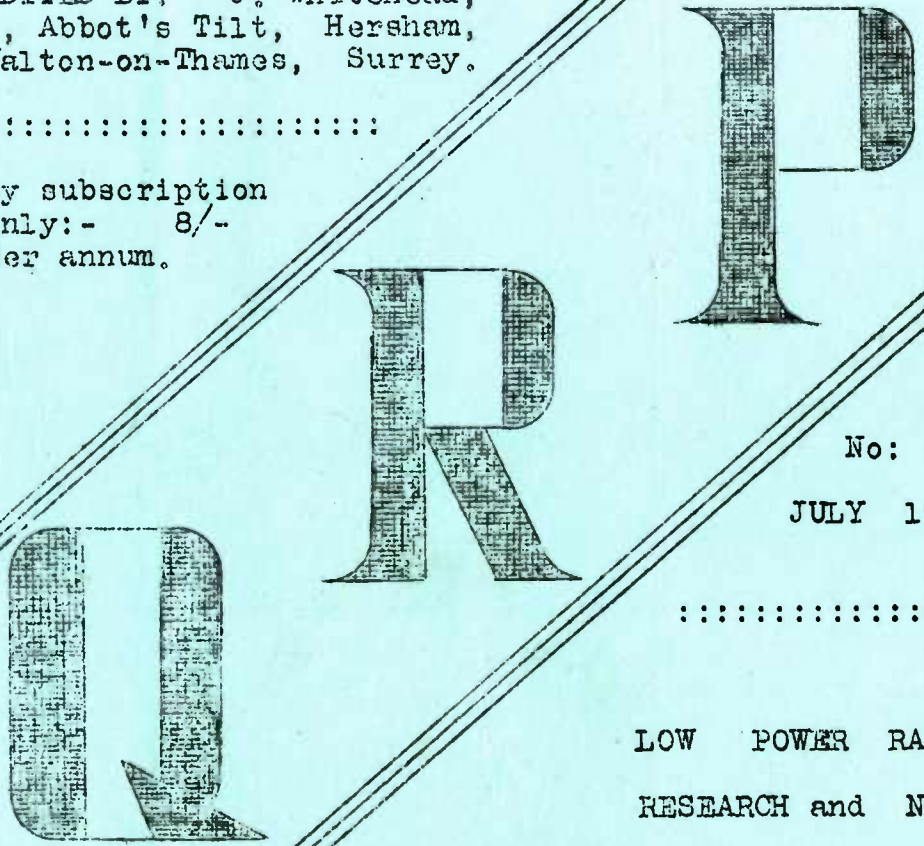
EDITED BY: J. Whitehead,
6, Abbot's Tilt, Hersham,
Walton-on-Thames, Surrey.

::::::::::::::::::::

By subscription
only:- 8/-
per annum.



No: 22

JULY 1951

::::::::::::::::

LOW POWER RADIO RESEARCH and NEWS

LOW POWER RADIO RESEARCH and NEWS

"Q.R.P"

No 22

JULY 1951

EDITORIAL.

The season of portable radio is here again, bringing with it Field Day events ranging from selsct "outings" to the national contests of the ISWL and the RSGB. The Short Wave News has gone to the length of dedicating an entire issue to the subject, and many other publications have given much valuable space to various aspects of it. Numbers of our members have already been afield, trying out their portable gear, and in nearly every case the results have been "not so good".

In the majority of circumstances the receivers which we QRP bods take /P are little different from those which we use at home -- as often as not they are the self same rigs with which we have had every success during the winter in the shack. Therefore we must look elsewhere for the cause of the inferior outdoor results and suspicion centres very pointedly around our temporary aerial and earth hook-up.

In the anxiety of getting to work out of doors there is always a great temptation to sling up a hurried "bit of wire" and forget that a /P antenna is every jot as important as the carefully planned one back home. It is well worth making a list of all the things to avoid in /P aerials and then designing a special one to include as few such points as possible

Whatever else you skimp in the portable set-up, don't let it be the aerial or earth. Both are top priority to the QRP SWL.

::::: PORTABLE Rx CONTEST for AUGUST :::::::::::::::::::::::::

Many of you will remember the novel contest which we designed to add a bit of extra fun to last year's holiday month. We have had a number of requests to run it again this year.

The object of the contest is to give all those really "pocket portables" an airing, and the rules have been reduced to the limit of simplicity in order to avoid any possible feeling of restriction.

CONTEST RULES.

DURATION: The logs sent in should cover one hour only during any day (or night) during August, thus giving 744 hours during which to obtain the best possible one-hour log.

JUDGING: The three best logs (from a Dx point of view) will be selected and from these three the winner will be found by consideration of the most competent equipment, the best use of local condx etc, merit only being the deciding factor.

LOCATION: The site must be out of doors and away from home. The map reference should be recorded where possible, and a description of the site included in the report. Such information as height above sea level, type of landscape, soil consistency and weather condx during the critical hour should be supplied.

PORTABILITY: The total weight and size of the gear (including antenna) must be noted, together with any special features aimed at increasing portability.

CIRCUIT GEN: Full details of the Rx must be reported, with mention of valve line-up, HT consumption, etc.

REPORTS: Logs and general reports must be clearly written and kept seperate from other correspondence. The entrants name must appear at the head of the report, and the time of each call, the band and, if possible, the station being worked should be recorded.

All the above points will be taken into consideration by the

judges. A very fine 12" x 9" Certificate of Merit will be awarded to the winner and this, together with the entire lack of formality and extreme simplicity of the contest, should invite a very large entry.

I should like to see at least sixty of you have a go, and still more should I like to see some of those new names which have not yet appeared in any of our contests, coming out in this one. With a whole month during which to pick your active hour there should be no excuse for anyone beimg unable to participate

Finally -- as it is in August do remember to take your macs and winter woollies!

::

PERSONAL PORTRAITS. No 1: PAØXE.

Evert Kaleveld, PAØXE, is 29 years old and has been officially on the air since 1946. The radio-urge dates back from a x-tal set in 1933, followed by a one valve BC set for which he swapped coils with a friend. When the alleged fine set of hunnycomb coils arrived they were found to be the 3, 4, 5, 7 and 10 turn SW coils which, however, got the set away on 40 and 80 with the result that, since 1937, Evert has been consistently SW only. There followed a period during which he built and re-built countless O-V-Os, 1-V-Os, 0-V1s, 1-V-1s and so on, until, in 1938, he felt ready for the amateur licence exam, but 18 was the minimum age in Holland for a Tx licence, so Evert was faced with an enforced wait until 1940 before he could sit for it.

And in May of that year his country was overrun by German troops and all amateur radio activities ceased -- officially! But in Sept 1941 Evert joined an underground group as radio operator, working successfully with many Allied contacts until, some nine months later, the "Abwehr" (German counter-espionage) caught up with him and he was unceremoniously slung into jail.

In 1944, after many adventures and "bags of luck" he managed to

escape and rejoined the Dutch Underground Radio Network. His station was one of the very few to emerge unscathed in May 1945 after having been on the air at least once every day for nine months.

During those days he learnt some snappy operating on CW and, in April 1946, PAØXE was born on the first post-war exam. Since then input has never exceeded 50 watts and is normally less, while 10, 20, 40 and 80 metre bands have been worked, the favourite being 40, almost entirely on CW.

The present Tx is Clapp, EF50 - ba, EF50 - PA, 807, for 25, 2 or 0.5 watts at will, keyed with an electronic bug, and band-switched for 80, 40, 20, and ten, working full break-in.

Evert was married in 1945 and the first junior is expected in September. His occupation is "Chief Train Despatcher" with the Netherlands Railways, secondary hobbies being literature and philology, the study of Shakespeare, and music from jazz to Bach. Considerable time is also occupied by an ever-growing correspondence with radio friends including railwaymen, literature lovers, high speed operators and QRP men

::

WHY HALF - WAVE ?

If you are an "old hand" I advise you to skip this. But, if you are a beginner, you may be puzzled (as I frequently was) by the constant references to this "half-wave" business wherever aerials are mentioned. The reasons behind it are so seldom explained that there is an awful temptation to decide it is a lot of nonsense, concocted simply to make the whole thing sound deep and mysterious.

As a matter of fact I have never found an explanation which did not involve a mass of formulas and calculus (which I am not in the least ashamed to admit I can't understand), so I had to simplify the facts down to the point at which they did make sense even to me.

Perhaps I can make it equally understandable to you.

Let us first see what happens when a signal is transmitted. The impulses in the Tx aerial create a disturbance among the electrons in the air. This disturbance travels outwards in all directions (subject, of course, to any shielding designed to make the Tx antenna directional), but at the same time as the wave moves outwards it also oscillates back and forth at a rate and over a distance which is predetermined by the set-up of the transmitting gear. It will be easier to understand if we forget the wave as a whole and concentrate on the movements of one single electron, a picture of which can be fairly accurately depicted by a sine-wave diagram such as Fig 1. The Tx antenna is shown at A-B, and this must include, theoretically, the tuning pack and everything which goes to determin the frequency at which the signal is being transmitted. The other straight line, C-E, is purely imaginary at the moment and is simply to give us a datum line to work from. Suppose our selected electron shoots off from the mid point, C, of the aerial A-B. It will follow the path C-x-D-y-E and so on repeated time after time until eventually it dies out completely. In other words, it oscillates back and forth over the full distance allocated by the wavelength in use and travels forward at the same time. There are, of course, millions of other electrons, starting from every point along A-B and all following similar paths, but slightly displaced from the particular one we have chosen.

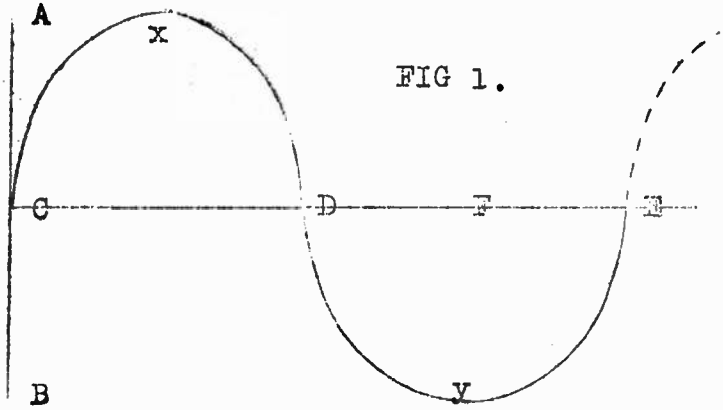


FIG 1.

Now, let us look at the receiving end, and imagine that our Rx aerial is represented as lying along the line C-D-F-E. Forget A-B for

the moment. One of the fundamental laws of electricity is that "if a stationary conductor is 'cut' by a moving 'field' a current will be set up in the conductor". In our particular case the 'field' is our signal wave which 'cuts' the Rx antenna or, in other words, a very small portion bumps the wire as the bulk of the wave passes by. The current set up in the aerial will be very small indeed and will follow the movements of wave creating it, oscillating back and forth along the wire at exactly the same frequency.

Suppose the Rx antenna is made an exact wavelength long, ie, C-E, and our one particular electron hits it at C. The electron will travel along the aerial as far as D (half way in this case), at which point a reversal of direction should take place but cannot be achieved instantaniously, with the result that a collision occurs between new electrons already travelling in the new direction and those which are overrunning the original impulse. A great weakening of current is the result. If the aerial is made three quarters of a wavelength long, ie, C-F, the same circumstances are repeated but the weakening is less apparent as there are half as many electrons (ie, D-F instead of D-E) running in the opposing direction.

If the aerial is made a half wave long it should now be clear that the electrons running in the original C-D direction will be instantaniously reversed by impinging on the insulator at D at the same instant that new electrons are set in motion in the D-C direction. Thus, instead of there being any opposition, there is mutual assistance, and instead of a weakening of signal strength there will be an increase.

This is not an entirely true explanation. Many circumstances have been glossed over or entirely disregarded which will be at once apparent to those who have studdied the subject, but it is intended solely as a means of enabling the beginner to grasp the significance of the "half-wave" principle, an understanding of which, as I said, appears so often to be taken for granted.

A PORTABLE NOVELTY.

It all started as a bit of a joke. At the conclusion of a recent ISWL Committee meeting I was reminiscing with fellow-committeeman Ray Aldridge on the old days of crystals and cats whiskers. We reminded each other of the standard mysteries of those days, including 4" dia coil formers and all the magic words like Bornite, Zincite, Galena and Carborundum, and at last he said: "Well, anyway, I've got a short wave crystal set that really does work", so of course I asked him to send along the gen.

Now the mention of Xtal sets still conjours up visions of the comic apparatous of those far off days, but that sort of thing died in the early twenties and the Xtal set of today is a very different proposition. Don't think for a moment that I am trying to kid you that it compares in any way with even a O-V-1. It doesn't. But it does work and there can be nothing to touch it for portability since it's total dimensions, exclusive of phones, need be no more than a "packet of twenty". It can be guaranteed to keep you in touch with the BBC and Ray's job will regularly bring in such programmes as Moscow, Andorra, Berne and Paris.

But the value of a crystal set does not end there. I will suggest two valuable services it can do for you in the shack, and others will become apparent to you once you have "got the idea." First, it forms a most excellent check for aerial adjustments. There are no mains to fluctuate, no batteries to run down and whatever the results may be you can be sure that the difference is not in any way due to the "set" -- that can be taken as standard. Secondly, for those who experiment with coil winding and assemblies, a crystal set forms an excellent "comparative" check, as, for that matter it does for any RF apparatous. Without a pennorth of upkeep a Xtal set will give you a good deal of amusement and a wealth of real usefullness.

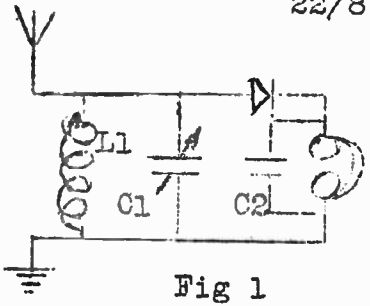


Fig 1

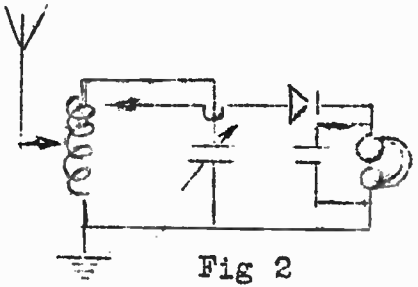


Fig 2

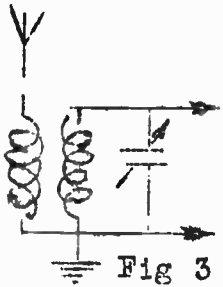


Fig 3

There are a great variety of designs for crystal set construction of which Fig 1 is probably the most simple. Fig 2 shows a rather more elaborate tuning arrangement and Fig 3 depicts yet another such arrangement. The heart of the rig is one of the modern types of Crystal Diodes, such as the BTH types CS4 or CS7 (Silicon) or the CG1 (Germanium). The tuning condenser should be between one hundred and 250 pF -- it needs to be rather large on account of the inherent flat tuning -- and the condenser, C2, should be about .002 uF. L1 can, of course, be any suitable SW coil. It is MOST essential that all wiring should be as short as possible, all joints really well soldered, and ALL insulation of the very highest order.

It would be rather a lark to run the World's only crystal set reception contest. Who will join me?

::

Dx NOTES and NEWS, by Bob Brooker.

Twenty has provided some very nice Dx during June. Harry Wells started off on the 2nd and 3rd with DU1AL and VS1DT, both heard in the afternoon. The afternoon of the 6th brought in VS7MP, EP3SS and ZC1AL, and on the following morning VP5AL. A very good signal on the 11th was VQ4WLH making his first QSO, and another was VQ5CB. HC1FG

was heard on the 12th, saying that he has a weekly sked with [illegible], mornings at 0600 GMT. Finally, on the 15th, was KZ5AA at 2140 GMT.

Peter Huntsman also found conditions very good, but occasionally rather puzzling, for instance on the 17th he logged KP4, CE, YV, LU and PY, together with Gs, but not a single W. He found things much the same on the on the 19th. Apart from this Peter hasn't been on the air much as he has been taking advantage of the fine weather, and a very good idea too, but why not take the Rx with you when you go fishing?

That's the lot for this month, and for next month too as I shall be on holiday then. If you should happen to hear G3HBI/P I should very much like to know about it.

73, Bob Brooker.

::

EXPERIMENTAL CIRCUITS, No 4: A one valve 1-V-1.

We are indebted to Mike Wassell for initial experiments which have produced workable results from unusual layout which makes use of a triode-pentode Mazda TP22. This single valve acts, in effect, as three stages -- HF, Det, and LF. The pentode portion of this frequency-changer valve functions here as HF amplifier and also, by the once popular reflex method, as LF amplifier, whilst the "oscillator" section of the valve does duty as a triode detector.

The aerial circuit is untuned, the necessary impedance being provided by a HF choke. Between this stage and the detector circuit tuned grid coupling is used. There is nothing special to avoid in the construction of this rig, the usual "do's and don'ts" applying as with any other SW set . Any type of chassis will answer, that used by Mike for the prototype being 5" x 8" x 1" deep, with the valve, coil and transformer on the top of the chassis and everything else below it. One point which it is advisable to watch care-

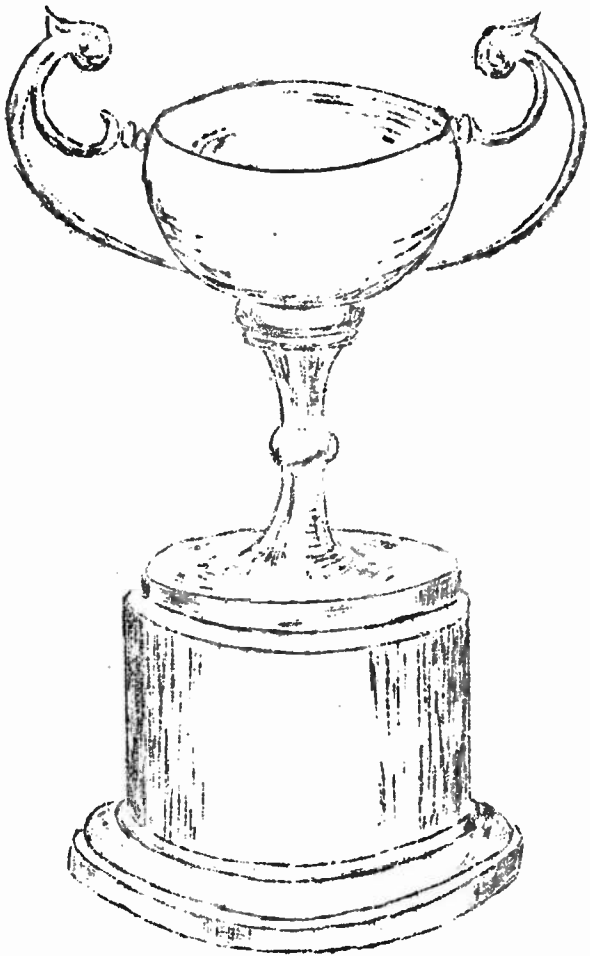
(CONTINUED ON PAGE 12)

THE I S W L

INTER GROUP

Dx CONTEST

CUP



WON OUTRIGHT

BY THE

QRP RESEARCH GROUP

No 1 TEAM

R.J.Brooker

D.G.Gordon

P.Huntsman

H.G.Wells

M.Wassell

APRIL 14 - 15 th

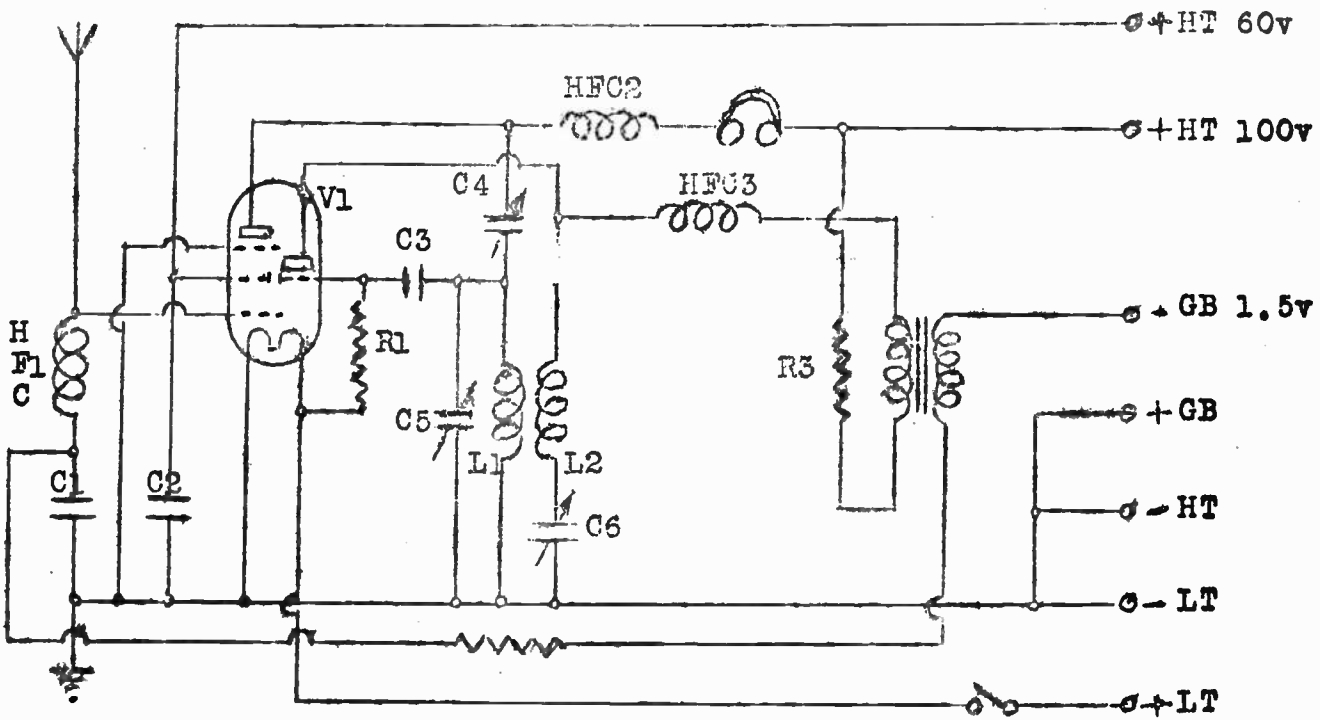
1951.

AT LAST IT IS OUT, THE NEWS WE HAVE BEEN WAITING FOR SO LONG. OUR No 1 TEAM OF S W Ls HAS BEATEN ALL COMERS. WE HAVE WON THE GROUP CUP AND THEREBY PROVED, ONCE AND FOR ALL, THAT THE QRP Rx IS NOT JUST A TOY, NOR YET SIMPLY AN EXCUSE FOR AN IMPECUNIOUS BEGINNER TO MAKE AN EASY START IN THE HOBBY. THE SO-CALLED "SIMPLE" LOW POWER RECEIVER HAS FINALLY PROVED ITSELF NO MEAN COMPETITOR OF THE COMPLEX EX-SERVICE RIGS AND THE SUPER COMMUNICATIONS RECEIVERS, AND THE QRP Rx OPERATOR HAS, AT LAST, HAD AN OPORTUNITY OF DEMONSTRATING HIS OUTSTANDING ABILITY.

"How do they do it?" I have already been asked by several users of multi-stage QRO receivers.

The answer is largely ENTHUSIASM. But there are a number of contributory factors which are not realized by those who rely upon high power to bring in results for them. The gear used by the QRP team was designed and constructed by themselves with a most careful attention to detail so that they really "knew" the rig to the extent of being part and parcel of the layout themselves, thus combining to create an overall efficiency that is missing from the average shack.

(CONTINUED FROM PAGE 9)



fully is the lead to the top cap of the valve. This should be as short and as well screened as possible. Component values are:--
C1,C2: 0,1 uF C3,C6: 100 pF C4: 70 pF C5: 150 pF R1: 2 meg.
R2: 100 K R3: 50 K V1: TP22 HFC1,2,3: Eddystone type 1010.
L1,L2: Eddystone 4-pin SW coils.

During initial tests on 80 metres the prototype rig brought in DL3SM, HB9FU, ON4ATS, OH2TT and PAØMC, proving that the layout is well worth further investigation and development.

Rx ACTIVITY and NEWS

RON GOURDIE (Glasgow) has been QRT for some time now owing to heavy business commitments, but he has not by any means lost interest and hopes to be active again shortly. Glad to hear from you any time, OM, so drop us a line when you get going.

TED STONESTREET (N.W. 2) has also been very QRL, but he has managed to keep up a little listening at odd moments and has sent along an addition to his C-Z score. Among others he has again heard IIII, which some of our "foundation" members will remember gave us quite a laugh in an early issue of the mag.

R.N.HODGSON (Chadderton, Lancs) is in the final stages of moving QTH and is hoping to have a new O-V-1 on the air shortly using a 9002 and a 6J7. The newly erected aerial is a 66 ft, 30 ft high.

PETER HUNTSMAN (Hexham-on-Tyne) is using a slightly modified version of the O-V-1 by F.H.McGee, G18, which appeared in SWN, Vol 4 No 5. He has added band-spread, auto-bias and slow motion drive to the reaction.

W.F.POTHECARY (Kettering) has a O-V-1 (2 x 1T4) which so impressed the local CR (P.White) that Peter pocketed the drawing which had been intended for "Q R P". Well, that is high recommendation for rig, OM, but you wait till I meet Peter next time!

H.G.WELLS (Waltham Cross) says he has found a few stations on 28 Mc/s at last, though he is not satisfied with results so far. He is beginning to find his way around on Top Band, too. At this end we feel that Harry already knows his way around well enough to have gained a share in our cup!

IAN GLEN (Coldingham), like several other members, was busy when he last wrote with a new portable rig for the ISWL Field Day. In Ian's case it will probably be a O-V-1 and he anticipates going to St Abbs Head, where the mast of an extinct coast guard station offers magnificent prospects for erecting a long wire.

Tx ACTIVITY and NEWS.

PAØXE (Rotterdam) has found June conditions not too good on 3.5 and 7 Mc/s. For QRP, he says, it is a hard fight against summer QRN which he finds pretty strong on 7 this year

GC2CNC (Jersey) seems to have found condx better, if only here and there, for he pulled in a UM8 and a CE6 on 7 Mc/s on the night of the 14th June with only half a watt. Condx then, he remarks, were perfect. On 145 Mc/s he has made 210 miles with G3BA, though that was, of course, strongly QRO (60 watts, infact), but it is interest-news just the same. On the night of July 23rd, CNC had a QSO with G5PS during which trouble at the Jersey end reduced the standard 0.5 watt right down to 0.1 watt, but 5PS was still able to give S6 against a previous S7. As Monty remarks - it makes you think!

G5QI (Henley-on-Thames) has been QRL with work after recovering from his bout of chicken pox. He is working on a Franklin VFO with which he hopes to improve his Trantest and Two-Watt scores. As he says, he will be able to "chase the Dx instead of waiting for it to come on his frequency". He is hoping to meet Monty, GC2CNC, when the latter is over here on July 9th.

G3HCW (Knottingly, Yorks) says that he will be indeffinitely QRT owing to a very favourable business "break" which will claim his whole attention for some time. He writes: "May I take this opportun-ity of thanking everybody in the Group for the good fun I have had in the short time I have been active, and I hope to be able to renew the struggle sometime in the future." We shall miss you, OM, and we shall certainly not forget you, so any time you can let us have a bit of newsabout yourself do please tell us how you are getting on. Whenever you can get back on the air we shall still be around, and there will always be a welcome for you.

::::: TRANTEST :::

	AVERAGE BEST	QSO with	MILES -M-	Mc/s	WATTS -W-	-X-	POINTS -P-	Month's total
1: GC2CNC	10080	CE6BE	6500	7	2	2	6500	
Jersey	----	UM8AE	2700	7	1	2	5400	13400
C. I.	13670	W1HZ	3000	14	2	1	1500	
2: G5QI	8908	DL1LO	440	3.5	0.5	3	2640	
Henley,	----	PAØACL	315	3.5	0.25	3	3780	12540
Oxon	12540	DL1GN	510	3.5	0.25	3	6120	
3: G2AJU	7681	GM8FM	330	1.7	0.5	5	3300	
Ipswich,	----	GM3HGM	350	1.7	0.5	5	3500	10150
Suffolk	10150	GI3HFT	335	1.7	0.5	5	3350	
4: G3HCW	4335	(average)			(No entry this month)			
5: PAØXE	3652	OK1VM	700	7	0.5	2	2800	
Rotterdam,	----	OK1AEH	720	7	0.5	2	2880	8680
Holland	8680	I1CL	750	7	0.5	2	3000	
6: G3EDW	2135	(average)			(No entry this month)			
7: G5GG	2022							
Bournemouth	----	G8WP	207	1.8	0.5	5	2070	2070
Hants	6020							
8: G3GZA	1306	(average)			(No entry this month)			
9: G3HBI	1255	(average)			(No entry this month)			
10: G3CED	936	VK3XU	10600	14	5	1	2120	
Broadstairs	----	W8PXP	4000	14	5	1	800	3720
Kent	3720	W8ZDZ	4000	14	5	1	800	
11: G3EKP	501	(average)			(No entry this month)			

Congratulations to Monty for the first five figure average, and cheers for G3CED on his return after a long abscence. Sorry for the number of blank files this month, but I may be printing a bit early. If any further entries do come in we must adjust next month.

::::: G - Z PANEL :::

1951 SERIES	COUNTRIES 3.5	7	14	28	TOTAL	ZONES TOTAL
Mike Wassell	-	19	132	44	138	37
P. Huntsman	19	42	132	14	136	36
D. G. Gordon	19	15	78	31	88	30
H. G. Wells	14	14	82	9	85	27
E.W.Gardiner	9	10	61	29	82	26
A.E.Stonestreet	10	17	48	28	65	18
D. White	4	4	46	5	51	19
R. Murray	7	10	30	-	41	15
R. Nixon	-	-	34	-	34	14

Yes, Mike is in the lead, despite Peter's grand effort in logging twelve new countries during the month. D.G.Gordon and A.E.Stonestreet are both creeping up too, while Harry Wells has collected another ten. Keep it up, OMs!

::::: TWO - WATT PANEL :::

	TOTAL	Counties 1.7	Countries 1.7	3.5	7	14	28
G2CNC	102	4	2	14	29	31	22
G5QJ	55	24	2	16	13	---	---
G3EDW	45	17	4	11	13	---	---
G3HBI	20	5	1	--	14	---	---
G3GZA	17	11	4	1	1	---	---
G3HOT	16	--	--	--	14	--	--
G3EKP	7	1	1	--	5	---	---

::

This is a smaller issue than usual, occasioned by the approaching holidays, with the feeling that a small number would be more welcome than none at all as last year. Next month we shall be at full size again and starting SEVERAL NEW FEATURES and announcing SEVERAL NEW CONTESTS which I hope will interest you all.

Next month's issue will complete two years of publication. We have done well in that time, in growth of membership, in spread of recognition, and in proof of our practical ability, culminating in the triumph of the recent ISWL Inter-Group Contest.

For that really momentous achievement I know that I have the approval of the entire Group in passing on sincerest thanks from all of us to each member of our winning team for the efforts which afforded us such a success. I know, too, that you would like me to thank our No 2 Team for their valliant attempt and to point out once again that they were severely handicapped by having to run one man short. In these circumstances they put up a grand show.

Please do not stop writing just because I shall be off duty for a short time. I want to find a mass of correspondence waiting for me on my return. Among other things I want to know what you like best in the present set-up of the mag, what new items you would like included, and any suggestions you may have for the further improvement and expansion of the mag and of the Group. Don't forget a motto I suggested in the very early days -- "CRESCIT EUNDO" which means IT GROWS AS IT GOES -- that has been very true of everything to do our Group so far. Let us make it doubly so in the next two years.

Finally, thanks to you all for your support. It is grand to feel that the enthusiasm, interest and appreciation which you have so often expressed is still expanding month by month.

See you in August, OMs,

Johnny