

SPRAT

THE JOURNAL OF THE G-QRP CLUB

DEVOTED TO LOW POWER COMMUNICATION

ISSUE NR. 26

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Spring 1981



"Low power is more a way of life here OM....."

Contents: Tunbridge Transceiver-DX Sked Keeper-160/10m.
Transverter-Touch Paddle-2to20m.Converter-QRP News
Silver Tern Award



Rev. George Dobbs [G3RJV]
 17 Aspen Drive, Chelmsley Wood,
 Birmingham. B37 7QX [021-770-5918]

Dear Member,

Yet another exciting issue of SPRAT. Our new SSB and VHF Managers have both written major new constructional articles in their own fields. Ian - a complete SSB/CW Transceiver and David - a 2 to 20 metre converter, for any 14MHz receiver including direct conversion. Later Ian is to offer a matching Class A Linear Amplifier for the transceiver and David a transmit converter from 14MHz to 144 MHz. I wait to hear of the first member who builds all these projects and can then work 14MHz and 144MHz SSB and CW - that should please both the new managers! We also announce a novel new award inspired and sponsored by one of our SM members, Emil Tenlund. Our new club QSL cards could also be called novel with their 'jigsaw' back plate.

We shortly move into the Rally season and I hope to meet many of you at the more local events. I hope quite a few members will again attend the former Upton Rally, now at Droitwich, on July 12th. I will also be attending the Drayton Manor and Derby Rallies.

May I wish you a pleasant Spring, and as the membership continues to rise I look for more activity on and around the QRP Calling Channels.

73 fer nw

G3RJV.

SUBSCRIPTION RENEWALS [Now £3.50 or \$9.00]

Renewals to Alan Lake, G4DWW, 7 Middleton Close, Nuthall, Nottingham. NG16 1BX. PLEASE QUOTE YOUR MEMBERSHIP NUMBER.

Cheques made out to: G-QRP-Club. No I.R.Cs please.

If you have renewed since 1.1.81 at £2.50, the balance would be welcome.

DUE: 091-120, 201-222, 272-292, 393-418, 522-572, 691-771, due by June 31st

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CRYSTALS 7030 KHz. The QRP 40m Calling Channel.

A limited supply of 7030, 10XAJ type, crystals is available from G3RJV at 75p each, plus a first class stamp. LIMITED NUMBER - SO ORDER NOW.

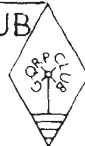
HAVE YOU THOUGHT OF OFFERING AN ARTICLE FOR SPRAT? YOU DONT HAVE TO BE AN ARTIST OR WRITER. A ROUGH CIRCUIT SKETCH, WITH ALL VALUES MARKED AND SOME NOTES ARE ALL WE REQUIRE. MATERIAL TO G3RJV.

SPRAT: The journal of the G-QRP-CLUB

Editor: Rev. G.C. Dobbs G3RJV

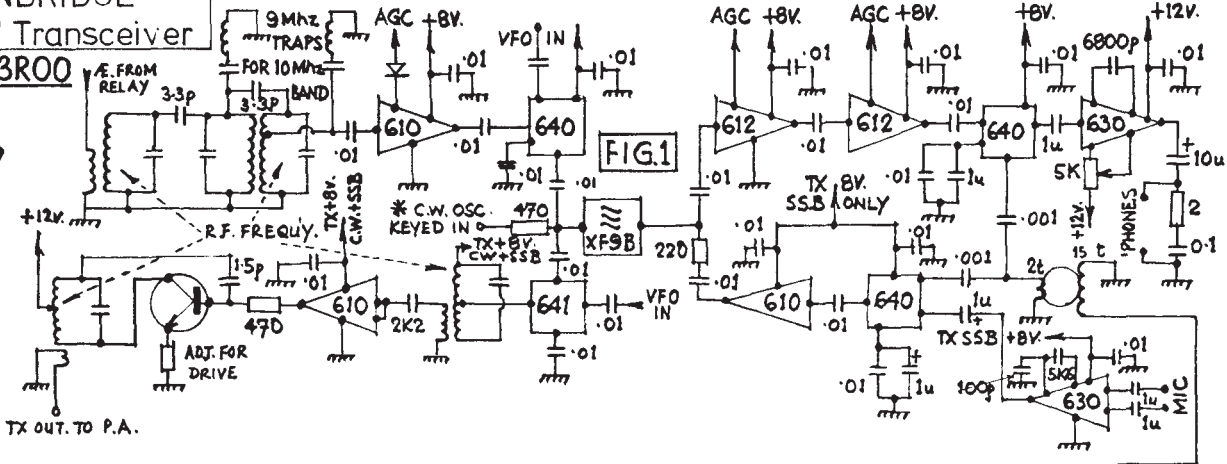
Artwork: AW. McNeill G3FCK

Text-type: C.J. Page G4BUE



The TUNBRIDGE SSB/CW Transceiver

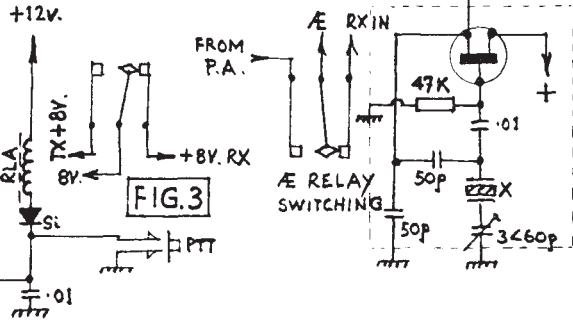
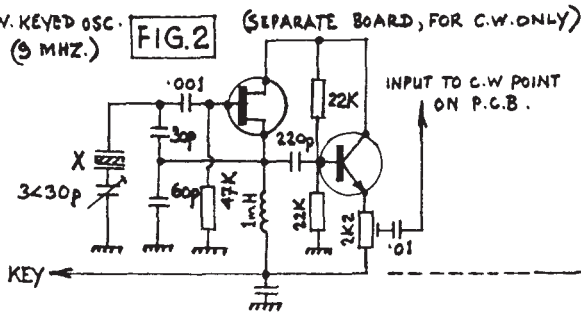
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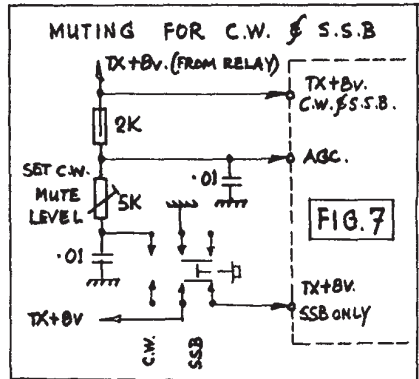
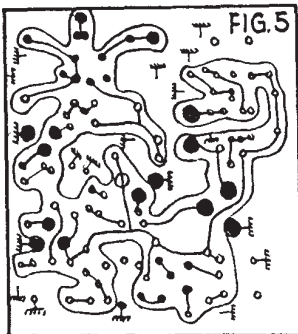
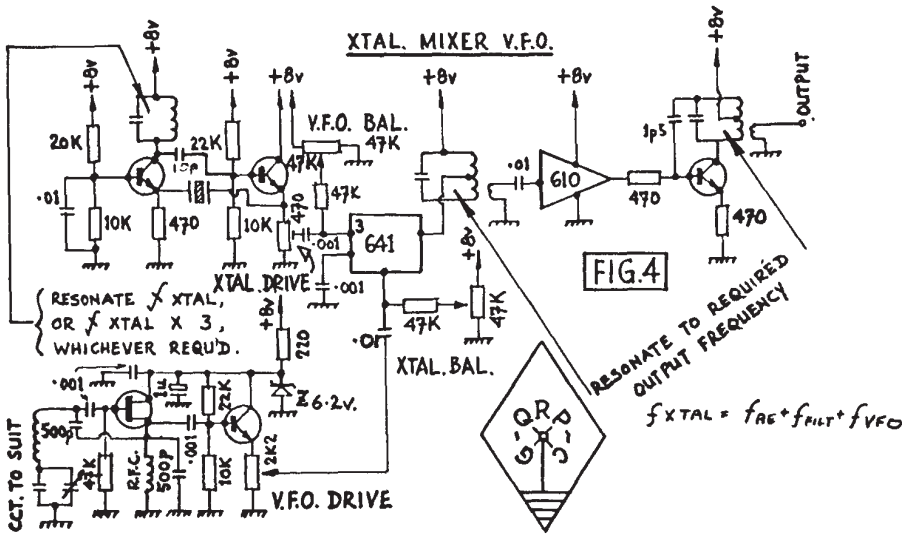


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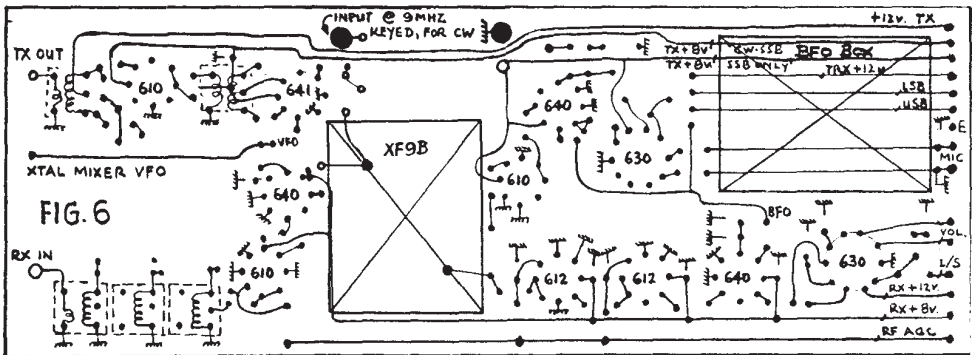
01

* C.W. KEYED OSC. (9 MHz.) (SEPARATE BOARD, FOR C.W. ONLY)





Layouts Half Size [Full size Datasheets from G3R00]



THE TUNBRIDGE

An SSB/CW Transceiver by Ian Keyser G3R00

This transceiver was designed to show the members of The Tunbridge Wells Club the problems and "would be" problems in designing transceivers for the new bands, especially the 10MHz band. Of course the first problem that comes to mind with reference to this band when using a 9MHz crystal filter is that of breakthrough. This, although a problem, is not too difficult to overcome with balanced mixers, and traps in the pre-selector circuits. The insidious problem is in the design of the VFO. The first and main trap that the unwary fall into (I did it first time also) is to think "that's easy, a nice stable 1MHz VFO with no problems". Ha!, not so easy, remember that mixers are non-linear devices at the best of times, and are, at worst, real little devils. The VFO signal in most integrated balanced mixers is in fact made to switch transistors on and off; this produces lots of lovely harmonics of the VFO frequency. Lets take a case in point. The 1MHz signal that we were going to use, that was to be mixed with the incoming 10MHz signals to produce the 9MHz IF signal. Now lets look at what the second harmonic of the 1MHz VFO signal is going to do; remember that this 2MHz signal is almost as potent as the proper mixing signal at 1MHz. This is going to mix with signals at 11MHz to produce the IF signal at 9MHz. Now take a listen at the signals on 11.5MHz - some are over S9 plus 60dB. No amount of "trapping" is going to get rid of them completely. I hope that that will give you some insight into why certain decisions were made in this design.

The Receiver

To keep construction as simple as possible and reproduction certain, the Plessey SL series of ICs were used. There is a double advantage in this because Birketts (of Lincoln, England), sell these ICs very cheaply as unmarked, untested devices. A sample batch produced a fall-out of about 20%, the remainder had adequate performance for this rig. An XF9B filter was used because it was available, however, if an alternative filter is used, it must have a stop-band of at least 90dB. The incoming signal from the aerial is preselected by three loose top coupled tuned circuits; the band pass characteristics of this circuit are adequate for all bands except 10MHz, where two more series tuned circuits are used as traps for any signal at 9MHz which might cause IF breakthrough. The filtered signal is passed to an SL610 wideband amplifier, the amplified signal is then mixed with the local oscillator signal to produce the IF signal at 9MHz. The IF signal is filtered by the XF9B and then further amplified by two SL612s. These are untuned amplifiers and of course produce a lot of noise of their own, but, we are lucky here because this set is only to receive SSB and CW signals. We can therefore use a product detector and this noise that we do not want produces (at the output of the detector) ultrasonic noise, and this is filtered out in the audio stages by restricting the response of the amplifier to a few kHz. An SL640 is used for the product detector and the audio output is amplified by a SL630. The audio output is sufficient to drive an 80 ohm speaker to comfortable level, or will provide more than enough audio for headphones. There is no provision for AGC in this receiver PCB, but it would not be difficult to add a small PCB on the underside of the board with an SL621 AGC device if this was required by the individual.

The Transmitter

This is principally designed as a SSB transceiver, however, I have included an input for a keyed oscillator at 9MHz so that the unit could easily be converted to CW by the addition of this stage. To describe the action of the transmitter we will, of course, start at the microphone! The audio (speech) signal is fed to an SL630 to bring the level up to a sufficiently high level to drive the signal input of a SL640. In this device the audio is mixed with the 9MHz CIO signal and produces a DSB signal at 9MHz at its output. This signal is amplified by a SL610 and passed through the XF9B to remove the unwanted sideband. These three stages are fed from a separate supply pin in the PCB so that if CW is required the supply can be removed, so disabling this generator. The output from the filter is fed into an SL641 to mix the 9MHz signal onto the required band, (the keyed 9MHz signal is also fed into

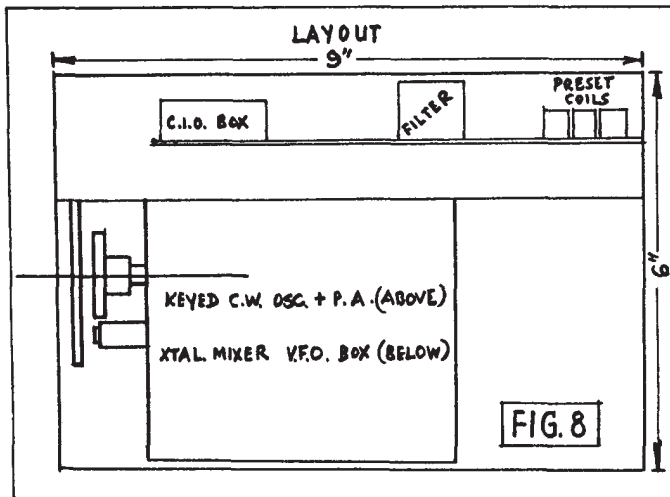
this device for CW). The output of the SL641 is tuned by a single tuned circuit, the output of which (on the required band) is fed to a SL610 for amplification to a suitable level to drive a linear amplifier. More signal filtering is required prior to main amplification, and as the SL610 cannot drive a tuned circuit, a transistor is used as an 'interface'. By adjusting the emitter resistor the drive level can be varied to the 'linear'.

The VFO

To get over the problems mentioned earlier we have to use a VFO on the 'high' side of the band in use, yet again we will use the 10MHz band for an example. The required band is, say 10 to 10.2MHz, the IF 9MHz, so we require a VFO from 19 to 19.2MHz. It could be done, But I would rather leave it to someone else! The cheats way out is to use a crystal mixer VFO and using a SL641 balanced mixer, it is fairly easy. If we use a VFO of 2.1 to 2.3MHz and mix it with a 16.9MHz crystal oscillator, one of the outputs will be in the range 19 to 19.2MHz (the sum). This can be filtered by a couple of tuned circuits and amplified by a SL610. There are two components (pots) labled "balance". These should be adjusted by coupling the output of the unit to a general coverage receiver and firstly listening to the 16.9MHz signal and adjusting the crystal balance and then listening to the 2.1MHz signal and adjusting the VFO balance for a null. Care must be taken during this setting up that the signal you are listening to is 'coming out of the output', and not stray radiation from poorly decoupled supplies, screening, etc.

Tuned Circuits

A few words here is necessary as this rig is made for use on any band. The coils used were Ambit coil formers (10K) and all the necessary details for winding the coils are given in the catalogues. Alternatively, with slight modification to the PCB, the standard range of coils could be used. Reference the ratios of the windings, 50 ohm link windings should be about 1/4th of the main winding, and the tuned circuits driving the SL610s should be about 1/4 of the main winding. In the two signal transformers in the transmitter, the tap should be half way.



A Suitable Class A Broadband Linear Amplifier will appear in the next SPRAT.

THE 20m DX SKED KEEPER Antenna, Dave Smith G4JIM/W8

The desire to maintain predictable skeds with The U.K. has provoked me to build and evaluate many antennas for 14MHz operation. Whilst they all worked to a degree, the problems encountered on 14MHz in The U.S.A. require a specific parameter to be taken into account. Among the many problems encountered on this always hectic band are QRM from adjacent States, high power local stations (typical 2,3 and 4Kw), and varying propagation over short time scales (QSB).

Being a home brewer by nature, (it is against amateur principals to buy commercial), the following description is of the finished antenna now erected and in daily use at this location on 14MHz.

The only requirement for this antenna are a garden 35 x 40 feet, two long poles (the longer the better), some strong braided terylene fishing line and 200 feet of wire. The antenna, commonly known as the Delta Beam, has some interesting and desirable features: low angle radiation (very desirable), excellent capture ratio, excellent rejection of signals off the side and a adjustable front to back ratio.

Obviously this antenna would not be a feasible rotatable device for most people, but in my case a fixed heading of 40 degrees encompasses The U.K. and Europe, which is the object of the exercise.

Erected in The U.K. on a heading of 230 degrees would encompass The Americas, VK, ZL and The Pacific, certainly enough to keep the most ardent DXer happy.

With any antenna, elevation is the secret to success. However, knowing the limitation of size of gardens in England together with the bureaucracy of Local Councils, the yagi type antennas can be ruled out unless elevated to at least half wavelength of its resonant frequency. Being reasonably high Q, it is susceptible to nearby objects which nullify its design characteristics by random parasitic coupling to surrounding structures and metal work.

Obviously for most people a compromise must be accepted, but why not make it a more effective compromise? The loop type antenna is inherently a low Q device with broader bandwidth, and a more predictable impedance at low elevations. With the wide spacing (quarter wave) as described a direct feed with 75 ohm co-ax is acceptable. For closer spacing, i.e. 0.1 to 0.2 wavelength, then 50 ohm co-ax should be used. No balun is necessary, and if you can only get the feed point six feet above ground, don't despair, it will still out perform your random wire or single vertical element. So get the nails and hammer out, pinch some of the kids fishing line, un-wind that old transformer and elevate yourself from an appliance operator to a true amateur.

Dimensions

Reflector - 75' 8" length of wire and 25' 2½" in each side

Driven Elem - 71' length of wire and 23' 7" in each side

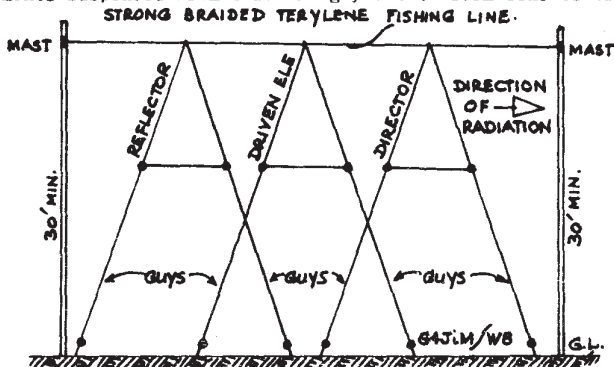
Director - 67' 8" length of wire and 22' 6" in each side

Spacing between elements: wide - 16' 2" close - 10'

Use normal procedure for resonating. Efforts to reduce SWR to below 2:1 not necessary.

Two poles - thirty feet minimum.

All elements suspended from line and guy out to form line of triangles.



From
S.B.R.S. QSP"

WORLD QRP FEDERATION

To date members are ARI QRP Club (Italy), DL AGCW, EAS QRP DX Club, G QRP Club, Grupo QRP Do Brasil, Michigan QRP Club, QRP ARCI and the VK QRP CW Club - all continents except Asia in a matter of months. Election of officers is taking place, and a number of important international matters, including an agreed maximum power level for QRP SSB, are under discussion. It will take a few more months to fully organise WQF, but already the value of such wide international co-operation is apparent. Any correspondence re WQF should be addressed to G8FG.

WINTER SPORTS 1980

This was again an outstanding success. At least 120 QRP stations in 21 countries and 4 continents were active, much QRP DX was worked, old friendships were renewed and new friendships made. The event had its first DX-pedition in the shape of Willi, DK5RY, who put LX on the QRP map and gave many members a new country on QRP/QRP. In the USA Andy, WB2RZU again put up a terrific performance, working 11 countries (10 of them European) on 2-way QRP, and working 12 different European members. At least 20 other North American QRP stations are known to have been active. Africa, in the shape of EASEY was represented for the first time, giving several members a new one, and PY2EGM also made it to Europe with his 2 watts. It is only possible to mention highlights, but undoubtedly it is the activity of the many that makes the event, and also makes such highlights possible. Thanks to all who took part - CU QRP 1981 !

DL AGCW SUMMER CONTEST 1981

Third week-end in July. Make a note of the date NOW, as we want to give our DL friends maximum support. If you have not got the rules send a stamped envelope to G8FG.

AWARD NEWS

Congratulations to the following.

QRP MASTER NO. 6, ALBERT, G4CQK. WELL DONE !!

QRP Countries; 200 G4BUE; 50 G4ETJ; 25 G3VTT, CT1DP

Worked G QRP Club; 140 G4BUE, GM3OXX, 20 CT4CH.

Two-way QRP; 30 OK1DKW; 20 G4CQK; 10 CT4CH, G4AYS, I5WUO

QRP WAC; VK3NQQ and VK3VEU - first XYL/OM Award, Maggie making it on SSB and Lou on CW. Both also keen VK QRP C Members.

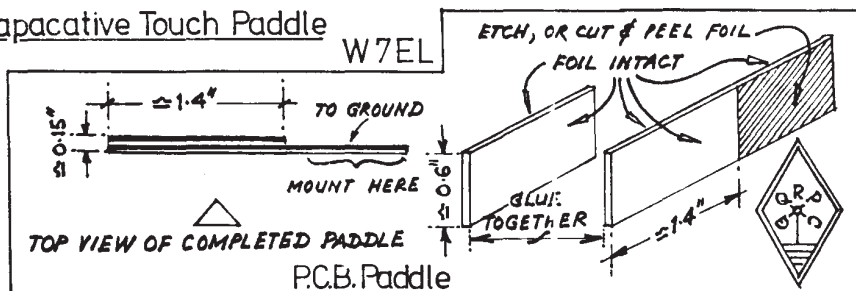
DL AGCW QRP/QRP PARTY

1 May 1981, 1300-1900 UTC, 3.5 and 7MHz. Class A maximum 5W in or 2.5W out. Class B maximum 25W in or 12.5W out. 1 point for contacts with own country, 2 for contacts with another country. Double points for contacts with Class A stations. Each DXCC country worked counts as a multiplier for the band on which it is worked. Multiply the point for each band by the multipliers for the band, then add the totals together for the final score. Logs to DF5DD, Masterholter Strasse 16, D-7580 Lippstadt, Federal Republic of Germany. Enclose sase and IRC for result sheet.

RAE Study Aid.

In connection with his RAE lectures G8FG has prepared new material to help in studying the UK licence regulations. Members studying for the RAE should send a large stamped envelope for a copy.

Capacitive Touch Paddle



Those of us who are occasionally downwind of an active volcano have a special appreciation for the frailty of mechanical switch contacts. This appreciation, coupled with near total incompetence as far as mechanical things are concerned, led to the development of this capacitively-coupled keyer paddle. The whole assembly maybe insulated and sealed, and has no moving parts. In practice, operation is very much like a conventional paddle.

Electronics

Layout is not critical except that the inputs to the LM 393 comparators should be as physically identical as possible. One quarter of a 4093 IC is used as an oscillator which runs at about 300KHz. This is coupled to two comparators, one for dash and the other for dot. When properly adjusted, the variable capacitors compensate for the paddle capacitance. When the paddle is touched, the signal to the appropriate comparator is unbalanced, causing the comparator to change state. If a person wishes to use the paddle with the W7EL keyer (Spring 1980 Sprat), the keyer must be slightly modified. The unused gate of IC2 is pressed into service in place of the IC1 gate which is acting as an inverter (pins 8, 9 and 10). IC1 pins 8, 9 and 10 are then used as the oscillator gate for the paddle. Two capacitors must also be changed to allow for the slower fall time of the gate, as opposed to a mechanical switch.

To use with other keyers which key a positive voltage to ground, the extra 4093 gate will not be available, so the output gates may be replaced with transistors, as shown in option B. For keyers which require switching to the positive supply, option C may be used. Such a keyer is the G3ZXX/C31EV keyer in the Autumn 1979 Sprat, although in this particular case the diodes are not required. Current drain is approximately 1mA at 9 volts.

Paddle

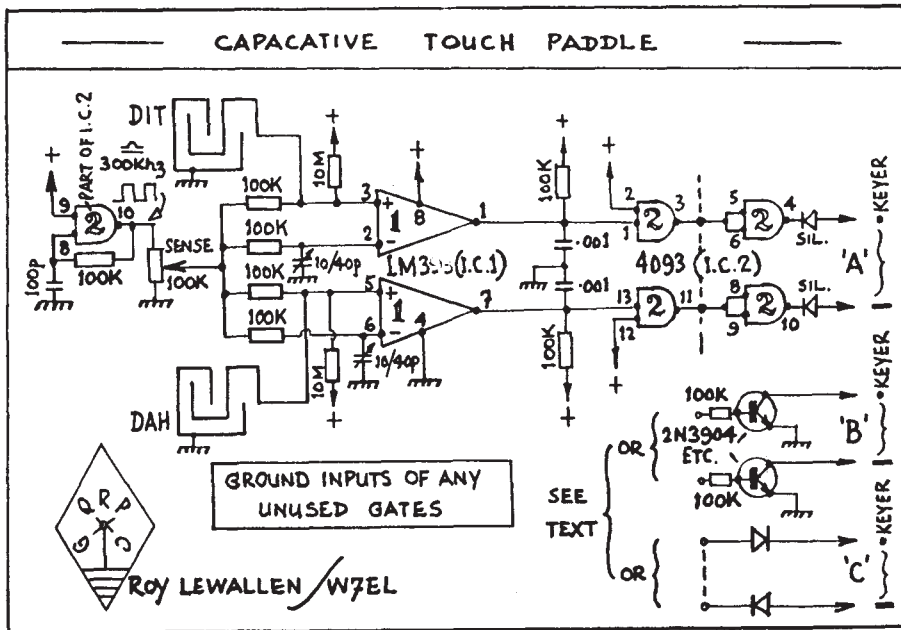
I would like to see variations that Sprat readers come up with published in Sprat. In general, the mechanical paddles I have made have been fairly rigid. Materials can be as simple as aluminium (sic--we Colonists actually spell, and even pronounce, it that way!) foil covered with cellophane tape over a wooden stick, or etched printed circuit board may be used. A potential problem is the coupling of the oscillator signal from one side of the paddle to the other via the finger. This can be prevented by putting an earthed screen between the sides of the paddle. I have done so by making the paddle from a "sandwich" of three pieces of board material. A very useable variation for me has been a single piece of double sided PC board material with a single horizontal cut along the middle of each side, with the top side "hot" on the dot side, and the reverse on the dash side, to suit my normal finger positions, and to minimise cross-coupling at the same time. This is an area which leads naturally to experimentation and customizing--have at it!

Adjustment

Increase sensitivity. If one side spontaneously operates, adjust the appropriate trimmer capacitor. If operation ceases, increase sensitivity. If operation changes from dot to dash, or vice-versa, adjust the other trimmer until operation ceases. Continue until sensitivity is at maximum or until one side cannot be kept from operating. Then adjust sensitivity to taste. The trimmers may be replaced by fixed capacitors; they require adjustment only once unless the paddle is changed.

Conclusion

I certainly hope that this arrangement will help other portable operators. I am looking forward to seeing improvements on it published in Sprat.



THE R.S.G.B. LOW-POWER CONTEST 1981

The above contest will be held from 0700 to 1700 GMT on Sunday 12th April 1981. There are three classes (a) British Isle Stations using 1 watt or less and (b) using over 1 watt but not more than 5 watts and (c) overseas stations using not more than 5 watts. All power levels in input. CW mode only on the 3.5 and 7MHz bands. Exchange RST, serial number and power, i.e. 559001/5w. Score 15 points for QSOs with other QRP stations and 5 points for QSOs with other stations. Logs to be sent to (Club member) Lennis Booty, G3KKQ at 139 Petersfield Avenue, Staines, Middlesex, TW18 1DH, England to be postmarked by 4th May 1981. Logs to include date/time GMT, callsign of station worked, RST, serial number and power sent and received and claimed score for the contact. Separate log for each band. Declaration "I declare that my station was operated in accordance with the rules of the contest and in accordance with the terms of my licence, and in the event of any dispute the decision of The Council of The RSGB will be final". Declaration must be signed and dated. The 1930 Committee Cup will be awarded to the highest station in either group (a) or (b) depending which has the more entrants, and Certificates of Merit will be awarded to the top three stations in each class. British Isles stations using less than 1 watt on one band and more than 1 watt on the other, must enter class (b). Stations using equipment normally operated at much higher input powers must give details of how the reduced power input has been achieved.

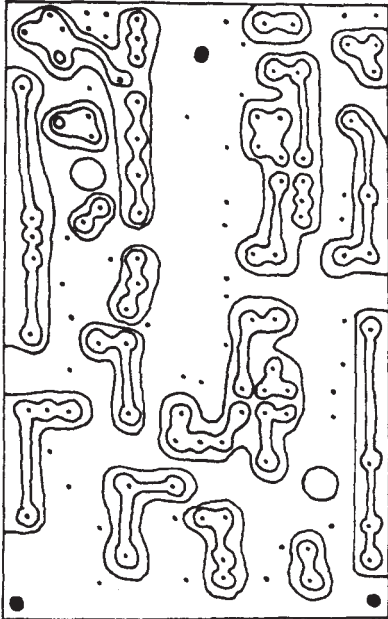
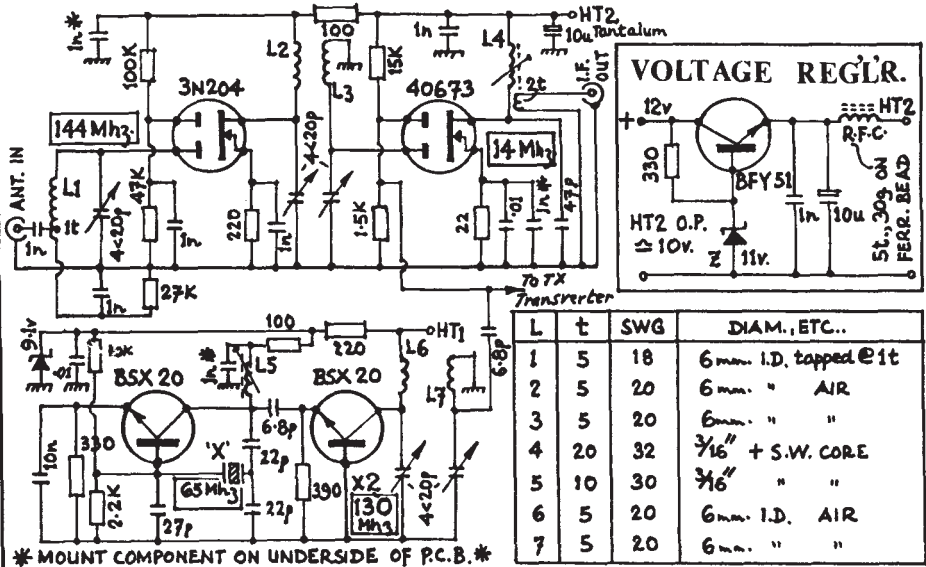
This is a very popular contest, and for 1981 the rules have been changed following consultation with The G-QRP-Club. Let us give The R.S.G.B. our support and see how many of the nine Certificates of Merit being offered can be won by Club members.

Heath Headphones (600 ohms) as new £5, two pairs available. Partridge Joymatch ATU, includes 160m, £10. G3IEB (QTHR)

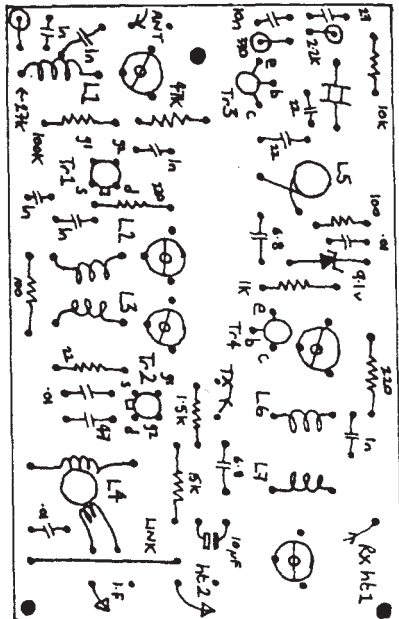
WANTED: HRO Power Supply 697 or Rack Mounting. J.E. Anderson 77 Ivyhouse Lane, Coseley, Bilston, West Midlands.

REQUEST from G3FCK: Can a member suggest a reliable method or circuit for measuring the values of airspace variable capacitors.

144 MHz - 14 MHz CONVERTER - G4DHF



Under



Top

PCB Full Size

VHF Section: 2to20 Converter David Johnson G4DHF

Many thanks for your letters and comments regarding VHF activities. Unfortunately your scribe has not been very active recently, either on the air or constructing as negotiations for buying a house are in an advanced stage. However, the following article has been in operation for some time now, and has given entirely satisfactory results in conjunction with a transmitting converter.

The converter to be described was designed so that DC TX/RX systems working on 14MHz could also be used to listen (and transmit) on 144MHz, thus providing a simple, cheap and effective way of becoming active on VHF. The design is based on a circuit which was originally published in 'Practical Wireless', October 1978, and has been extensively redesigned to fulfil the needs of the QRP enthusiast. The unit is housed in a small die cast box with HT supply decoupled via bolt feed through capacitors. A short length of good quality co-ax connects between converter and RX, thus minimising any possible 14MHz breakthrough that may occur.

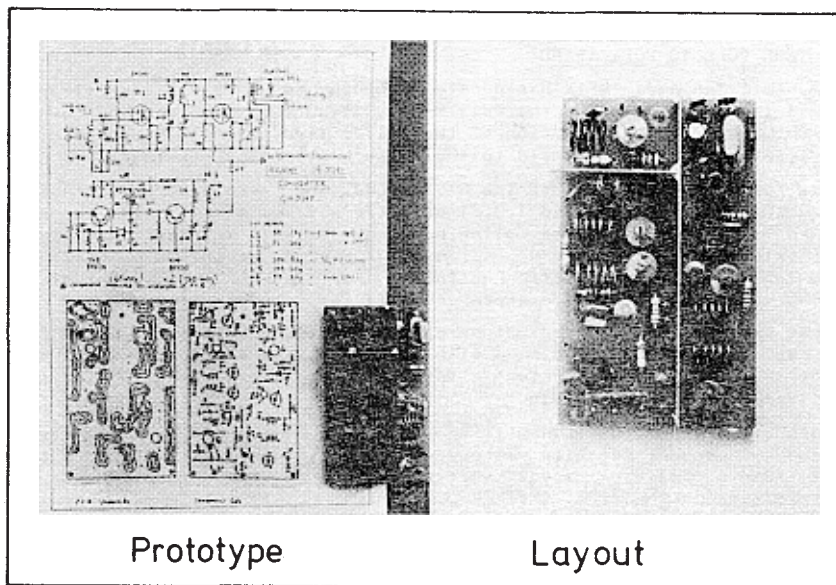
Notes:

- a) Crystal - 65MHz HC 18/U or HC 25/U with miniature base.
- b) The 3N204 is a low noise version of the 40673.
- c) HT1 is permanently supplied with HT.
- d) HT2 is switched by the TX/RX switch so that the front end is disabled on transmit
- e) Bolt type feed throughs are 1000pF.
- f) It is recommended that the voltage to HT2 be stabilised, as supply variations can cause L4 to de-tune slightly. Fig. 2 describes a small regulator which will eliminate the problem.
- g) The four 20pF trimmers are miniature dielectric air spaced PCB mounting.

A matching 14MHz - 144MHz transmit converter will shortly be described.

73's

David, G4DHF.



SUITABLE 65 MHz CRYSTALS are available at a special club price of £3.25 including V.A.T. and postage from P.R.Golledge Electronics Merriott, Somerset. TA16 5NS. Order now - available soon.



Emil working QRP in 1932 as SM7WX

The Great
Silver Tern
Pole to Pole
Race

A Challenge to
QRP Operators
from
Emil Tenlund

Emil Tenlund, an old friend, and member of the G QRP Club has kindly donated £100 for a silver trophy offered in an interesting challenge to QRP DX operators. Many member will remember Emil's Silver Tern Receiver, a simple 3 transistor reflex circuit, which is still available as a Club Datasheet. In addition to the prizes below, Emil has also donated a morse key to the first transmitting and first receiving winners. We await the first claim with interest. By the way - Emil could already claim the listeners award from stations heard on the Silver Tern using an indoor antenna.

THE SILVER TERN POLE TO POLE AWARD

Club member, Emil Tenlund, SMØIX has donated a trophy to be called The Silver Tern Trophy. Emil is the designer of the well known Silver Tern receiver and the above Award also commemorates the migration of the Silver Tern, a small bird which each year flies from one end of the world to the other. The rules for the award as follow

The Award is open to all members of The G-QRP-CLUB, and there will be a transmitting class and a SWL Class. QSOs dated 1.3.81 or after will be eligible for the Award, and confirmed QSOs with of the following countries will be required - Brazil, Venezuela, Newfoundland, Azores, SM2 call area of Sweden, Greenland OR Svalbard, and any station located in the Antarctic continent. For the SWL class, proof of reception of amateur stations in all the above countries will be required.

All QSOs must be made whilst using not more than 5 watts DC input for CW or 13 watts P.E.P. for SSB. Contacts must be made either all on CW or six contacts on CW and one on SSB. For the SWL class, reception is required from either seven CW stations or six CW stations and one SSB station.

The first member to claim the transmitting award will win The Silver Tern Trophy outright, and the second and third members will receive a certificate and a copy of The R.S.G.B. "Radio Operating Manual" suitably inscribed. Subsequent members will receive certificates. The first three SWL members to claim the Award will also receive the "Radio Operating Manual".

Contacts via terrestrial repeaters or space satellites cannot be accepted. All contacts must be made via normal ionospheric propagation paths. In any dispute, the decision of The Committee of The G-QRP-C is final.

The application should consist of the seven QSL cards, a signed statement that the power requirements of the Award have been complied with, details of equipment used, a self-addressed envelope for return of the QSL cards and either 25p in UK stamps or 3 IRCs. For the SWL class the requirements are the same except that a signed statement to the effect that no assistance was given by any other operator. Claims for the Award should be addressed to A.D. Taylor - G8PG, G-QRP-C Awards Manager.

Awards News

ANNUAL AWARD OF TROPHIES - HONOURS FOR JU6, 21 MHZ, A DX-PEDITION

The G2NJ Trophy for 1980 has been awarded to G3DOP for his SPRAT article describing the JU6 transceiver. A neat and efficient design for the home brewer, the JU6 has been built by many members and has proved that despite its simplicity it is capable of excellent performance. Our congratulations to John on a well deserved Award.

The Partridge Trophy for 1980 has been awarded to G2CGL for an outstanding performance on 21 MHz QRP during 1980. Using an HWS to a simple dipole at an average height of 20 ft, Eric literally worked the world, contacts including ZL, VK2, 3 and 4, all W Districts, many JAs, PY, EA8, CT5 etc etc. Indeed the whole log is an object lesson in what can be achieved with simple, low power equipment and aerials.

The G4DQP Trophy for 1980 has been awarded to DK5RY/LX for his work during the 1980 Winter Sports, when he put LX on the QRP map and gave many members a new country on two-way QRP. The appearance of a QRP station from a rare country adds greatly to the interest of the Winter Sports and enhances the pleasure of those taking part. Well done Willi.

SSB News G3R00

Well, not a fantastic response to the last issue of Sprat. We had seven replies, six referring to construction and the last on LX worked. You must all be too busy building, which cannot be a bad thing.....

On the DX scene, Brian G4BIQ has been on the air for only four months with his new Argonaut 515 and managed 50 countries in that time. Very good going because he is only using a long wire, but still got into HP1. He is after The W-100-0 Award, and has got 52 Oblasts already.

Brian's letter brings me to the burning question of SSB power. The situation is that if you run an Argonaut or similar rig, the chances are that you tune it up and chat into the microphone. Well, if you do, it is almost certain that you will be running 13.6 watts P.E.P. (the equivalent of 5 watts CW input 66% efficient). Now, the rub comes that we are limited to 3.6 watts P.E.P. (notice the similarity?), which is equivalent to just under 1.5 watts EC input. I have tried to get this rectified, but it is supposed to be easier to work LX on SSB than on CW, and so for the time being it is stalemate. To help in this I would like all of you that feel strongly on this matter to write to Gus and ask him why it is easier.

Enough of that for now, onto our next problem, the SSB frequencies. These are terrible, 40 and 10 being the worst, 7090 is unusable at all times. When I put a CQ out on 28885 the other day a VK came back and told me to move! Apparently they have "adopted" this frequency for the 6 metre net. I told him politely as I am capable of that this frequency had been used as the QRP SSB frequency considerably longer than they had been in existence, and he did not like it.....It all adds up to one thing, we have a lot of talking to do, so drop me a line and let me know your views on these subjects.

Finally, whenever I am in the shack (building) I will be listening on 7070, call either on SSB or CW and we will QSO.

73's Ian.

NOTE: There has been some recent re-thinking on SSB power levels. An amended power level for QRP awards will be announced soon, (G3RJV).

HELP WANTED: Emil Tenlund is looking for an engineer or small instrument shop that could make two variable capacitors to order - a lightweight butterfly type and a 'globe' type to Emil's design. Could members with suggestions please contact Emil - GRIMSTAGAT 70, S-16227 VALLINGBY, Sweden.

FOR SALE: DX-40 Transmitter with VF1U V.F.O. and manuals. £25 carriage paid or exchange for a G.D.O. Eddie McLean, GM4EWM, 10 Councillors Walk, New Elgin, Moray. IV30 3JL.

MEMBERS NEWS

Chris Page G4BUE



Members response to the new weekly activity periods is overwhelmingly in favour of the new idea of being active on all the QRP frequencies. Details are shown elsewhere in Sprat.

SMØIX, Sven Milander will be visiting London between 20 April and 3 May as an observer at The IARU Conference at Brighton on behalf of EUCW and SCAG. He will be staying at The Cumberland Hotel, Cumberland Place, London. Arrangements are in hand for Sven to visit the BUE QTH, and members who would also like to meet him are invited to get in touch at the Cumberland Hotel.

Whilst on the social scene, Colin, G3VTT tells me of his recent visit to Holland where he stayed with PAØPN, and met many of the PA QRPers. Members who intend visiting The RSGB Exhibition at Alexandra Palace between 28 and

30 May like to meet each other by assembling at or near The RSGB stand at 4pm each day. Your scribe intends going on the Thursday, 28 May.

QRP is really catching on throughout the world. Recently three new Clubs have been formed: The QRP Club ARI in Italy which is affiliated to The Italian Amateur Association and has Club members I7CCF as Secretary and IØSKK as Awards/Contest Manager. In Australia The VK CW QRP Club has been formed and in South America The GQRP - Grupo has been formed by PY1LG and PY1MHQ, with Club member PY2TU one of the leading lights.

Club members have been continuing to do wonderful things with QRP on all the bands. G3FNF, despite a black fingernail to his keying finger caused by catching it in a door worked JY2MK on 7MHz. Gordon was surprised to hear the JY calling on his 7014 crystal frequency. G4JFN has found 22 countries, including JA and W with his TS120S at 3½ watts out to a trap dipole. Bob sent your scribe a colourful postcard from Spain saying that unfortunately he would have to miss the March Activity Periods due to being QRT in Benidorm for two weeks. Looking out of the shack window, all I can say is "Lucky Bob". IØSKK worked KH6 to complete his WAC and G4LV has worked JA and VK with his Argonaut to a 15m delta loop and G3VA ATU complete with swinging link.

WT4NDG has been QRT for two years whilst studying at University, but has now purchased a HW8 and is rearing to go. Lyn worked ZE on 20m soon after becoming QRV, and now wants to meet Club members. Lyn also hopes the recent reviews in Sprat of QRP kits will continue. GM3OXX was recently checking his QSL cards and found one from HC8 which he didn't realise was different from HC!! Lucky George. Recent new ones for him were 5Z4 and 5N, which leaves just one zone to work for all zones on QRP. G14HXL has just become active on 20m and in a three hour session found ten members, which impressed him. Larry has also worked UAØ, JA and W7 and asks if some of our members in PY, VK and ZL would like to arrange skeds with him?

I think the most disappointment of the Winter must go to F9YZ. Jacques was working ZL3PA/C on Chatham Island who said he was QRP. After querying the exact power, back came the reply - ten watts. Jacques took out his frustration by working VK9NS for country number 205 on QRP! W9PNE intends returning to the 250mW power level to complete his WAC (Africa required) and WAS (five required) at that level. 1981 marks Brice's 50 years of active amateur radio being licensed in 1931 at the age of 13.

DK5RY went on a true QRP Expedition for The Winter Sports. Operating as DK5RY/LX, Willi used an Argonaut and HW8 to give 25 members two-way QRP QSOs with LX. He worked OK1DKW, GM3OXX and G3RJV on three bands and your scribe on five bands. He hopes to be QRV from either LX or HBØ for the September Activity Week-end. G3NTM has just become QRV with a HW8 and was pleased to work F9YZ for the first QSO. G2CGL has now worked W7 to complete all US Districts and also VK and JA. Eric says it "seems incredible to me" when describing how he did it with his dipole. KA1CZF is a novice and finds it difficult to work other QRP stations in the US novice bands. Tom was pleased however to obtain G4BUE in his log during the recent ARRL CW Contest on 28MHz. Tom is hoping to up-grade at the end of April and that should solve the problem. G4HWZ is usually QRV under the call sign of PA3ASC as he lives in Holland. KBEEG also worked G4BUE recently, but unfortunately your scribe was running QRO (sh!!) during the CQ WW CW Contest on 14MHz. Ade was using a pair of phased verticals mounted on

the roof (12 x 65 feet) of his mobile home. Ade says he still has about 20 back copies of the Milliwatt available at 15 US\$ for the lot, plus postage. PA6GG is mostly QRV on 10m and recently worked a VK6 whilst running 200mW output. OK2BMA did the CQ WW CW Contest properly! That is with QRP, and made 298 QSOs and 51c/17z with his famous HW8. Pavel has recently completed the HB9IK RIT, KBELG speaker and EL11A mod to the front end by changing the transistor to a 40673 dual-gate mosfet which has raised the sensitivity.

OK1EKW will be getting married at the end of April and says he will have to go QRT for a while as he will be very QRL!!! Congratulations also to Club Secretary George and XYL Jo, on junior op Benjamin, born on 18 January.

G3ZQA has suggested a 160m QRP calling frequency of 1850 in an effort to stimulate interest. Let us try the new Wednesday evening activity period to include that frequency. G2HFU is one member who will be interested in 160m, as Ted recently worked UD6DMR on that band. Another member keen on 160m is G3VTT. Colin has made a small transverter for 160m to go with his Argonaut. It has a M108 mixer as an Ix mixer, a 26MHz oscillator (ex C.B. rock) and the output is amplified with a BC109 and a pair of 2N3053 to give about one watt out.

G3KKQ has made the LA7MO QRP TX using the 74001C and 2N3053. The first QSO at 400mW was with G21GFQ and Dennis says he "was amazed". He has now updated with a PFY51 and runs it at 1w IP. G4CQK was concerned about the poor sensitivity to his new Argonaut S meter. A letter from Ten-Tec advised Albert to slightly reduce the resistance of the resistor in the lead connection to the meter zero pot, and the meter, R14, which is 15K. 12K seemed to be about right. G43RFR has built a one transistor (BFY51) TX which he has used to work GM and G. Sam built it into a 'Punch' matchbox. G45WH has modified his HW8 to work full QSK with his old Drake R-4B, by replacing the relay with a diode TR switch. PY2TU has sent details of a two valve 10-80m rig with plug in coils. It is crystal controlled and Moser has worked 38 countries with it, including several Europeans on the HF bands. KB4IP has plans to modify his HA750 to use as a transverter for SSB with his Argonaut which will give John six bands - sounds interesting. G3IEB says he has been retired sometime and has built all the TCVRs that have appeared in Sprat and has assessed them all. He has a host of JLB mods which will be the subject of a separate article. G4ENT has now built separate boards for the RX section of The SCD rig, and in a letter to him, GM4FQE confirms that the correct toroids must be used in the PA to prevent RF from going everywhere!

G3DNF has noted some odd conditions on 15m. During the Winter AGCW Contest he worked G3PEL (also QRP) at 50 miles distance, and wondered what mode of propagation was used. Gordon has often heard your scribe at 150 miles distance, and says it is too far for ground wave, too steady for back scatter. A little study may provide some useful data. The AGCW Contest once again attracted members, the one comment in common being the poor conditions for IX. OK1EKW made 500 points using 300/900mW o/p, G3DNF about 2400 on 15/80m, G8PG stayed on 10m but found conditions way down on last year. He found Y27KO on 80m for new two-way QRP country. G43OXX was all bands but missed the antennas at his /A QTH, as he was working from home this time. W9PNE made 8 DX QSOs, including G43OXX and G3PEL, and I7CCF made 22 QSOs including CX and TA, the latter running just 4 watts.

Several members are nearing the QRPP DXCC stage, and it has been suggested that band tables of countries worked/confirmed be published in Sprat so that all members can monitor the progress of members. What do you think? Let me have your worked/confirmed scores, either by letter or on the air. One member asks if there is a restriction on the number of QSL cards that a member can send for distribution with Sprat. Members can send me as many as they like as long as members Club numbers are written on them. This edition of Sprat has over 250 members QSL cards going out with it.

OK1EKW had an article of his about QRP published in the OK magazine which he hopes will result in more QRP activity from OK land. W1FB (of ARRL fame) recently went to The West Indies and operated as VP2VGT for two weeks on 7MHz with a W7EL designed rig. With an inverted vee at 20 feet he had good reports from the U.S.A. with it.

Space (again) prevents more news. Don't forget the AGCW QRP/QRP Party on 1 May and the ARCI Annual QRP QSO Party on 18/20 April. Please keep your letters coming with your news on how your Spring goes.

Best 73 and good QRP DXing

Chris Page - G4BUE

Weekly Activity Periods

As a result of the comments and suggestions from members, the recently introduced new style Sunday Activity Periods from 1100 - 1230 and 1400 - 1530 GMT on all QRP frequencies are to remain. In addition to give those members who wish to work DX members the opportunity to do so, the first half hour of each period on the highest HF band which is open is to be for this purpose. It is hoped that EX members of The Club will take this opportunity to QSO with other members of the Club, and some spectacular two-way QRP QSOs result.

In addition to the Sunday periods, a new Wednesday evening period is to be introduced for U.K. and European members. This is mainly as a result of the successful 3.5MHz sessions in The 1980 Winter Sports. Every Wednesday evening from 2000 U.K. local time onwards on 3560. This will enable members who cannot be QRV on Sundays the opportunity to QSO with members, or to try out that new transmitter you have just built!

The Activity Periods can only be successful if you are QRV. It is no good if all members are sitting by their rigs and listening for each other. Try giving that 'CQ QRP' call now and then, you may be pleasantly surprised.

QRP CALLING CHANNEL CRYSTALS: P.R. Gollidge, Merriott, Somerset.TA16 5NS. is still able to offer the following channels, at a special club price of £3.00 (inclusive): 3560, 7030, 14060, 21060, 28060, 28080. (HC25U)

TUNBRIDGE CRYSTAL FILTER AND CRYSTALS: Peter Gollidge is able to offer an equivalent filter to the XF9B and 9Mhz plus 9MHZ LSB and USB crystals and is preparing a special club price - enquiries to QTH as above.

ATTENTION CONSTRUCTORS IN SOUTH EAST ENGLAND:

AMATEUR RADIO EXHIBITION at the 'Y' Sports Centre, Melrose Close, Maidstone, Kent. on Sunday May 3rd. Components - Bring and Buy, Books, Beer Tent....Admission 50p (Children under 10. Free) Opens at 10 am. All proceeds to the Maidstone YMCA Amateur Radio Society.

CLUB CHANGES

NEW QTH

087 14 Randall Street, Maidstone, Kent, ME14 2TB.
190 GM4EWM 10 Councillors Walk, New Elgin, Moray, IV30 3JL.
197 OZ8SO Finnsvej 10-1, DK - 9900, Fredericshavn, Denmark.
303 Fred Maystraat 36, Bergen op Zoom, 4614 ER.
338 WB2QOH 26 Robert Road, RD 4 2, Poughkeepsie NY 12603, USA
391 WA6POC 1248 Crisp Court, Sacramento, California 95825, USA.
529 G8PUD 29 The Coverts, Writtle, Chelmsford, Essex, CM1 3LL.
539 G4GIU 12 Brunel Road, Maidenhead, Berks, SL6 2RP.
586 ZL1AO 45 Lynden Avenue, Northcote, Auckland 10, New Zealand.
649 WA5TFU RR1 47 Palmers Tr. Ct., Minot., ND 58701, USA.
714 EI7DN 113 Seafield Road East, CLONTARG, Dublin 3.
788 G4HOM 50 Pennyacre Road, Monyhill, B14 5UN.
848 G4JNW 63 Hoxton Road, Scarborough, North Yorkshire.

CALLSIGN LIST CORRECTIONS:

G2NJ not G2MJ, G3HDL not G3CDL, GM3RKO not GM3RKU, G4DEP is missing, G4EPW is missing, G4JDL not G4JDC. SM6GWM is missing

CALLSIGN CHANGES:

510 is G3CLL, 418 R.P.Vrey is now PE1CWU, 561 Peter Brent is now G4LEG, 677 KD6NL ex WD6BYN, 719 G4JLW ex G8OVW, 703 Alan McFarlane is again G4CF, 906 G4LDG ex G8VNB, 918 is KA5HEK not AEK, 958 G4LDY ex G8VJJ, 1008 is G4KXY not G4KKY.

QTH CORRECTIONS:

1019 PA0JHS, 't Vierkant 18, 1751 PC SCHAGERBRUG. The Netherlands.
1020 G4ERA, Jesmond Dene, The Close, Fairlight. Sussex. TN35 4AQ.
Postal Code for our Treasurer, G4DVW (162) is NG16 1BX.

New Members

1001 H.Hayne, 93 Spicers Hill, Totton, Hants, SO4 4ER.
1002 WA4KEJ R.Butler, 557 Westhaven Dr., Mobile, Alabama 36608, USA
1003 GI3POS A.Smyth, 16 Kyle Ave., Lurgan, Craigavon, BT669JQ, N.Ire.
1004 D.Stranger, 212 Main Street, Comanche, Oklahoma 73529, USA
1005 G4HMD 39 Wemborough Rd., Stanmore, Middx. HA7 2EA.
1006 PAØPLM J.Marissen, Zwarte Water 20, 8303 De Emmeloord, Holland.
1007 G8ZBB L.Jeffery, Nene Toll House, South Bridge, Northampton, NN1 1HW
1008 G4KXY W.Dykes, 49 Plaxtol Rd., Erith, Kent, DA9 1NJ.
1009 G3RUN T.Kupicha, 'Red Gables', Gt. Mongeham, Deal, Kent, CT14 0HD
1010 G4HMH A.Watts, 9 Beech Rd., Shipham, Winscombe, Avon, BS25 1SA.
1011 G4KWW J.Ilott, 88 Granley Rd., St. Marks, Cheltenham, Glos.GL516LH
1012 C.Cpence, 95 Palmer St., Belfast, BT13BHZ, N.Ire.
1013 WD4DSB F.Pitman 12 E Lameshore Dr., Rome, Georgia 30161, USA.
1014 J.Heather, c/o 58 Forest Rd., Windord, Sandown, I.O.W. PO36 0JZ.
1015 VK4PM J.Ferguson, 7 Hawthorne St., Dalby, Queensland 4405, Australia.
1016 G3EBA D.Wilde, 62 Rickley Lane, Bletchley, Milton Keynes, MK2 6BT
1017 G3BFR F.Rogers, 15 The Hill, Stroud, Glos. GL5 4EP.
1018 G3ONW A.Magill, 11 Werstan Close, Malvern, Worcs.
1019 PAØJHS J.Hooijenga, 'tVierkant 18 1751 PC.Schagerbrug, The Netherlands.
1020 G4ERA D.Mepham, Jesmond Dene, The Close, Fairlight, Sussex, TN354AQ
1021 F.Worthington, 14 Yates Cl., Great Sankey, Larrington, Cheshire.
1022 SM4FPF H.Hedenstedt, Vastra Klintvagen 40, 681 00 Kristinehamn, Sweden.
1023 G4KIK D.Whyborn, 33 Church Rd., Trull, Taunton, Somerset, TA27LG.
1024 P.Riches, 54 Parc Sychant, Conwy, Gwynedd, LL22 8SB.
1025 ON8GP/DJ8FU L.Horst, Leeuwerikenlaan 40, B-1980 Tervuren, Belgium
1026 G3FRW W.Wright, 19 Oakfield Lane, Warsop Mansfield, Notts.
1027 G3JU S.Abbott, 3 Lalebrick Rd., Hooe, Plymouth, Devon, PL9 9RU.
1028 VK5AVE T.Elliott, 36 Myers Street, Port Lincoln 5606, S.Australia.
1029 VE1QH S.Elliott, P.O.Box 270, Parrsboro, N.S., Canada.
1030 G4KYG D.Clarke, 12 Avebury Grove, Stirchley, Birmingham, B22UL
1031 G8VAD P.Goodings, 133 Lache Lane, Chester, Cheshsre, CH4 7LU
1032 GM3RFQ A.Nadauld, 171 Causewayside (2F/1), Edinburch, EH9 1PH, Scotland.
1033 KA5DXI W.Hagemeister, 4719 Lois Lane, Wichita Falls, Texas 76306, USA
1034 ON1OP J.Mermuys, 35 Sint Sebastiaanstraat, 8400 Oostende, Belgium
1035 G4JFN R.Hudson, 15 Fellows Rd., Farnborough, Hants., GU14 6NU.
1036 GI4JLF R.Russell, 1 Belmont Dr., Belfast, N.Ire.
1037 G4KZL D.Singleton, 80 Ley-Fleaks Rd., Idle, Bradford, W.Yorks, BD108RA
1038 G4JZK M.Arnold, 'Langdale', 26 Hillside, Kingsbury, Tamworth, Staffs.
1039 G.Kallensand, Styvingevagen 4A, S-59134, Motala, Sweden.
1040 G4GOE A.Rackley, 2Roulstone Cres., East Leake, Loughborough, Leics

1041 G8NKO R.Carter, 11 Ash Close, Sutton Farm, Shrewsbury, Shrops.
1042 R.Rule, 1000 Andrews Rd., Yorktown, In 47396, USA
1043 A.Stichland, 3 Alum Way, Fareham, Hampshire, PO16 8RJ.
1044 G2CCH R.Hawkes, 121 Eversley Ave., Barnehurst, Kent, DE7 6RQ.
1045 G8WVB S.Ayer, 335 Ings Rd., Sutton-on-Hull, N.Humberside.
1046 GJ3EML J.Watson, 6 Portlet Dr., St.Brelade, Jersey, CI.
1047 G3UFZ C.Foulkes, 21 Pishiobury Dr., Sawbridgeworth, Herts.,CM21 OAD
1048 G4JEP E.Towndrow, 62 Friern Mount Dr., London, N.20
1049 EI4DZ N.Cameron, 16 St. Mary's Crescent, Westport, Co. Mayo, Eire
1050 C.Dicks, Box 3136, Pretoria, S.Africa.
1051 W.Doherty, 15 Upper Mount Pleasant Ave., Rathmines, Dublin 6,Eire
1052 G4KLQ E.Balley, 50 Bettes Pol Meadows, Redbourn, Nr. St. Albans,AL37EW
1053 DL2FI P.Zenker, Friedrich Wilhelm Platz 9, 1000 Berlin 41, W.Germany.
1054 WD8RY Y C.Hethorn, 6818 Meese Dr., Lansing, Michigan 48910, USA
1055 G4GFT V.Leach, Dale House, Blidworth, Notts.
1056 L.Dobson, 123 Furrllongs, Newport, Isle of Wight, PO30 2BD.
1057 VK5ZGA/1 G.Torr, 1 Minnamurra Ave., Pymble, N.S.W. 2073, Australia.
1058 EI5BA W.Norman, 7 Baltimore Hill, Baltimore, Co.Cork, Eire.
1059 G4EOL M.Coan, 144 Beaconsfield Rd., Norwich, Norfolk, NR3 4PP.
1060 K.Harvinder, Kantorsvagen 156, 233 00 Svedala, Sweden.
1061 G4BDQ P.Harris, 10 Westridge Rd., Southampton, Hants.
1062 WD8IDD Mrs. P.Larson, P.O.Box 8921, Strongsville, Ohio 44136, USA
1063 G8PQD P.Gaskell, 131 Greenfield Rd., Dentons Green, St. Hellens,
1064 GM4IFG W.Gournay, 2 Ford Cresc., Thornton, Fife, Scotland. Merseyside, WA106SH
1065 ZL1ABS M.Sheffield, No. 1 R.D.Greenhithe, Auckland, New Zealand.
1066 G8TXA R.Heeley, 303 Birmingham Rd., Sargents Hill, Walsall,WS5 3QA
1067 G3BPT P.Balestrini, 'Merrivale' Willow Walk, Culverstone, Gravesent,
1068 G4LCH M.Gregory, 12 Peacock Rd., Roughay Est., Darlaston,WS10 Kent.
1069 ZS6BTY V.Harrison, 454 Lovers Walk, Lynnwood, Pretoria, S.Africa 0081.
1070 SM6AWZ E.Lindberg, Korngatan 3, S-464 00 Mellerud, Sweden.
1071 G4KFE K.Hircock, Peartree House, Haxey Lane, Craiselound, Haxey,
1072 HB9BYU Gabriele Dado, CH-6671 Caveragno, Switzerland. Nr. Doncaster.
1073 G2BGJ J.Garner, 'Barbon', Airburth Hall Rd., Liverpool, LI9 9DG.
1074 LA4RA F.Rendall, Gryttingveien 29, 8200 Fauske, Norway.
1075 LA3BX T.Joensen, Rasvaag, N-4432 Hidrasund, Norway.
1076 GM3UWX J.Stirling, 25 Maxwell Rd., Bishopton, Renfrewshire, Scotland.
1077 E. Saetravik, 6420 Aukra, Norway.
1078 LA2QAA J. Hackett, 6420 Aukra, Norway.
1079 G3NNR J.McLoughlin, 8Portico Ct., Portico Lane, Eccleston Park, Prescott
1080 VK4NRN/ZC1 C.Anderson, 2 Danina St., Mansfield, Queensland, Merseyside.
1081 ZL4NL A.Taylor, 37 Dipton St., Invercargill, 4122, Australia.
New Zealand.