we feel that it would not really be wise. There is no doubt that the man who reads CW has the advantage. He is also able to get far more from his radio generally than he who is confined to phone. It seems, therefore, that we should leave the Panel as it is and so add yet one more small incentive to learning the code.

The final, "grand total", column has been added to clarify the position where contestants may appear incorrectly placed by either their C or Z totals alone.

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THE Q R P "100" CONTEST.

This contest is offered as the logical supplement to the "200". Like the "200" it is open, not only to members of the QRP Research Society, but to all licenced amateurs without reserve, providing only that they abide by the rules and agree to accept the decision of the Society Council on any point arising therefrom.

The contest relates to countries worked on 3.5, 7, 14 and 28 Mc/s bands. Maximum power must not at any time exceed 2 watts to the final valve, no preceding valve to take more.

Special certificates will be issued to any contestant providing proof of having worked 100 countries with not less than 20 on any one of the four bands. Countries covered by the "200" Contest (G, GC, GD, GI, GM, GW) are not eligible in the "100".

In addition to the "100" certificates, separate certificates will be awarded annually to the contestants returning the three highest scores during each yearly period, Jan 1st/Dec 1st. Initial entries for 1952 may be back dated as from Jan 1st 1952.

Every contestant should forward QSO claims monthly to the Hon Sec for scrutiny and publication in the next available issue of "QRP". Every such entry should bear the contestant's name and call sign and should be sent on a sheet separate from any other matter.

Certificates will be issued without charge to Society members but a charge of 1/- will be made in the case of non-members to cover the costs involved.

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THE SOCIETY BADGE.

The response to last month's request for designs has been far greater than was expected. It is a most healthy and encouraging sign and thanks are due to all who gave the matter so much thought.

29/16

The design finally selected was sent in by our President, Mr Milne G2MI, and it will make it's first appearance on our cover design next month. It will also form the main feature of our "100" and "200" certificates.

In these circumstances the one year's free subscription to the Society which I offered last month is still unclaimed. I propose, therefore, to carry forward this small prize to be competed for in an SWL contest. Suggestions as to the form and the date of such a contest should be sent in in sufficient to appear in the next issue.

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SOCIETY SPARES SERVICE.

(Stores Manager: Mr G.Partridge, G3CED, 17 Ethel Rd, Broad stairs, Kent).

LF Transformers (200/230), 2x5-0-5v 5A, £1...Ditto, 4v:2x6.3v:3x7.5 volt, 250mA, £1...Bias Transformers, 15/-...Chokes, various, 5/- to £1...Condensers, oil-paper, 4 to 8 mfd, 2/- to 7/6...Micas, .0001 to .01, 4d each...Tuning condensers, large variety, 1/- to 5/-...Meters, 2" & 2½", round and square, flush and projection, many readings in mA, A and volts, 2/6 to 5/-...Resistors, 30 watt mica, various values, 3d each...Trimmers, 30pF, 3d...Jack Sockets, 3d...Ext spindles, 5" & 7", 6d...1131 PA chassis (no valves), 30/-...TL98, 7/6...Marconi Sig generator, 140/300 Mc/s, £2...Relays, 24v, 6d...1131 Multiplier Chassis, metal work only, 5/- each...

NEW, BOXED, 5CPI TUBE WITH SCREEN AND CHASSIS (basis for oscilloscope, 25/-

All above items plus carriage, please.