

LOW POWER RADIO RESEARCH AND NEWS.

No 26



NOV: 1951

# QRP

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THE JOURNAL OF THE  
Q R P  
RESEARCH GROUP

LOW POWER RADIO  
RESEARCH & NEWS

“ Q . R . P ”

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Issue No 26. NOV 1951.

EDITORIAL.

I have been well and truly slaughtered this month. First, G3EDW set about me for failing to enter his Trantest and Two-Watt scores in the last issue. Naturally I am genuinely distressed at any such sign of editorial inefficiency, but in self-defence I must point out once again that, while I give 90% of my spare time to the Group and the mag I have only spare time to give and no staff of clerks and typists to check and sort out correspondence and reports. Admittedly I like doing all I can for the Group - I get quite a kick from the feeling that I am giving pleasure to all of you. As I have said before, I ask no other reward. But I have, in the past, asked for just a little cooperation from you to assist the routine here. Most of you give this regularly, but a few still fail to do so. Let me explain. As letters arrive any score sheets enclosed are distributed among the files for each contest concerned, as also are those sheets devoted to Activity etc. Thus, when I come to write up each section ALL the gen SHOULD be at hand. When letters come in as a mixed bag the system falls down at the start. For example, in EDW's case, his scores came in on the same sheet as his Kaleveld Cup entry. This was to be reported first and his sheet was therefore put in that file and, unfortunately, I failed to transfer the balance to other files afterwards. You can see, perhaps, what a great help it

is when you use separate sheets for Activity, for EACH contest and for general correspondence. And do please put your name on EACH sheet.

The second item which caused trouble was my remark under the Kaleveld Cup report that no hardship would result if the GPO limited all bands to 10 watts. It may have been thoughtless but the sole purpose was to underline the astonishing results of the Kaleveld contest and, at the time of writing it I fancied (mistakenly it seems) that it carried a touch of humour. Anyway the Postmaster General does not yet subscribe to "Q R P", so I think that none of those who slated me for undermining the privileges of amateur radio need feel any real alarm!

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#### THE I S W L -- An announcement:

It is with great pleasure that I am privileged to quote from SWN the following important announcement concerning the ISWL.

"As from Dec 1st 1951, the ISWL will become an independent self governing organisation. This is the result of recent negotiations between the Committee, the General Manager and the Directors of the Amalgamated Short Wave Press Ltd. The League will produce and publish it's own monthly magazine, the first issue of which will appear in January 1952. Full details of this and other arrangements will appear in the next edition of the SWN."

The ISWL has always been concerned with the welfare of the listener more than with that of the transmitter who's affairs are ably handled by the RSGB. It has, however, the biggest and most widespread membership of any organisation other than the RSGB itself. The present announcement introduces a revolutionary step forward and the League should benefit tremendously by the divorce from any stigma of commercialism. Every individual who has the advance-

ment of amateur radio at heart will realize that at last we may feel the influence of a basically amateur organisation of international status, free from the drag of maintaining a paid staff or the necessity of pulling it's punch at the behest of commercial interests. It is therefore the clear duty of every amateur enthusiast to endorse this development with renewed interest and to offer redoubled enthusiasm as his individual contribution towards establishing the success of the International AMATEUR Short Wave League.

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### R S G B EXHIBITION, 1951

The exhibition will open on Wed Nov 28th, but OUR DAY will be Saturday Dec 1st. Do try and turn up, OM, even if only for a few minutes. I would like to meet every Group member who can possibly come along, and if you can spend the afternoon there you will be able to meet PAØXE and GC2CNC as well as most of the members of our reformed committee.

QRP Identification Discs are going out with this issue to all those who live within travelling distance of the Exhibition and to those more distant members who have asked for them. Any other members who can come along are urged to send me a pc AT ONCE, there is not too much time left. Incidentally I found that the original idea of a cord attachment was unsatisfactory as it allowed the disc to turn over, so I have mounted them on pins. They are not very magnificent badges but, perhaps by next year, we might be able to afford permanent metal "gongs"! Don't forget:-

DECEMBER 1st ..... Royal Hotel, Weburn Place

Underground: (Picadilly Line) - to Russell Square or Holborn.

Bus Routes: Numbers 68 and 77 pass the door.

Main Railways: Euston, St Pancras and Kings Cross (each about 10 minutes walk).

THE MONTH'S BEST LETTER.

(ED:- Here is another new feature. Many of our readers have asked for the publication of letters in these pages, and, subject to space restrictions, we propose to select each month the letter which we consider to be of greatest interest to the majority of our readers. Opening the series this month we have Mr J. Hart of Brighton.)

"I hope you'll forgive this--it's being written at work--I'm a cinema operator by trade and accompanying this writing are the limpid tones of Betty Grable which are somewhat relieved by the visual counterpart! Incidentally, there is the usual kind of second feature in the programme--American, portraying the usual heroics of the USAF, but arousing my interest by one type having in front of him no less than seven Halicrafters receivers together with a BC610 and a BC221 F/meter. Another character spends his time between missions (which are always successful!) in modifying a BC348. The title, if you are interested--'Jungle Patrol'."

"This is by the way, however. The main intent in writing is to say how much 'Q R P' is enjoyed. I've returned to amateur radio after a lapse of many years--I used to play around with 5 metres in 1930 and thereabouts, with an amateur transmitter at Dorking. Due to the peculiar hours of my employment most listening takes place from about 2300-0200 and, though my QRA is difficult, I think I get fair results from my O-V-1--naturally, at those hours, mostly S.American. I can still read morse however and this adds a lot to the enjoyment. The receiver, which is now 11 months old with no alterations since the first month of operation, uses a 1S5 & 1T4 in the usual resistance controlled regen circuit, and is built for 14 Mc/s only."

"I have been experimenting on 145 Mc/s with a 958A 'acorn' into a 1T4 audio. So far it is difficult to get down to 2, though Wrotham BBC (amplitude-mod) on 3.85 metres is received at tremendous

strength from my one and only antenna--vertical 40ft. The only essential difference to the usual super is that the tuning capacitor is at earth potential one side--it's adapted from a 5 metre mobile design in QST for July of this year."

"Why, oh why did you drop those Dx logs with the time of reception? They were a marvelous check on the performance of ones own Rx. After all, I'll wager the main interest to most QRP listeners is Dx, and although Top Band is alright for the QSL card fanatics it's interest is strictly limited to one or two specialists. In any case the QSL card situation is a farce--they were intended as a written confirmation of a two-way QSO, not as an endless source of trouble with SWLs who have no claim to a QSL card anyway in terms of the original conception of the idea. Another point--I've no quarrel about transmitter activities--that is excellent, though I suppose you have doubters on this--is Radio Control. It's an allied subject, admitted, but a specialist one, and it's inclusion in "Q R P" is open to argument. Other than those two points I have nothing but thanks for a genuinely good magazine in everything the word means."

"As a result of 12 months return to the fold I have one or two points to offer that may be handy for an odd paragraph in "Q R P" sometime, gained from my own experimenting. (1) Of the 1.4 volt series the 1S5 is infinitely preferable to the more usual 1T4 in the detector position due to it's complete lack of microphony. This applies irrespective of manufacturer and to both British and USA. (2) John Wilshaws comments on the Eddystone 706 series miniature coils (p 7, Sept issue:- ED) are justified in this users experience with regard to aerial coupling, though I've had no trouble in the reaction dept. The RF transfer from aerial coil is too tight for optimum results. Incidentally, in describing his own receiver, he mentions adding another LF stage to nullify a noisy location. This hardly gives one confidence in his other judgements!"

26/6

(Thanks for an excellent letter, OM. I can assure you that we are restarting the special "Q, R P" Log system again just as soon as space will permit. You are not the only reader who has asked for their reinstatement. As to the Radio Control question, I am afraid you are in a minority of one there, but you can rest assured that our mag will not be swamped to the exclusion of any other features. Perhaps we may even be able to convert you in time!-- ED.)

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STUDENT ADOPTION SCHEME.

This scheme has met with an allround success and we already have an excellent number of volunteer instructors. Moreover we have most gratefully accepted an offer from TomCatter to act as Manager of this service. As soon as this issue of the mag is cleared we shall send him all names and details received to date and he will take over from there.

There is one point which I feel I must stress at the outset -- the scheme is intended to cover advice only and students should understand that they are not entitled to expect their advisers to do any constructional work for them

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DECEMBER ISSUE OF "Q, R P".

Between now and the New Year your editor will be transferring his QTH to the other side of Walton-on-Thames. The move promises to be quite an upheaval apart altogether from the amount of decorating and general "settling-in" entailed. It is extremely doubtful therefore if we shall be able to produce a December issue of our mag and I am sure that none of our readers will begrudge such a lapse. The result of the move will be a considerable increase in the efficiency

of Group Headquarters as the new QTH will provide a small but, I hope, well equipped shack devoted exclusively to the development of QRP affairs.

If circumstances should permit us to commit a page or two to print we shall certainly do our best to produce a skeleton edition for December, but please don't anticipate anything at all. At the same time DO keep up your reports and general correspondence so that we may get away to a cracking number for our January issue.

In view of the probability that I shall not be with you again till after Christmas, let me take this opportunity of wishing you all the very best of luck, happiness and prosperity together with the assurance that my thoughts will be with you ALL even if the mag is absent for one issue.

Every member will be notified by postcard of the new address as soon as the change is due to be confirmed.

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### A UNIT Rx STATION, Part 2

As promised last month we are continuing the consideration of our QRP Unit-constructed Receiver layout with a description of the prototype chassis developed here at QRP headquarters. A glance at accompanying sketch will set your mind at rest that it is really very simple after all -- in fact it surprises me that nothing of the kind appears to have become popular in amateur radio circles long ago.

The sketch shows that the layout consists of a number of sub-chassis located in a "housing" or main-chassis by means of a series of plugs and sockets through which the power supply is fed. The number and also the size of the sub-chassis can, of course, be varied according to individual requirements (though each sub-chassis must be the same size as the others for interchangeability) and the

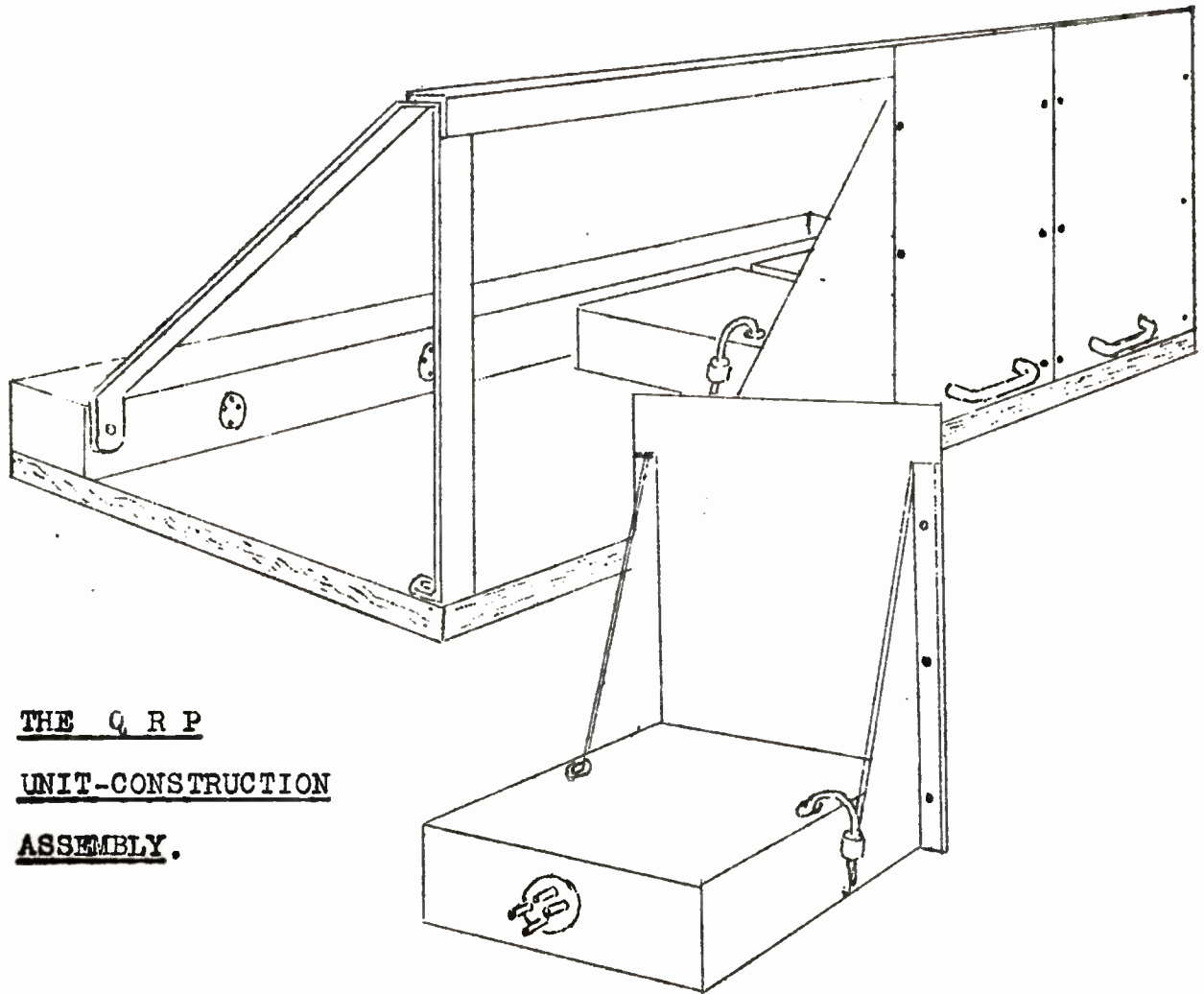


measurements of the main-chassis will depend upon the sub-chassis dimensions chosen. In view of this no sizes have been shown on the sketch but, as a guide, it may be mentioned that, in the prototype model, the sub-chassis measure 6" square and  $1\frac{1}{2}$ " high with panels  $6\frac{1}{2}$ " wide by 8" high; four stages are in use making the main-chassis measurements 26" in overall width and  $6\frac{3}{8}$ " from the front of the struts to the face of the "distributor" panel.

Whatever sizes are chosen there is no difficulty in obtaining a good "fit" throughout providing that the following constructional sequence is adhered to. First, construct the required number of sub-chassis being careful to see that each is accurately square and sufficiently similar in dimensions to be interchangeable. If bending aluminium or steel sheet presents any difficulties this may be avoided by making up a pair of rectangular frames from, say,  $\frac{1}{8}$ " x  $\frac{1}{4}$ " brass or steel strip, one for each side of each sub-chassis, so that the whole construction can be done with flat plates -- one for the panel, one for the chassis top and one for the back plate carrying the power plug. Admittedly this does not give quite the finished appearance, nor the mechanical rigidity of a carefully bent chassis construction, but it is quite serviceable nevertheless. At the other extreme, of course, commercial diecast chassis are ideal for the job but detrimental to the budget. The webs supporting the panels may also take a variety of forms and, while the sketch shows bent aluminium plate, any rigid angle brackets of suitable size will serve.

The next step is to position the power plugs and sockets. This is a point upon which accuracy IS required and it is worth spending extra time and care in getting them right. I found the following, rather unauthorodox method an excellent way of assuring identical positioning all round. Mark off the centre of the back plate of one chassis, fully drill it and mount a plug. This may now be used as a pattern for locating all the sockets on the distribution panel once the latter has been screwed down in it's place. Put a tiny dab of

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UNIT-CONSTRUCTION

ASSEMBLY.

26/10

black shoe polish on the tip of each pin of the plug on the completed chassis and push it carefully into position beside it's neighbouring sub-chassis. Be careful to get their relative positions exact before actually making contact with the distribution panel. It will be found that the polish (or any thick paste -- in extremis I have used tooth paste) will mark the pin positions on the panel, thus enabling you to drill four holes just big enough for the pins to pass through. While the pins are thus protruding through the panel mount the socket on them and mark out the socket mounting holes. Then the main socket hole can be cut and an accurate match of plug and socket should result. Repeat this by swapping over the "master" chassis into each of the other positions in turn until you have all the sockets mounted. Now take the remaining loose plugs, mount the fixing bolts in their respective holes in the plugs and push the plugs into their sockets. Dab the protruding bolts with shoe polish (never use too much of this or the result will be too big a mark for accuracy) and very carefully push all the chassis in to position until each bears the marks where the plug fixing screw holes should be drilled. The rest is easy, and if this procedure has sounded complicated I think it will be found worthwhile in the end, unless the constructor has had some practice in the more normal method of scribing hole centres.

The "distribution" panel itself consists simply of a strip of 18 gauge aluminium which may be mounted on small angle brackets, one at each end and one (or more) midway along it. If a flange can be bent along the top and bottom of the strip improved rigidity will result. The guard round the back of this panel is needed to prevent mechanical damage and accidental touching of the power leads and there should be no difficulty in following the construction of it.

The sequence of pin connections is quite optional, providing that they are identical for every sub-chassis. In the prototype old 4-pin valve sockets were used, the grid pin carrying HT positive,

the two filament pins LT positive and negative and the anode pin HT negative. Also the plugs were made from the dismantled bases of some obsolete battery valves, but this requires some ingenuity in fitting as there are, of course, no lugs or bolt holes available. It may therefore be found easier to buy suitable plugs and sockets such as the Belling Lee miniature 4-pin socket, plug and cover at 1/2 each (Webbs catalogue No L368). The base of the main-chassis was originally made from a sheet of aluminium screwed down to a 5-ply wooden base. Here again alternatives are available and foil covered ply might answer, though pushing the chassis in and out would tend to destroy the surface.

It has been stressed that no hard and fast rules need be followed and the whole description is put forward purely to give the reader a basis upon which to develop his own layout. It might even be preferred to build upwards, rack fashion, rather than side by side. The only difficulty here is the lead feeding the signal from stage to stage. The sketch shows the prototype provided with wander plugs fitting into sockets in the adjoining chassis. An additional refinement would be a rectangular cover to fit over the whole of the main-chassis, top, back and ends -- it might be loose or hinged to the top of the distribution panel. For mains users, of course, the sub-chassis at one end or the other will consist of the power pack, but, for the battery exponent one end stage might have a fixed panel and no chassis so as to give space for housing batteries.

Finally -- during the construction period, don't forget to make up one extra chassis so that the next experiment can be assembled while the existing set-up is in operation.

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DEADLINE DATE: "Q R P" is published as soon as possible after the 15th of each month. All data for inclusion in any issue should reach me not later than the end of the first week in the month.



..... Q R P TWO - WATT PANEL .....

	TOTAL	COUNTRIES					
		1.7	1.7	3.5	7	14	28
GC2CNC	108	4	2	20	29	31	32
G3EDW	59	25	4	17	13	--	--
G5QI	56	24	2	17	13	--	--
G3GZA	27	16	4	6	1	--	--
G3HBI	20	5	1	--	14	--	--
G3EKP	18	5	3	1	5	4	--
G3HCW	14	--	--	--	14	--	--

Here again G3EDW's missing score of last month, plus his current increases, have taken him into second place. EKP, too, has had a profitable month on 1.7 and 14. As with Trantest the final positions for the 1951 series will appear in the Jan issue together with the first of the New Year scores.

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Q R P C - Z PANEL.

1951 Series.	COUNTRIES				TOTAL	ZONES TOTAL
	3.5	7	14	28		
Mike Wassell	18	52	169	91	186	40
P.Huntsman	29	52	178	28	182	39
B.J.Read	21	17	116	52	122	34
H. G. Wells	14	18	93	24	98	31
E.W.Gardiner	14	22	80	37	98	27
D.G.Gordon	19	15	82	35	92	31
A.E.Stonestreet	16	19	69	35	90	27
R.Huntsman	11	8	55	--	60	25
D. White	4	4	52	5	56	20

		26/14				
R. Murray	7	10	30	--	41	15
<u>R. Nixon</u>	--	--	34	--	34	14

There has been a big increase in activity here this month and, like our other contests the final scores for the year will appear in the January issue.

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FOR SALE!

Owing to intended imigration G3EBL has for sale his complete 60 watt C W station, comprising: 6F6-807 Tx, 600v power supply, R1224 Rx (new), mains eliminator, phones and LS, aerial tuner with meter, absorption wavemeter (all bands), key, 134' end fed aerial, crystals (1.8, 3.5, 7 Mc/s), tool box, spare valves (1x6V6, 2x6L6, 4x807 and others), useful junk, S.W. books, log book. Tx approved by GPO for TVI. .... £15 THE LOT!!!

Can be seen in operation any evening after 6.30 pm or weekends at 17 Trafalgar Avenue, Worcester Park, Surrey.

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Tx ACTIVITY.

OZ5U (Nyborg) has just had AC mains laid on and is at the moment using an 807 running 30 watts to his indoor dipole. A QRP Tx is already under construction.

G3EKP (Darwen, Lancs) has scrapped the EL32 CO and is now using a 25L6 with 5 watts max input, the antenna being a 14 Mc/s half-wave dipole, recut and with new feeders after having been blown down.

G3GYZ (Rotherhithe) has been on fone lately with 7.5 watts, but normally uses 4 watts max for CW on 160, 80 and 40. The Tx is a much modified TCS12 feeding a 132' longwire, the Rx being an HRO.

G3FAU (Stratford, E15) has sent along what will appear as our next "Month's Best Letter" so we'll say no more now except - thanks for all the interesting gen, Vic.

26/15.

GC2CNC (Jersey) has been on the air less than usual this month due to rearranging the shack so that all wiring is out of sight except the feeders. He got 27 countries and 48 QSOs on 0.4 watts in the RSGB QRP 3.5 contest.

Ex-ZB2L is doubtful if he will be able to get Naval approval for transmission from his present hospital QTH. By now he will have the Rx working however, and he has started an EMI correspondence course to "pass the time". Drop him a line, OMs, I am sure he would appreciate it:-- D.W.Auton, D/Jx581388, Ward D2, RNH, Stonehouse, Plymouth.

G3HCN (Bristol) has acquired an R1224B Rx which enables him to get out on Top Band. He would WELCOME SWL REPORTS and will QSL any received from Group members (Top Band and 80). His freqs are 1837, 1962, 3510, 3520 and 3550 Kc/s. He will be on phone after Nov 14th.

G3GBP (RAF, Scampton) is due for a spell of globe-trotting, possibly to Egypt. This is more than a pity as he has just had very fb reports after a good deal of antenna modification. Keep in touch, OM, and we shall hope to hear you if you do get a chance to get out.

G5QI (Henley, Oxon) has been really getting out to some purpose lately and is determined to give Monty a run for his Trantest place. He has sent us an excellent snap of Monty and himself which we have passed on to SWN in the hope that they may care to publish it.

G3CED (Broadstairs) is at present using a 5 watt CO and BC342N. Under construction is a Top Band version of the TU6B rig recently described in these pages. This is to be followed by still more ambitious plans for a portable Tx/Rx with modulator and wavemeter for use with kite wire etc.

G3IDG (Balham) has not written to us for a very long time, but we have heard through G3FAU that he is now on the air as 3IDG. The reason for the long silence may be that he has forsaken Low Power, but we should like to hear from him now and again even so. We feel sure that no once active member can ever lose all interest.



Rx ACTIVITY.

Ian Glen (Coldingham) is active again after an enforced lapse throughout the summer. He is building W.F.Pothecary's O-V-1.

R.Le Piez (Southampton) uses a class B valve, one side as detector and the other as audio. This sounds interesting, so let's hear more of it, OM.

Bryan Read (Bastle) sends along some fb logs heard on his O-V-1 I am only sorry we haven't more space for logs in this issue, OM.

P. & R. Huntsman (Hexham) are still busy, Ronnie constructing a 4SH, and Peter at early morning listening which has proved quite fb.

Ron Turner (Brierly Hill) is designing a battery double SH with in QRP limits of consumption, and promises progress reports.

Tom Carter (Hawkhurst) has rebuilt his O-V-2 and has already had encouraging results. Among others he has heard G62CNC.

G.Baskerville (Epsom) finds that his battery O-V-1 does not give results equal to those claimed by more experienced listeners. (Probably due to the times you listen not being best for that band)

W.F.Pothecary (Kettering) has started a battery 1-V-1 for 160 and has also joined the Signal Survey Section (ISWL).

D.White (Kingston) has been carrying out experiments on automatic reaction control, but so far results are not encouraging. He has also sent along details of a VHF circuit of which more in a later issue. (We should like still more gen on this, OM)

H.G.Wells (Waltham Cross) has had his 1-V-2 going well on Ten and has supplied still further gen on the circuit which we shall pass on in the next issue. The Rx has roused a lot of interest.

M.W.Rignall (Chelmsford) has been struck by the high quality of the TRF/phones combination and is completing a small "personal" job for medium wave high fidelity reception.

That is all we have space for this month, OMs. Keep on writing. I'll be with you again as soon as my change of QTH is OK. Cheerio.