JOURNAL OF THE Q R P RESEARCH SOCIETY

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JOURNAL OF THE

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THE R. S. G. B. ::::::::::

ISSUE No 64
SIXTH YEAR
MARCH 1955

Q R P SOCIETY

PRESIDENT: Mr E. Banks, GC2CNC.
PAST PRESIDENT: Mr A.O.Milne, G2MI.
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Deadline for publication in next issue is the 12th of next month.

PAREC --

We live in an age of "slogan-titles" -- We have had "Fido" and "Pluto" amd "Uno" and endless other like quickies. I often wonder if the quicky came first

to the mind of some tongue-in-the-cheek boffin who then spent nerve-racking hours trying to find some semi-sensible title to justify the slogan-title. That certainly did not happen with PAREC -- we can assure you that, in this case, the full title

PORTABLE AMATEUR RADIO EQUIPMENT CONTEST

came to mind first and the not really humurous, but none-the-less useful quicky, "PAREC", followed as an obvious necessity.

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

CLIFF LEAL, G3ISX, should be nearly "there" with his new Top Band rig by now, the "coach work" was in an advanced state last month. It is to be an EF91 Clapp, EF91 BA, 5763 PA; Mod 6BR7, 6AT6, 6AQ5. That, plus the power pack, to be fitted into a TU case. The present rig, Cliff says, is like "Topsy" -- it just growed and growed!

KEITH RANGER promises to a somewhat unwilling citizen of Mafraq in Jordan until the last week in August. Then he will be coming home (he should reach G just nicely between the first thaw and the next snow fall!). He says that he had better Dx results in Egypt as his completely corrugated iron billet cancells out any benefit of the greater a.s.l height.

MIKE DRANSFIELD, G3JKO, was seen casting longing looks at the PA valves of the long wave transmitters at Rugby during a recent visit to that station with the Nottingham University Radio Society. We trust that is not the explanation of the fact that he is temporarily QRO! He gave the reason is that his QRP Tx is home in Purley! Has anyone heard if Rugby is still on the air?

JOHN HAGUE, GGJIJ, has had to visit a number of different schools lately and has combined pleasure with his job by taking along a modified B2 Minor in the saddle bag of his push bike. A variety of lash up antennas have not made for consistent Dx, but John has had no trouble in collecting an enthusiastic audience during his demonstrations.

ALEC CLARK, C3BII joins quite a queue of licenced members who disagree with the gent in our editorial of last month that transmitters do not get a fair share of "QRP" space.

A. E. ASHBY, G3HCW is completely QRT at the moment as he is taking two public exams in June and "swatting" will be top priority till then, He seems to have found time to read the mag though, all the same!

JCE STEPLENSON remarks that it seems strange not to find Peter

Huntsmans' name at the top of the C - Z scores. I agree, but watch out, Joe -- that new Tx won't hold his interest for ever, you know!

TED JONES, G3EUE, has temporarily forsaken activity in order to give the shack a thorough clean up. He is, however, one of the many who favour the organisation of a portable centest (field-day, not constructional) this summer and suggests that the rules be worded so that non-portable members can take part from their homes. (Sounds a good idea to me, Ted.)

Norman has got the new shack in order, together with a 132' long wire outside and a 33' for twenty in the attic. He is now using the O-V-l section of his heterodyne Rx as a "full-time" main receiver and is very enthusiastic over results. (Yes. Norman -- we have been watching all the other points you mention. There is nothing to worry about here!)

GUY MOSER, G3HMR, will have completed, by the time this paragraph has been typed, one of the most concentratedly studious periods he is ever likely to encounter -- culminating in a three day exam for his Solicitors Finals. I know that I can quote every member of the Society as joining me in wishing him, belatedly, an outstanding success. We'll be looking forward to hearing more of you, on the air & in the mag, now

"TICH" MIDDLEWOOD has been spending a lot of time just lately on his second hobby, a motorcycle which, at the moment, is spread in considerable detail all round the shack. He has, however, found time to complete a O-V-l in an Oxo tin (We have heard a lot of people praising these tins, but we still feel dubious about the thinness of the material. We think we have found a better, if rarer kind in a Crawford's Scotch Shortbread tin -- quite stout gauge alluminium measuring $8\frac{1}{2}$ " x $4\frac{3}{4}$ " x $1\frac{3}{4}$ ".)

DEN AUTON, G3IHI, from whom we have not heard since he was looking for "digs" in London, seems to have taken temporary root in Heston which is well situated for his work at London Airport. He has the B2 Rx and power pack with him and hopes to bring the Tx over from home

64/4 - MARCH 1955

soon. His main difficulty, of course, will be the necessarily makeshift antenna.

Dr EDELMANN, DJ1VS, promises to do all he can to popularise QRP activity and our Society in Germany, in which good cause, of course, we shall give him all the backing we can. We have already suggested to him that, if anything comes of his efforts, we might try putting on a DJ versus G contest.

"MONTY" BANKS, GCZCNC, has worked HB9T with his G3IEE transistor transmitter (CC50) on 160. To the best of our knowledge this is a WORLD TTX MILEAGE RECORD and we shall be interested to hear the results of an enquiry now being held in W prior to establishing it officially. Monty expects to be on 2 again towards the end of this month.

PETER ANY, GC3IDP, is likely shortly to be G3IDP at Southall. He will be working there and we shall be looking forward to seeing him here at HQ.

BOB TBALL, points out with a sigh of resignation that, ence again I have mixed up his "activity news" with that of brother Bill. Oh dear! I did hope I had it right, too! (OMs, these two, Bob and Bill, are like identical twins -- same paper, same writing, same style, same ability to pull in the Dm -- can only suggest that one of them should use a different coloured ink!). The big event for Bob, this month, was logging PADRC on Feb 30th, 'RC was using his emergency Tx -- ECO (1A5) and PA (1A5) with about 0.4 watts at 90v, feeding part of a 7 Mc/s Zepp.

PETER HUNTSKAN asks me to pass on to the numerous folk who have written to him in the past few weeks his sincere apologies for lack of answers — he has been on shift work varying between 2,15 am and 6,35 pm and his normal activities have suffered all round. Peter has a QRP/QRO switch in the Top Band Tx now and is taking note of camparative reports — for example, G2FIX, on March 4th gave him 569 at 10 watts and 549 at 1,7 watts. (Yes, Peter, should much appreciate your suggestion about the cup if you will send the account in afterwards. Regret leaving out the call after your name, OM—not used to it yet!)

BILL IBALL wants to see in the mag a Top Band only QRP mains Rx (We shall be obliging as soon as the new rig on our own rack in front of me as I write is complete, OM -- according to theory it should be quite some rig!), Referring back to brother Bob's news it is rather curious that Bill should say: "On Feb 27th I heard GD3UB calling PAØRC but I don't think he worked him, and I didn't hear him. I'd have given my power pack to have heard him!"

BRUCE BRIDGER, WESAK, suggests a contest for W members similar to our "200" but for States worked instead of counties and making the max power 5 watts. He feels that the higher power limitation will be necessary on account of the size of the U.S. apart from the greater difficulty of getting a hearing among QRO-plus hordes. (Should like you and PRM to get together on a set of rules, OM -- we'll back it all we can, and you might get some entries from G at 5 watts, too!)

"BUD" RUGHL, WOPRM, is doing a really enthusiastic job spreading the QRP gospel round the U.S. He deserves our warmest praise. In his last letter he mentions a firm who advertise "Ham Transistors" at \$2.50 (about 18/6) and who also offer a free bulletin on all types of amateur circuits using transistors. The address is Electronics Div., Hydro-Aire Inc., Subsidiary of Crane Co., 3000 Winona Avenue, Burbank, California

Our thanks to all members who have sent us photograp s of themselves and their rigs -- it is a nice gesture which enables me to feel a much closer cantact with them. This mail has brought snaps from Bud Rugel and Meith Ranger and we are starting a members album which also contains the pictures of Peter OZ5U, George G3CED, Monty GCCONU and Sam G2AOL. We should like to have many more and we feel that the interest value could be increased still further by the inclusion of a snap of the locality (such as the local casis in Keith's desert, or miles of straight track on Bud's railway!). It is interesting to know what the other chaps' district looks like as well as the shape of his nose!

64	-	MARCH					1955											

TRANSISTOR GROUP NEWS

REPORTED BY

ROGER TAYLOR, G3JAL

Well chaps, not a very good response this month, but press on ... "Monty" Banks, GC2CNC, says that he will be ready for a TTX contest as soon as he can errect an aerial. Talking of contests, I suggest that we have a "Stations Worked" panel rather than a Counies Worked affair as in the "200"; it would be more encouraging to those in poor locations and a bonus of, say, five points could be claimed for working stations in a different country -- GW, GM, GC, etc -- which would make it fairer for stations in the north and south-west. Let's have vour comments. OMs.

Roger Taylor, G3JAL (thats me!) has not been very active on the air, but has been thinking about the Rx problem and hopes to have a 0-T-O going before next month.

As John said last month, transistors have a great part to play in portable activities, and I should like to know how much support would be forthcoming for AN ALL TRANSISTOR FEILD-DAY (just simple equipment) sometime during the summer. How about it, chaps?

Do please send your comments and ideas, and details of your rigs, Even a postcard would be welcome! The address is 67 Colliers Water Lane. Thornton Heath. Surrey.

STRAIGHT FROM THE STATES

ALFRED RUGEL, WOPRM

REPORTED BY

I am glad to say that we have 2 new W members. First, there is "Al" W8FRD of Swanton, Ohio whom I mentioned last month, Al works exclusively on 80 and 40 and was formerly WSEKJ. He spent 3 years in the Middle East in WWll. Secondly there is "Joe" K6DCF whose redio record was mentioned briefly by John in a flash item last month.

Another prospective member id Gerald Mullen of New Bradford,

Mass whose special interest is 1 and 2 tube receivers -- Dx's on 40 CW with 1 tube Rx and hears things such as: KV4AA, PY6BN, FP8AK/VP2, FM7WP, KP4CC, EA9AP all between 7.000 and 7.010 Kc/s.

Three new countries at WOPRM during TEST: EA4CR, XELPJ & HK4DP all on 21 Mc/s CW. EA4CR was the first European heard on 21 megs. Also WlWBL/MM off Grand Cayman Is. On 14 Mc/s wrkd PAØXD, VP7NG, VP7NM, VP7NX, Condx very poor past menth although wrkd G6YQ Liverpool at 1320 CMM with his beam on VK, "long way round", during freak condition. Stall believe 21 Mc/s is the best band for low power. Perhaps condx will improve soon, Keep on hoping for the best here as you probably do also in G!

Till next month 73, Bud.

REPORTED BY

VHF GROUP NEWS

TED STONESTREET

GEORGE STOKES has now completed his copy of the rig described by Capt Cusdin in the August issue of the mag but has not yet "found the band" (elusive Two, of course). He proves his keeness by his intention to build the sig-genny (Jan issue).

ALTO CLAFIL, G3BII, has been too busy moving house to have much to report in the way of radio activity. He has found a home of his own at last -- a cottage with a large shed attached, upon which he has already got designs; Congratulations, Alec -- hope you will be very happy there.

NCRMAN BASON is another member settling into a new home as reported elsewhers. Norman's rig has now been returned having proved its capabilities by bringing in a call from G6TA which has been confirmed by a QSL. Norman has an idea for a converter to feed into the 3-V-1 Rx. His two schemes so far seem a little outside the QRP limits, but if any member is keen to go further with the idea perhaps they would get in touch with me: 29 Chaplin Rd, Willesden Green, NW2.

WE STILL HAVE SOCIETY BADGES AVAILABLE AT 2/6 POSE FREE

Will all members using this service PLEASE NOTE that, as all of the gear advertised is not in the hands of G3CED, they should always send a stamped PLAIN envelope with all enquiries and SHOULD NOT send cash until they hear either from '3CED or from the member having the items for sale

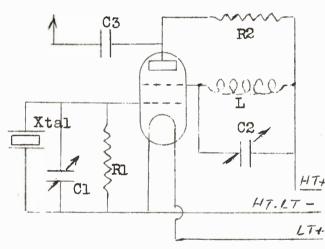
WANTS: Two Eddystone full vision dials...6v relay for antenna change-over (keying)...250pF & 300pF miniature variable condensers...
GDO or Tape Deck in exchange for Universal Avominor or 58 set, both as described in Sales section.

SALES: VALVES. ARP12, AR8, TT11, 4/- each plus postage...1625's 7/6 each plus pst...RAD Rx R1682 (2 volt 1-V-3) complete all coils but range G (4000/2500 Kc/s), 30/- carr paid...Eddystone 504, 500 Kc/s to 30 Mc/s Xtal filter, 2RF, S mater etc, £25...HAMBANDER, 1.7 to 30 Mc/s, vy gd condx, £10...R103A Mk 2, 1.7 to 7.5 Mc/s, RF, BF0, P/P, 230v AC AND 6v vibrator supply built in, complete, perfect, £7-10-0...CINE PROJECTOR, 9.5 m/m "Coronet" with films, £5 or exchange...58 SET Tx/Rx with vib, P/P, £4 or exch...ROTARY TRANSFORMER, 230v DC in, 400 DC cut, Adm type, £1 c. pd...UNIVERSAL AVOMINOR & leather case & sling. fb condition, but cannot adjust foe "set zerc" (cvercome by putting wedge under Avc), £6 or exch...38 SET part stripped, 5/- plus car...38 SET working in 7 Mc/s band, 35/- plus car...BC 212D, USA miniature amplifier complete, new, £1.

QRP Reference Bocklet, "The Language of Amateur Radio", compiled by G3GBP, is a dictionary of abreviations and codes with explanations, derevations and special emphasis on incorrect usage. To newcomers it is a MUST at any price and none of them have any excuse for not having one on their desk at 10d post free from HQ. (Just enclose four $2\frac{1}{2}$ d stamps)

:: TOP BAND XTAL CALIBRATOR, by G3HMR

The writer has for some time been seeking a Crystal oscillator for use as a frequency checking device in accordance with the requirements of the GPO, and after some thought the circuit described below was constructed and proved to function satisfactorily. Since the writer was interested only in Top Band it was thought unnecessary to have harmonics above about 3 Mc/s.



The circuit is quite straightforward, consisting of a 1T4 oscillator with a small tuned circuit in the anode. With 90v HT a very strong harmonic appears up to 2.5 Mc/s, and the trimmer in the grid circuit is used to zero-beat the oscillator with MSF, the station at Rugby: acording to the writer's calculations and his ear, the accuracy of the instrument lies within about 10 cycles of MSF. The harmonics lying within Top Band have, therefore, be an plotted on a LT+ graph, the other axis being the dial reading on the receiver, an Eddystone 750, and the resulting curve enables

the frequency of any signal, including that of the transmitter, to be read off with sufficient accuracy to comply with the requirements of the GPO.

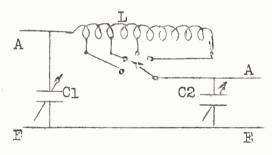
The unit is built into a small die-cast box manufactured by Eddystone Radic, and no difficulty was experienced in getting everything i with the exception of the power supplies which consist of two small d batteries. The zero-set trimmer is mounted on the front panel and the completed instrument was black crackled to give a finished appearance.

64/10 - MARCH 1955

In conclusion, it may be stated that this unit can be built into the receiver if need be, but in the writer's case greater versatility was desired with the possible need for portable operation.

Values are: Cl, 15pF trimmer...C2, 100pF trimmer...C3, 20pF silver mica...R1, 1 meg...R2, 35K...L, half Eddystone RF choke (1066).

(Several years ago we dealt at some length with antenna tuning units of various designs and the correspondence which followed proved beyond doubt that they were, as one writer put it, "as good as an extra valve". We feel it is time that, with so many new members who may not realise the value of these simple little units, we stressed the subject once again. The unit shown here was designed by Peter Huntsman, GSKBQ, for use with the O-V-2 Rx which we recently described -- Editor)



This unit is built into the receiver, the switch and Cl being controlled from the front panel, C2 is mounted near the coil and is preset for maximum signal strength. This setting will held on all bands from 7 to 28 Mg/s.

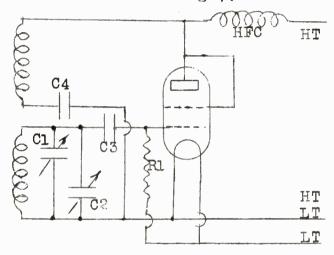
The coil is 30 turns of 26 swg on a 3" former, tapped at the third, eighth and sixteenth turns from the Cl end.

The condenser, Cl, is 160 pF and C2 is a 100 pF trimmer. It has been found that, no matter what the period impedance or length, it can be tuned to the Dence coils in use with the aid of this unit.

(Doubtless the unit could be made up as a separate item from the Rx, but great care would have to be taken over complete screening and co-ax would have to be used for unit to Tx leal -- Ed.)

A HETERODYNE UNIT, by NORMAN BASON

For some time now I have had in my shack a little heterodyne wavemeter, a very simple little effort, but one which has been very useful for calibrating new receivers, new coils and so on. Lately, however, I have been putting it to a new use (new to me, though I dare say the idea is old enough).



The diagram will show the simplicity of the instrument, the unusual feature being that I am using it as a seperate heterodyne for CW reception with the O-V-1 through QRM. The wanted CW sig is tuned in as near as possible on the Rx and the reaction backed off as for fone reception; the meter note will beat with the incoming CW signal, giving greatly increased selectivity on the particular signal required.

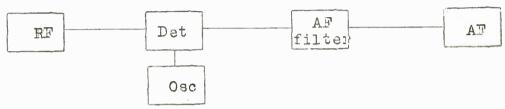
The values used at present are, C1, 100pF...C2, 15pF...C3 and C4, 100pF...R1, 3 mag...HT, 12 to 18 volts.

The valve used is either a 1299 or a 3D6 and probably other types would prove satisfactory. I have used the rig like this quite a lot lately and recently had proof that it does a worthwhile job -- in a welter of QRM one of the most outstanding signals was DLlTM. He was overriding the QRM with ease and was working ZS2GU. I backed off the reaction and wwitched on the meter and again picked up the DL just as he was going over to the ZS2, only this time he was quite on his own without anything but the faintest QRM. And then, to my delight, I heard the ZS2 coming back -- on its own the O-V-1 couldn't possibly have

64/12 - MARCH 1955

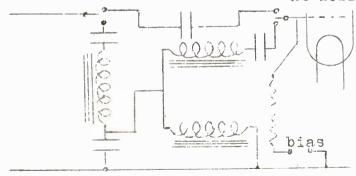
sorted it out through that QRM.

The difference is so outstanding that I have been giving a lot of thought to a possible QRP CW Rx incorporating the principle on the lines of this block diagram:



This should result in a better selectivity than the basic O-V-1, and as the oscillator can be calibrated with the accuracy of a wave meter the normal impossibility of spot calibration with a TRF Rx is no longer troublesome and there should be a high degree of frequency stability. With a moderate amount of regeneration the overall sensitivity should be guite as great as with the O-V-1 alone.

The AF filter I have in mind would be similar to that used in the R107 - comprising one rejector and two acceptor circuits which may be switched in or out of circuit as desired. This adds to the degree of



selectivity obtainable on CW reception by allowing only a band of audio frequencies 300 cycles wide at about 900 cycles to pass to the output valve,

The component values of the tuned circuits are chosen to produce a resonant frequency of 900 cycles. If the oscillator is adjusted to give a note of approximately this frequency on the

wanted signals no loss will occur due to the filter and the AF will be passed to the output valve in the normal manner. Signals of other frequencies, differing by more than 150 cycles, however, will produce notes differing by a similar amount and they will not reach the output valve owing to the filtering of the three tuned circuits.

So far this AF filter scheme is only in the "ideas for future development" stage and a lot of research will be necessary to decide the required values. But the oscillator is a practical proposition & a further use, as yet untried, comes to mind in the reception of SSB signals as a means of reinserting the carrier.

SUSH!! Don't make a sound, chaps, you might wake them up! So long as all our transmitting members stay peacefully asleep we SWLs can have fun with the extra space they leave us! Good old faithfuls -- you SWL boys do show up the hams who, I have no doubt, will write in to tell me that condx were no good as soon as they see this.

So far, this year, we have had one single entry (G3EUE with a score of 11 for the "200" last month) from a transmitting member. It is pretty obvious that the minority who are interested is so extremely small that it hardly warrents keeping the contests open -- except the C-Z and Top Band Panels which, as always, have a bumper crep of scores.

THE C-Z CONTEST (for the Partridge Cup, now held by Peter Huntsman) is for the highest annual (Jan to Dec) score of countries ∞ zones heard on five bands with receivers of not more than $1\frac{1}{2}$ watts HT consumption. A country or zone heard on more than one band may count once only in the total.

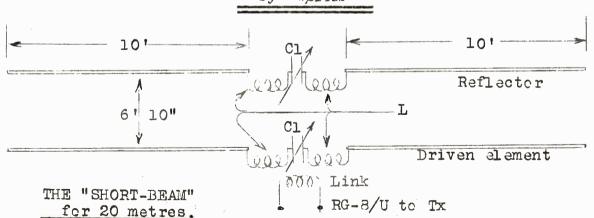
This month E.W.G. maintains a good ledd though D.G.Gordon has come in with a fine initial score. Norman Bason, too, has made a stride this month of nearly 50 points. And still no signs of Peter Huntsman!

Mc/s:	<u> 3.5</u>	7	14	21	28	COUNTRIES	ZONES	TOTAL
E.W.Gardiner	12	9	77	13	,	90	25	115
D.G.Gordon	17	4	60	20	1	68	22	90
Norman Bason	14	27	44	, in	-	58	20	78
A.E.Stonestreet	13	17	54	-	_	57	20	77
J.A.Stephenson	11	-	46	3	-	51	17	68

TOP BAND PANEL -- an annual contest (Jan to Dec) for the highest score of countries and counties heard on 160 metres with an Rx Consuming not more than $1\frac{1}{2}$ watts total HT.

											COUNTRIES	COUNTIES	TOTAL
BILL IBALL -	÷	-	-	-	_	=	-	-	-	_	11	45	56
D.G.GORDON -	÷	-	-	_	-	-	_	-	-	-	2	27	29
NORMAN BASON	-	_	-	_	_	-	_	-	-	-	5	21	26

by WØPRM



For "Twenty" each element of the "Short-beam" is made of two sections of $\frac{1}{2}$ " aluminium tubing 10 ft long. L, the loading coils, are 25 watt plug-in type coils with variable link. Each element is tuned by Cl, 100 pF variable condenser. Spacing is C.14 wavelength, and parasitic element is tuned as a reflector. Presumably any type L-C ratio which tunes 20 metres may be used, so coils may be self-wound if desired. The link at L on the reflector is left open. Condensers are mounted in water-proof boxes. To adjust, set the Tx at centre of operating range. Use a field strength or S met x several miles away for readings. The beam is pointed at the indicator while connections to the reflector coil and condenser are left open. The driven element is then tuned for maximum reading. Connections to the reflector are now completed and this element is also tuned for maximum. Finally the tuning of the driven element is touched up. When the reflector is tuned a jump of about four S points should be noticed.

Have not given any details of the necessary beem as many types are available and in use. Would suggest a lightweight type be used as there is very little weight to support. Under the right conditions this antenna can be turned by hand, although a light TV-type rotator is just right for this. Half-inch copper tubing was used for the prototype at WOPRM, but I would definitely recommend aluminium on account of weight.

"TRANGATLANTIC" LOGS Supplied by BOB IBALL

FEBRUARY 13th, 1955: W4KFC, YULGM, W1BB, W3EIS (also a type using KV1AZ)

FEBRUARY 20th, 1955: WIBB, VE2WK, W3EIS.

FEBRUARY 27th, 1955: W4VNE, KV4AA, W1NWX, K2EDL, W8AND, W2GGL, W8GDQ, W9FIM, also E16G.

MARCH 6th, 1955: WIBB, K2BWR, WIZL, W2GGL.

MORE W MEMBERS

Just in time to sneak into the last page of this issue we have received requests for membership from

Henri J. Chapdelaine, WlZPA

and

W. R. Campbell, W60HX.

Welcome to you bath, OMs, and do please let us hear from you with news about yourselves, your gear and your radio activities as a whole. This little magazine is our "Meeting Place" and we cannot run it without news from the members. Bud, WOPRM, id doing a real fb job with his "Straight From The States" every month, but he depends upon his fellow W members of the Society to provide him with news to go in the series. Help him to make an even greater success of it!

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Get that portable gear dusted off. Get that new portable idea made up and tested out. PAREC is not our first attempt at a constructional contest but it is the biggest effort we have put forward yet.

If you have a any kind of "hand-portable" gear, mobile gear, transistor set, or even portable test gear, there is a place for you in the PORTABLE AMATEUR RADIO EQUIPMENT CONTEST

This contest is designed to bring forward all those useful schemes and ideas which may normally lie hidden in your shack -- all those points which may help the future of portable radio.

There is a place for your piece of gear whatever it may be, whoever you are (for it is an OPEN CONTEST) and wherever you may live (for there is a section for overseas hams and SWLs as well).