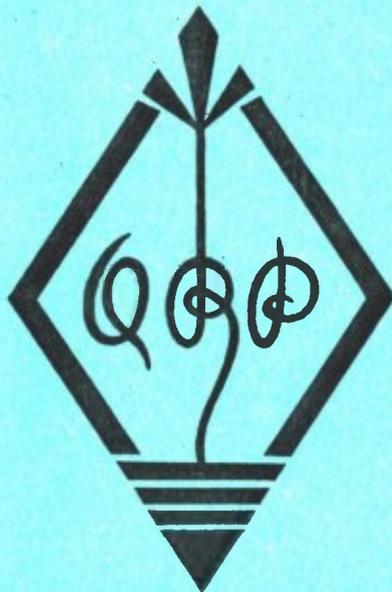


**JOURNAL OF THE  
Q R P  
RESEARCH SOCIETY**

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ISSUE No. 40  
JANUARY 1953

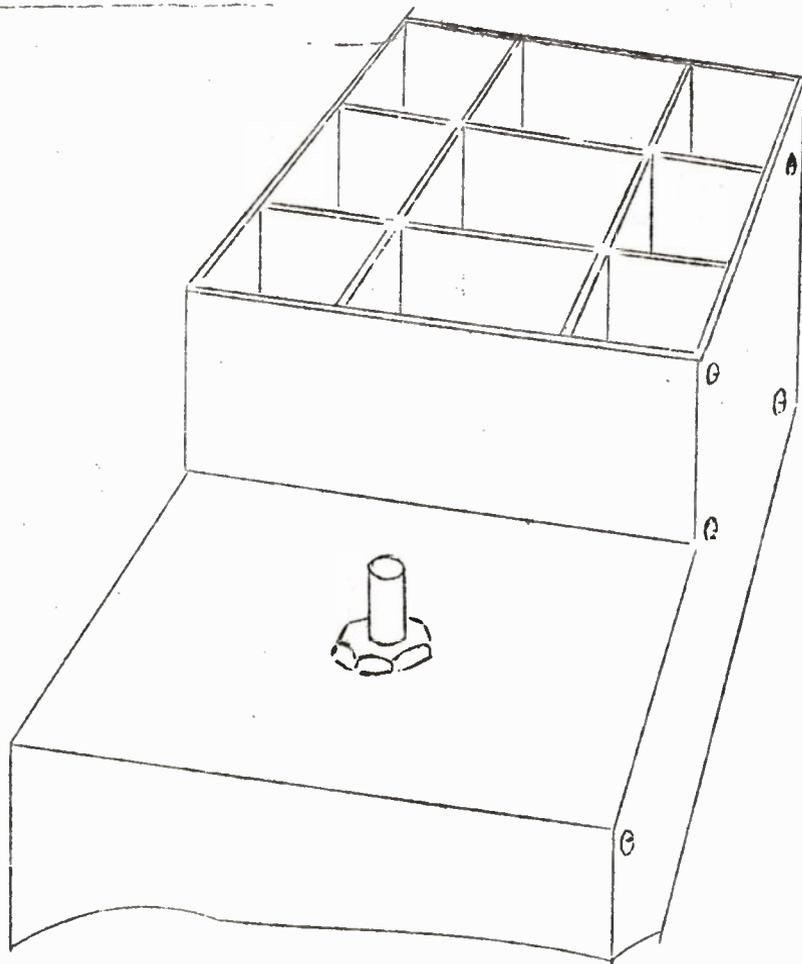
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EDITORIAL

Not long ago I read one of those "Amateur Band" columns in a contemporary club mag which gave me something to think about. The writer ended his text by flaying his readers for lack of support -- "Well, that's all for this time," he said in effect, "and if it's a poor show it's your fault". Thank Heaven I've never had to complain of lack of support! I've got enough gen in hand now to fill the next two issues (but you are not supposed to know that or you might think "Oh hec, the OM doesn't need me to write in this time!"). The thought that came to mind as I read that paragraph was the illogical outlook of it. Surely lack of support for any enterprise is only caused by a falling off of the interest which it arouses in it's devotees. If support for any section of "Q R P" began to die I should blame myself for failing to "put it across". It would not occur to me to blame YOU for lack of enthusiasm over something which I had allowed to become dull. And if I couldn't make it interesting enough that you WANTED to support it without being coerced I should stop trying to force it on you at all.

Now, your new Council and I are hoping very much that 1953 is going to be a "bumper" year in the history of our Society. They are now busy working out plans for our advancement and I am busy devising improved ways of putting it over to you. We want it to be the most interesting Q R P year ever.

The amount of spontaneous support which comes in from you will be proof of our success.

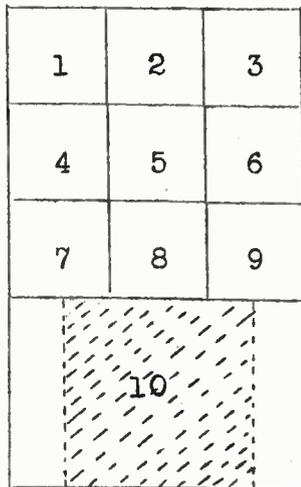


They say "three times lucky". We designed two chassis, neither of which pleased us after they had been constructed. The next attempt, however, seems to be highly satisfactory so far as layout and compactness go. We have tried to illustrate it here but the sketch does not do it any justice at all.

You remember last month we said we were thinking of having a "line ahead" layout which would place the components very much as they appear in a theoretical diagram. This formed the second attempt and resulted in a long, thin chassis, the main fault with which was that it gave very poor dial reading facilities which could only be got over by having a complicated system of cables (or string) working a pointer which ran up and down a

horizontal scale along the top of the "box". We are set upon using a Muirhead S M drive and there was no room for this on the top while, when mounted on the side after the fashion of the normal panel, it meant that the operator had to tuck his head down under his bottom waistcoat button to see the scale. The whole thing could have been laid on it's side, of course, but we have a (probably unfounded) dislike of working directly heated valves on their sides. It was disastrous to early valve types and prejudices die hard!

The final design, therefore, became an egg-box with a welldeck for the dial. And very well it covers the requirements. The "plan"



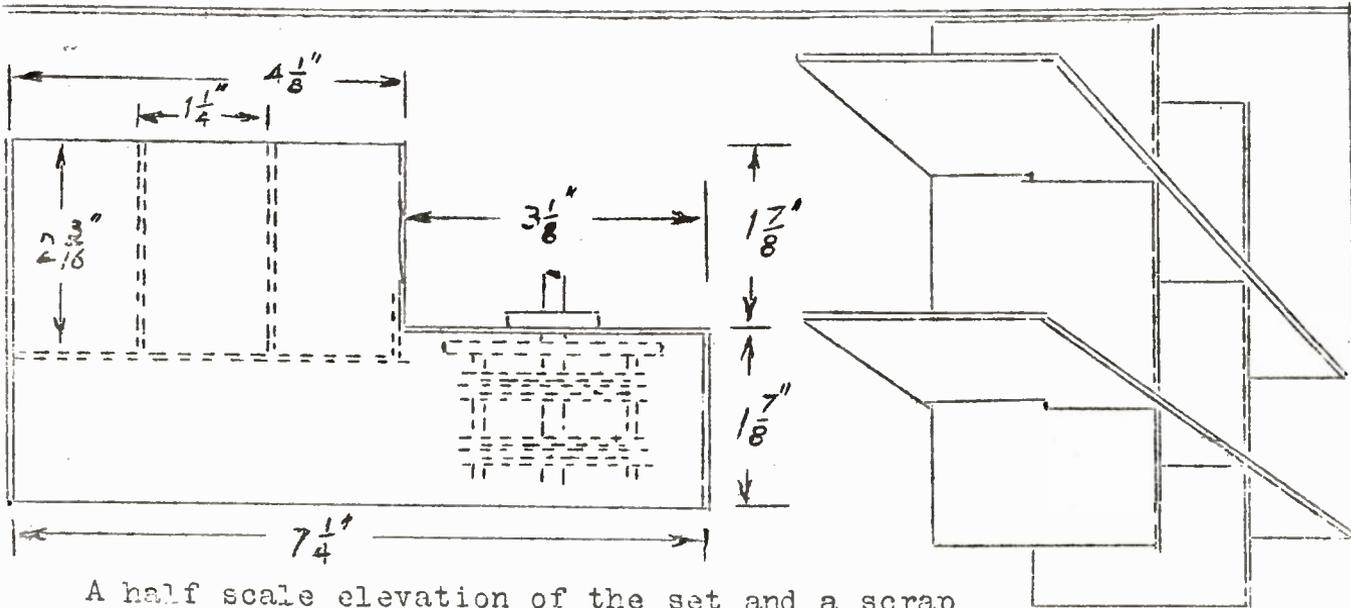
sketch on this page shows the bandspread condenser (10) closely positioned to the FC grid coil (9) and the oscillator coil (7), both feeding the FC valve (8). The first IF tranny (5) feeds the first IF valve (4). The signal then passes to the 2nd IF tranny (1), the second IF valve (2), the third IF tranny (3), and the final det/audio stage (6).

Dimensionally the chassis is  $7\frac{1}{4}$ " front to back, 4" wide,  $3\frac{3}{4}$ " high in the egg-box part and  $1\frac{7}{8}$ " high in the lower "deck". The bottom of the egg-box is lower than the welldeck, giving  $2\frac{3}{16}$ " of height for the valves and coils. From a control point of view, too, this layout seems to promise ease of operation. With the Rx placed with the 1-4-7-10 facing the operator he can lay his forearm along the cover of the egg-box and have complete ease of fingertip control of the main dial.

Constructionally the job is very simple. It took us one afternoon to complete, including all cutting, bending and drilling. It is made of 18 swg aluminium and the only piece that requires any comment is the partitioning of the egg-box. This is a separate unit which is finished to be a comfortable slide fit in its housing, a point made necessary by the fact that, with it in place there is no finger room to mount or

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withdraw valves or coils. It is formed of four pieces of alluminium, each of identical pattern, and each cut with two slots from the edge to the centre line. The slots are then forced one into the other so that it is exactly like the partitions in a real egg box. A point here is that one hacksaw blade will not give sufficient width of slot to take the 18 swg alluminium of the mating part, and two saw blades mounted in the frame side by side makes the slot too wide. The answer is to cut the slot with one blade and then open it out with a "ward file" used saw-fashion. This will give slots that require a few careful taps with a hammer to drive the respective sections home into each other. Sound electrical contact when in position is obtained by a "flying" lead held by a small thumb screw or wing nut.



A half scale elevation of the set and a scrap view of the 9 compartment screening section to show how it fits together as a separate unit to slip into position when valves are in.

The next step must be to produce the necessary IF coils. In all probability we shall end up with more than one tuned section to each IF stage, but, to get the set working, we shall start with the one tranny per stage. Now we had been considering an IF of 6 Mc/s and our statement to this effect last month raised a very interesting letter from David White of Kingston which has rather shaken our belief that, even with a Xtal filter we should get the selectivity that we are aiming at. We must admit that our prospective choice of IF had been made with a view to easy coil winding. We have not got any modern IFs in the junk drawer and those which are obtainable commercially are much too big for our layout unless we are prepared to spend about 21/- a pair -- which we are not going to do! However, snags were made to be overcome, so, if we MUST use 465 Kc/s (and probably it will be the shortest route to success in the end), it looks as if the first piece of ancillary equipment we shall have to make is a coil winder.

David is also a bit disconcerting about noise ratio, but -- well, let's get some noise first of all!

Cheerio -- More next moth (we hope!).

.....: THE V H F SECTION :.....  
 MANAGER: GC2CNC, La Mabonnerie, States' Experimental Fam,  
 Trinity, Jersey, C. I.

The constructional article in connection with the VHF transmitter is being temporarily held over due to lack of time. However the balance of the circuit WILL follow. In the mean time, make sure the present circuit works efficiently. By the way, the "Q R P" editor left a line out in the Decembër circuit. The cathode was left "floating".

Two points arise for discussion this month, and your comments would be appreciated. Firstly, the writer does not agree with HQ concerning the VHF section of the QRP receiver project. It is felt that either a VHF converter should be built by VHF fans, or a complete

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VHF receiver should be constructed instead. It is not believed to be a good policy for HQ to contemplate adding a VHF unit to their Receiver Project (in which, may it be added, the author is an interested party). Consideration should be shown to developing a QRP battery VHF Rx and Tx project quite seperately from the HQ job.

(EDITOR: Having read last month's article in view of the above remarks I see there was a passing reference to "complete band coverage from 1.7 to 144 Mc/s" and a remark about an "additional converter for 144". Neither of these remarks were intended to undermine the VHF Section's territory. The aim was, once the HQ Rx was completed, to hand it over to the VHF Section to see what they could do about creating a suitable converter for 144. After all the Section has been created to look after this end of the hobby and we should be the last to try and outdo them or cut across their province.)

Secondly, assistance is earnestly sought from SWL and transmitting hams to form a friendly pool of advice, aiming at the VHF Rx and Tx unit. Circuits have already been published in "Q R P" of rigs and more details are needed. It is proposed to make a unit capable of telephony operation over optical range and, as a 145 Mc/s beam can be carried easily, results should be good.

The author is unable to carry out this work alone and, therefore, it is proposed to publish in "Q R P" the results of monthly letters & notes, ultimately terminating in a battery QRP VHF rig which works.

Can anyone supply data on battery valves suitable for 145 Mc/s? This is the most important point at present.

Finally, all those seriously interested are asked to contact the writer without delay, and for Goodness sake DO WRITE!

Best wishes for 1953 and, as a very old friend would say, ZUS -- if you don't know what it means get a copy of the Z code.

=====  
MAY WE REMIND NEW MEMBERS THAT SOCIETY BADGES ARE AVAILABLE  
PRICE 2/6 POST FREE

.....: OPERATING PROCEDURE :.....

Some interesting comments to hand this month from G3AGQ, Bob Eldridge, who says:--

"...It would be useful indeed if we could arrange a multi-way sked between the interested parties to discuss the Procedure more quickly. Although many cps send "BK" to mean "I won't bother to sign over properly with callsigns", we are agreed that this is nothing to do with BK working. If we are to put a time limit of 60 secs on overs BK will not be necessary. I agree that usually a change of 1 Kc/s or more is too much, but it is not practicable to try to specify or accomplish a change to within 100 c/s. Sam's point about ending an over with AS and then sending KN when clear goes without saying as this again is standard practice. Ref George's comment in parenthesis p39/7 bottom para, the point demonstrates it's usefulness. An operator relies on his ear as well as on his Rx. If he hears two stations at zero beat and equal strength he cannot read either. If one moves 330 c/s he can read either or both. If he has a filter he can attenuate one. The main point is that he has never lost contact by twiddling his tuning. When calling on a new frequency we should really send "de G..." to comply with licence regs."

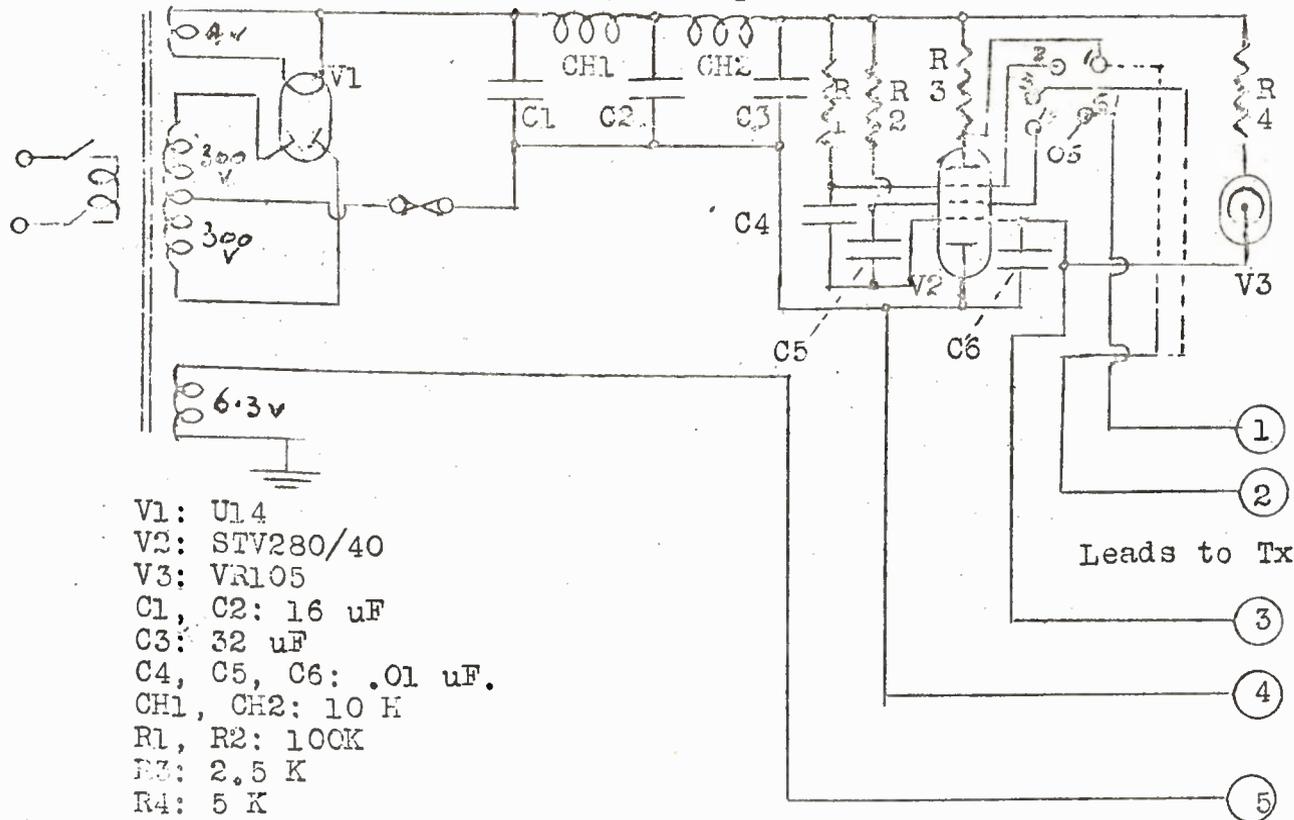
Thank you for those remarks, Bob, and as to the multi-way sked don't forget that we have already proposed a --

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 REGULAR SOCIETY NET ON THE FIRST SUNDAY OF EACH MONTH,  
 BETWEEN 1130 AND NOON, CW ONLY, BETWEEN 3.500 AND  
 3.545 KC/S  
 -----

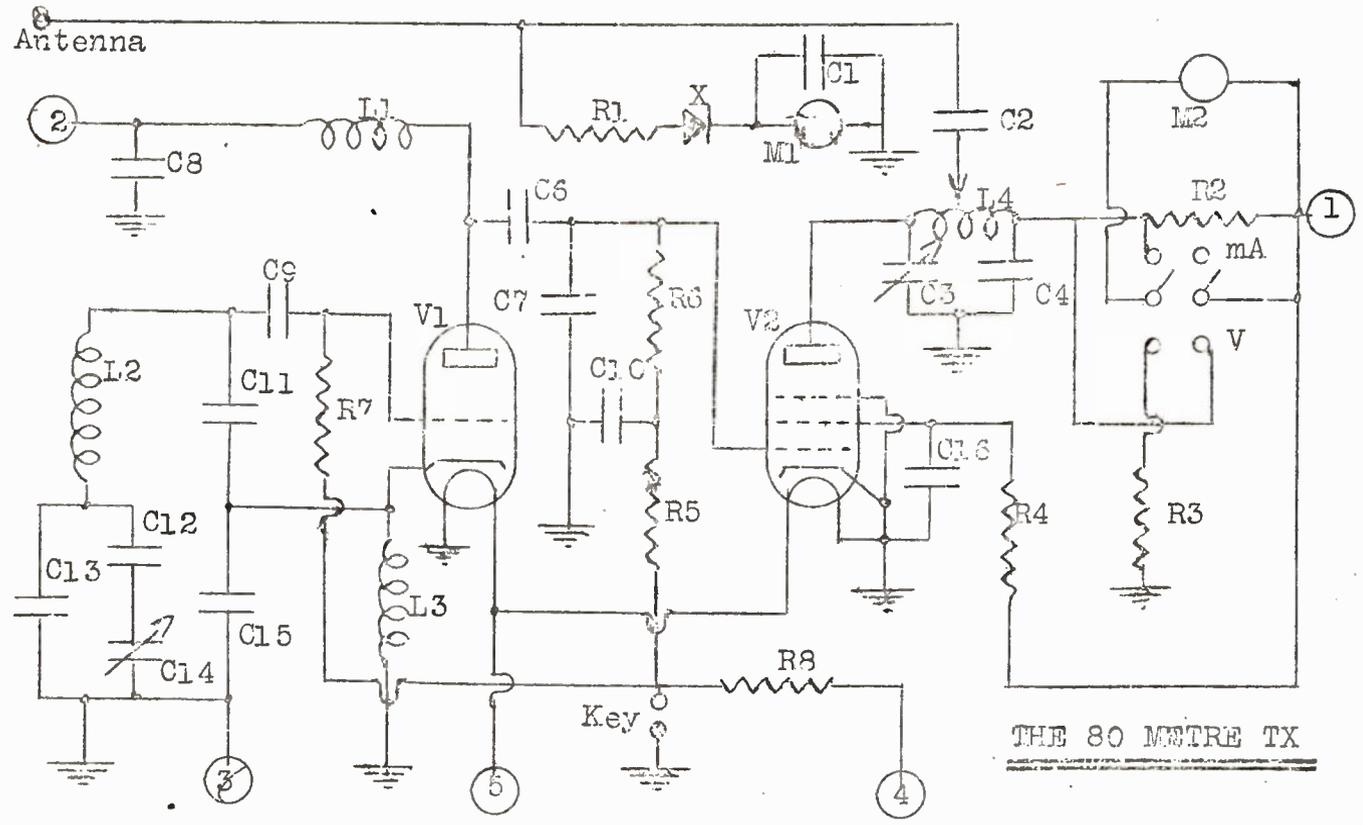
Now, don't forget this, OMs. It can only succeed if you all take part. If the time or the frequency is not suitable to YCU, do let us know and we will try and be accomodating. And please come in too, you SWLs. It should be an ideal opportunity for you to get to know the "fists" of our Tx members.

HAVE A GO!

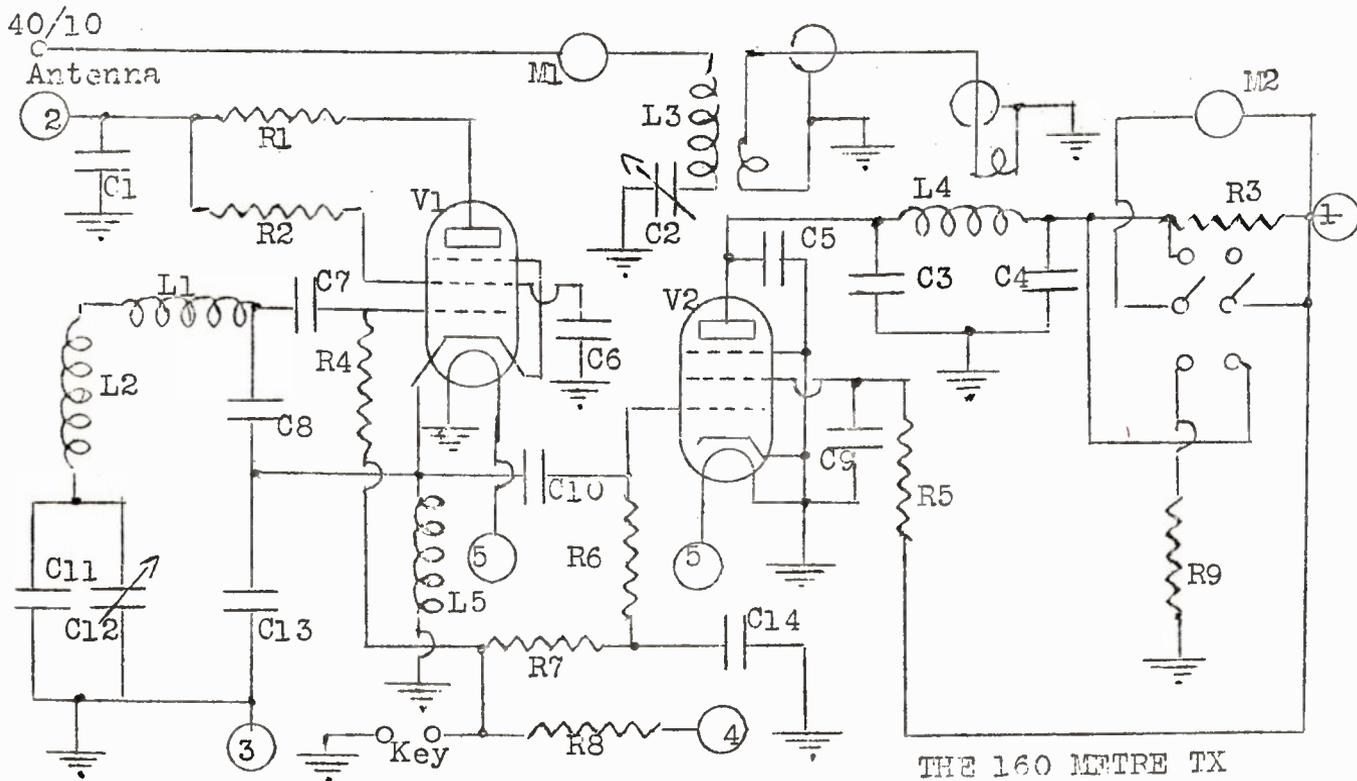
The transmitter power pack illustrated on this page should be of interest to many SWLs as well as Tx members since the switch S1 provides 190 v HT in position 1, 130v in position 2, 102v at 3, and 70v at 4. The leads to the Tx are: (1) HT pos to PA, (2) HT pos to VFO, which



may be taken from the 190v or the 102v point whichever is suitable for the Tx in use, (3) earth, (4) bias, -70v and (5) 6.3v AC for heaters. This power supply would appear to have unusual versatility and will certainly find a place on the HQ bench as a means of running the new HQ Rx. Perhaps G2AOL might suggest a mod whereby a well smoothed DC source of 1.5v could be made available.



THE 80 METRE TX



On page 9 is shown the diagram of the 80 metre transmitter in which the tap on L4 should be adjusted to load the PA to 4.8 mA at 102 volts giving a plate input of 0.49 watts. The component values in this Tx are as follows:-- C1,8, .01 uF.- C2,6,7, 100 pF - C3,14, 10/100 pF - C4,11,15, 1000 pF - C9, 50 pF - C10, 1 uF - C12, 20 pF - C13, 125 pF - C16, .005 uF - R1, 30 K - R2, 7 ohms - R3,4, 50 K - R5, 4 K - R6, 2K - R7, 47 K - R8, 5K 5W - L1, 1.5 mH - L3, 2.5 mH - M1, 100 uA - M2, 5 mA, 20W - V1, 6J6 - V2, EL91.

The diagram on page 10 shows the 160 metre transmitter in which the coupling on L4 is adjusted to load the PA to 14.5 mA at 102 volts giving a plate input of 1.48 watts. The component values are :--  
 C1,10, .01 uF - C2, 500 pF max - C3,12, 10/100 pF - C4, 2000 pF - C5, 100 pF - C6,9, .005 uF - C7, 50 pF - C8,13, 1000 pF - C11, 200 pF - C14, 1 uF - R1, 15 K - R2,4,9, 50 K - R3, 7 ohms - R5, 10 K - R6, 30 K - R7, 4 K - R8, 5K 5W.- L5, 2.5 mH - M1,  $\frac{1}{2}$ A RF - M2, 5 mA 20 W - V1, 6F91 - V2, 6AQ5.- X, IN22.

.....: SOCIETY NEWS & ACTIVITY :.....

G3CHE, L.H.Brown (Huddersfield) has been tied up with a change of QTH involving a spell of decorating, but he has now reached the attic and a bent dipole has been erected consisting of an 8'3" horizontal & an 8'3" vertical to each element meeting in a coil (ex 1S-set) of 2" dia x 100 turns. The feeder is link coupled to the coil by two turns & results so far have been very promising.

G3JEA, Eric Alban (London, W2) has been licenced only 3 months but has had 221 QSOs with 168 different contacts in 14 countries on 80. (By the way, Eric, our "Spares Service" is in Broadstairs, not Brighton so it is not surprising that you have had no answer. Address is : G3CED, 17 Ethel Road, Broadstairs, Kent). Thanks for offer re sightless members, OM -- will try and organise something there.

OZ5U, Peter Nansen (Nyborg, Denmark) sends us a short note after a very long silence, saying that he has been unable to work much QRP lately but hopes for better condx in the spring (Peter suffers from the disadvantage of an indoor aerial which has probably contributed to his difficulties). Let us hear more often from you, Peter!

GI2DZG, Walter Caughey (Belfast) has been active on 7 Mc/s with 12 watts to a 6L6 since October and is now planning a really QRP rig. He has not got entirely straightened out yet after moving his QTH, but we shall be looking forward to hearing more of 2DZG from now on.

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John R. Ayres (Woodbridge, Suffolk) is yet another of our members who has been changing QTH recently. He sends us a useful tip for mounting whip aerials - rubber anti-vibration mountings usually have a metal bush through which the end of the whip can be passed and locked with a nut on both sides. John has tested the stability of these mountings in a wind tunnel up to 100 mph.

R.S. Wilkinson (Hull) is anticipating getting his call through any time now and would like suggestions on two points -- (1) a really good QRPP Tx and (2) the most efficient antenna (indoor or outdoor) to go with it. Would anyone like to take this up with him? The QTH is 16 Eastbourne St, Hessle Rd.

PAØXE, Evert Kalaveld (Rotterdam) is nearing completion on a very ambitious QRP Tx/Rx. The CO/PA is a 12 AT7 qith a 12AX7 for a O-V-1, a universal antenna coupler and a built-in power supply for 12v DC or 125/220v AC. And it all goes into a box 6" x 6" x 2". Full details of Evert's Ground Plane anetnna (see Dec 1952 "Q R P") will be published in Radio Amateur shortly.

Peter Huntsman (Hexham-on-Tyne) is still happy with his O-V-2 but he now has a new antenna -- a long wire with a 48' horizontal and an 18' vertiaal at the far end which seems to have waved a magic wand over the Dx stns. Peter is finding the 21 band very interesting (Yes, we'll have a column for it in the C - Z this year, OM)

Ian Glen (home QTH: Coldingham) has moved around the country so fast since joining the RAF that I have had to give up trying to follow his moves. He was last heard of at Seaton Carew in Durham.

Norman Bason (Peel, I.O.M.) has been "off" radio lately owing to the arrival of a little YL. Congratulations to you and Mrs Norman, OM, and there's no need for excuses at dropping the hobby in those condx -- I've had some myself and I know just how trying the audio oscillations can be!

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Thanks for all your good wishes for Xmas and the New Year, OMs. I can't possibly answer all personally, but they were ALL appreciated!

THE QRP C - Z PANEL

	Countries				C Total	Zones	Grand Total
	3.5	7	14	28			
1: Huntsman, P.	22	70	160	7	166	39	205
2: Gardiner, E.W.	26	17	110	28	115	32	147
3: ( Read, B.J.	12	8	110	7	112	31	143
( Whitfield, R.	-	-	111	-	111	32	143
4: Stonestreet, A.	18	26	93	8	114	28	142
5: Huntsman, R.	1	34	90	-	102	27	129
6: Gordon, D.G.	28	13	33	24	95	31	126
7: Garrard, D.	12	6	99	-	101	24	125
8: Kenyon, R.L.	2	-	92	-	92	26	118
9: Basen, N.	11	19	77	-	80	24	104
10: Bridgewater, E.	-	4	79	-	79	23	102
11: Wells, H.G.	5	16	61	9	66	23	89
Alban, E.J.	37	114	178	13		39	

So much for 1952! Peter has done it again by an outstanding margin, but what a close finish for 2nd, 3rd and 4th places, with only 5 points separating 2nd and 4th and two entrants tying for 3rd place. There should be a tougher struggle than ever in the coming year if this is any indication and, with the 21 Mc/s band included, there ought to be some interesting reports forthcoming. You will notice a last minute report included above from Eric Alban, but he does not mention the Rx used to achieve this, nor does he give us his total countries, so that we have not been able to include him in the contest proper. (I fancy that Eric did not realise that "Total C" covers only DIFFERENT countries and that a country counts only once even if heard on more than one band).

.....: THE GRP "200" CONTEST :.....

COUNTRIES WORKED DURING 1952 ON:	1.8 Mc/s	3.5 Mc/s	7 Mc/s	Total
1: GC2CNC	60	71	69	200
2: G3AGQ	54	47	9	110
3: G2AOL	42	44	3	89
4: G3EDW	30	10	5	45
5: G3HJL	-	52	-	32
6: G3FAU	16	-	-	16
7: G3HCW	12	-	-	12

Monty's certificate will be going off to him as soon as I can get it prepared after this issue is out, and ACQ and AOL will also be getting theirs as runners up. I think that there is a silent criticism in the fact that EDW remains in 4th place notwithstanding the fact that he has been out of the country, and therefore out of the contest for several months.

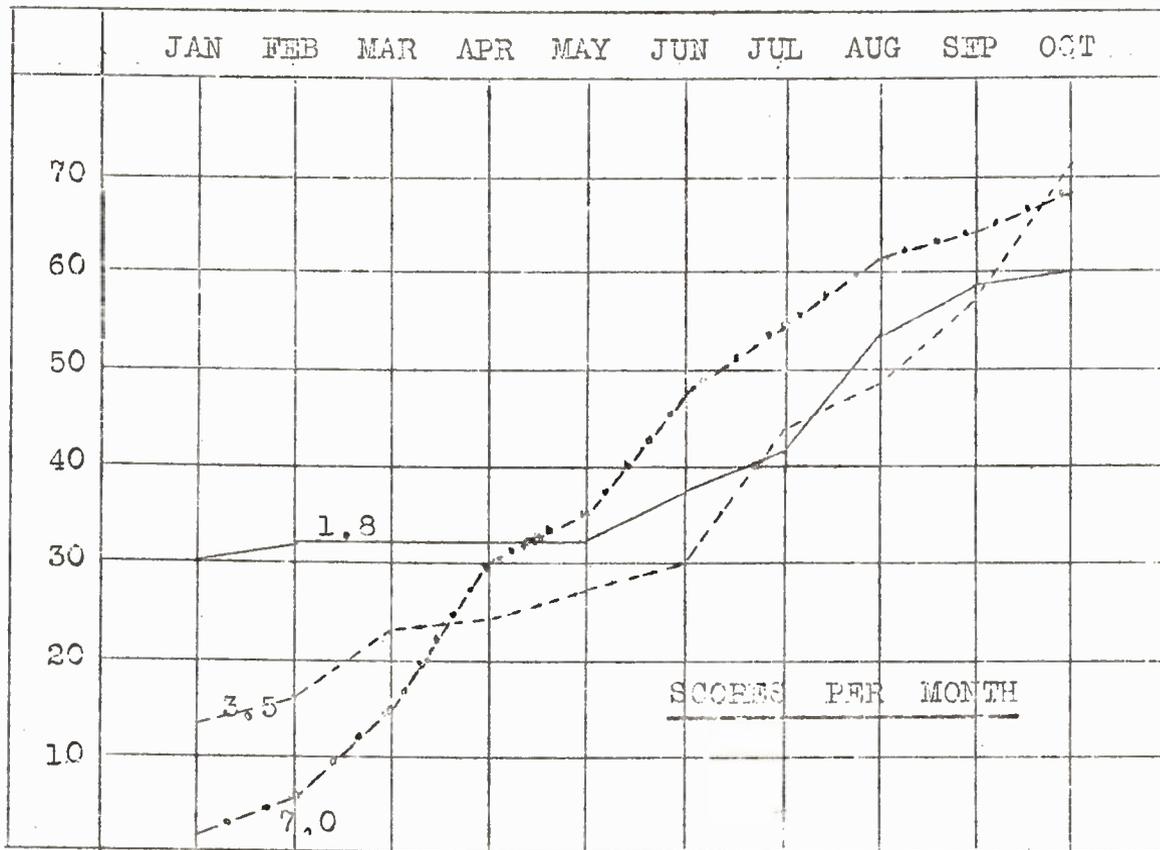
.....: TOP BAND SWL PANEL :..... :.....: THANKS ! :.....:

	COUNTRIES	COUNTIES	TOTAL
Baker, W.E.	6	53	59
Melle, H.G.	7	39	46
Gordon, D.G.	5	35	40
Gardner, E.	4	35	39
Godfre, J.	6	29	34

Many thanks are due to G.E. Keeble of Diss, Norfolk, for returning to us in good condition all his "Q R P" mag covers and backs.

Anyone else who files their mags could help us a lot by doing likewise.

..... "200" ANALYSIS, by GC2CNC .....



The chart above shows 20CNC's scores of new countries per month. He reports that the best month for ANY band was January on 1.8 Mc/s, the best month for 3.5 being July and for 7.0 Mc/s April. The worst

40/16.

months for any band were March, April and May on 1.8 Mc/s, while the worst for 3.5 were Feb and April and that for 7.0 was June.

.....: URGENTLY REQUIRED :.....

GC2CNC is in urgent need of the following:--

- One 1N34
- One CV 1T3 or 1T2
- One 500 Microammeter
- One 1 mA meter of known resistance.

If you can help here will you please contact Monty direct (Mr E.Banks, GC2CNC, La Mabonnerie, States' Experimental Farm, Trinity, Jersey, C.I.) or write to our Spares Service Manager, G3CED (Mr G. Partridge, 17, Ethel Road, Broadstairs, Kent) .

Are you on our Spares Service Rota? You should be -- you get a monthly list of the latest bargains in all kinds of radio gear, and they really are bargains without any shop profits tacked on to rocket up the prices. As the high pressure salesman might say: You owe it to yourself to find out more about this! G3CED will gladly give you the gen.

.....: THE Q R P COUNCIL :.....

The 1953 Council is already at work and it will not be long before we shall be able to give you results, Contests are an item much to the fore and the Contests Committee is working out improved rules for existing contests as well as new ones of interest to SWL as well as Tx members. Full announcements will follow in a month or two.