SPRAT

THE JOURNAL OF THE G-QRP CLUB

DEVOTED·TO·LOW·POWER·COMMUNICATION

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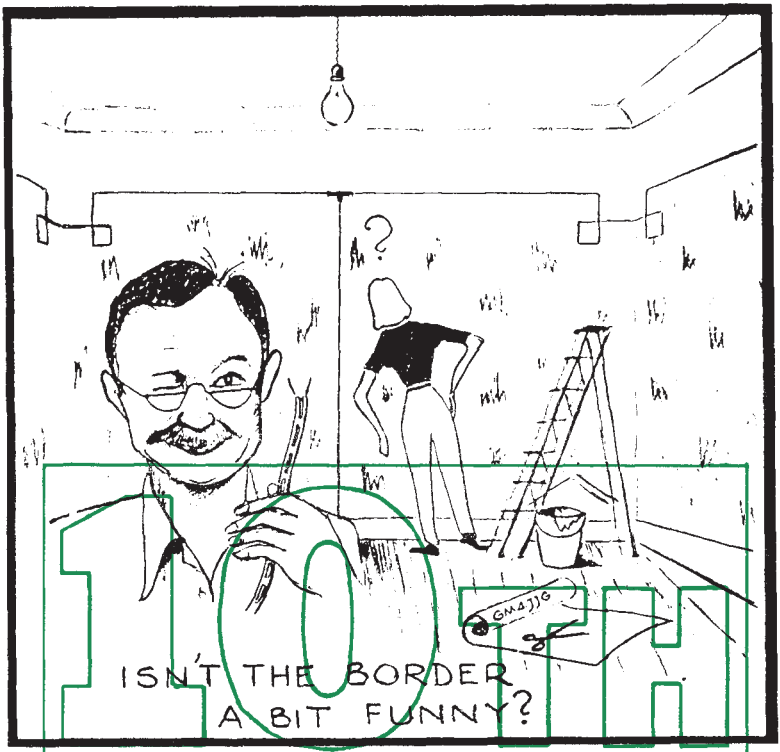
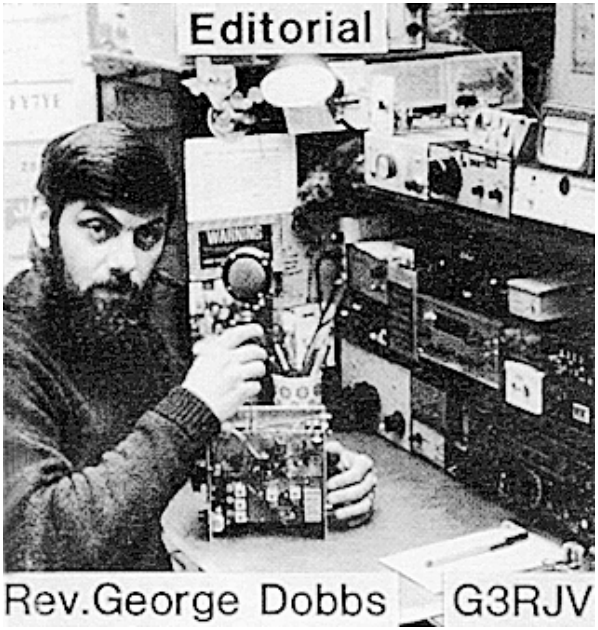


10TH YEAR

160M DSB TRANSCEIVER-HOWES DC RX ON 4 BANDS-TSC TRANSCEIVER MKII.
3 BAND VALVE TRANSMITTER-SPECIAL PURPOSE RECEIVER-DIODE PEAK DETECTOR
RIT FOR THE DSB80- 2 BAND SLOPER ANTENNA-2M FET PREAMP-REUSING METERS
MEMBERS NEWS VHF NEWS AWARDS BOOK REVIEW QRP NEWS QRP CONVENTION



JOURNAL OF THE G QRP CLUB

St. Aidan's Vicarage,
498 Manchester Rd
ROCHDALE,
Lancs,
OL11 3HE.
Rochdale [0706] 31812

DEAR MEMBER

AFTER A VERY BUSY FIRST YEAR IN THE NEW QTH, I HAVE BEEN PLEASED TO BE A LITTLE MORE ACTIVE AGAIN ON THE BANDS : MAINLY ON EIGHTY LATE EVENINGS, ONE THE PLEASANT THINGS ABOUT THIS RETURN TO REGULAR ACTIVITY HAS BEEN TO HEAR AND WORK THE LARGE NUMBER OF CLUB MEMBERS RUNNING QRP THESE DAYS ON THAT BAND, I HAVE HEARD ONE COMPLAINT AMONGST THE EIGHTY METRE REGULARS, THAT IS ABOUT THE MEMBERS WHO LOOK FOR CLUB CONTACTS WITH OVER THE CLUB AWARD POWER LIMITS; NOTHING WRONG IN THAT WITHIN ITSELF, AS A CLUB WE HAVE NEVER BELIEVED IN 'QRP PLEDGES' AND THE LIKE...ITS JUST A HOBBY! BUT SOME MEMBERS DO FIND IT FRUSTRATING TO THINK THEY HAVE ANOTHER MEMBER FOR THE WORKED MEMBERS AWARD AND THEN FIND THE STATION WAS QRO, I SIMPLY ENJOY WORKING MEMBERS, BUT CAN UNDERSTAND THE AWARD CHASERS COMPLAINT.

I ENJOYED MEETING MANY MEMBERS, SOME FOR THE FIRST TIME, DURING THAT FINE PARTY WITH CHRIS AND I LOOK FORWARD TO SEEING MEMBERS AT THE ARRA EXHIBITION THIS YEAR...NOT HEARD ABOUT IT YET BUT I ASSUME IT WILL TAKE PLACE, I HOPE THAT AS MANY MEMBERS AS POSSIBLE WILL ATTEND THE SECOND YEOVIL QRP CONVENTION...DETAILS ARE GIVEN LATER IN THIS ISSUE.

WARM UP YOUR SOLDERING IRON FOR WINTER HOPE TO SEE YOU ON THE BANDS

73 FER NW G3RJV

Subscriptions

Renewals (rates: £4.50 or $10 US to Alan Lake, G4DVW, 7 Middleton Close, Nuthall, Nottingham, NG16 1BX. PLEASE QUOTE YOUR MEMBERSHIP NUMBER. Cheques: G QRP CLUB. A reminder should appear in membership number sequence on the address label of SPRAT. Please ignore the reminder if you have already paid. Overseas members might like to pay by direct transfer from their bank to: National Westminster Bank plc, Town Hall Square, Rochdale, Lancs, OL16 1LL. Account: G QRP CLUB. No: 04109546. Please inform G4DVW whenever such a transfer has been made.

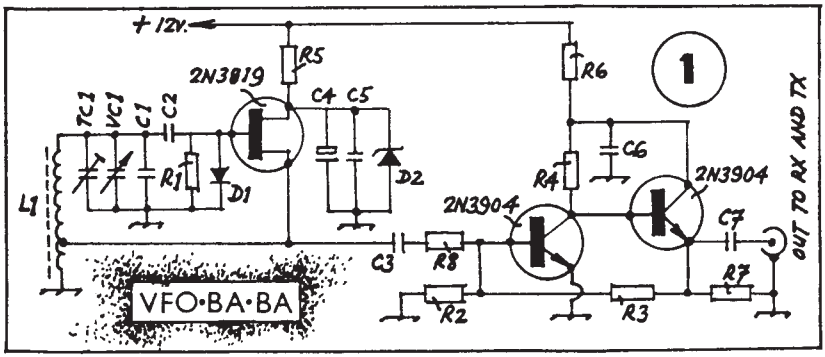
THE G3MJW 160M D.S.B. TRANSCEIVER DEREK EDMUNDS

The circuit, except perhaps for the PA, is not original but "putting things together". The design was inspired by the 80 metre WA7MLH circuit in Solid State Design for the Radio Amateur (ARRL), with a new PA. The receiver is a corrected and Anglised version of the 40/80 Receiver from the same book.

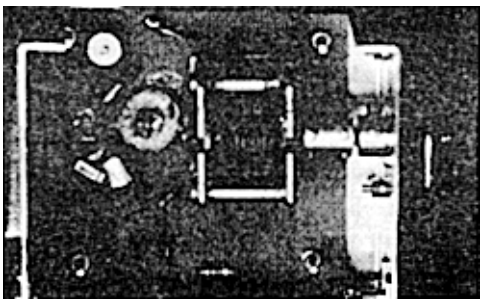
The circuits are self explanatory. The RX input is quite broad tuned and no peaking control is fitted. With my Z match (homemade) to a quarter wave antenna, and a quarter wave counterpoise (looped about), the performance is very pleasing. The balanced modulator uses hot carrier diodes because these were to hand, but I am sure that 1N4148s would work. The PA should be biased to have a standing current of 200mA. Ensure the bias pot wiper is at an earthy end before you switch to transmit. On a long whistle, about 750mA is drawn by the two VN88AFs, but this can be adjusted up or down by altering the emitter resistors in the 2N3904s. Single sided PCBs are used for the VFO and RX, and double sided board for the TX.

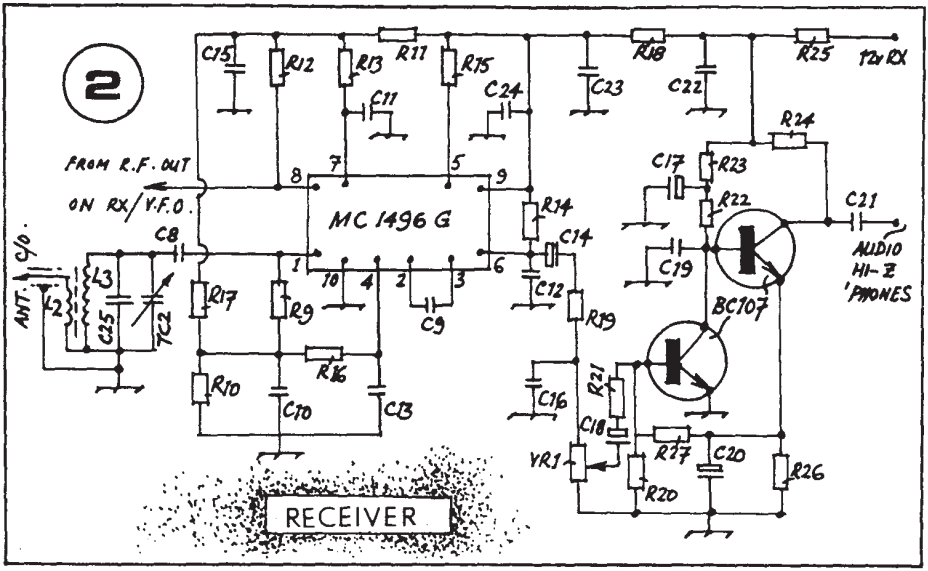
The circuit is very stable and with no sign of FM. The rig is built in three sections in the box with a screen for the VFO part, which is mounted as close as possible to the base. The RX can receive other DSB signals with careful tuning, but normal SSB is easy to resolve and the audio is pleasing. The headphones are high impedance.

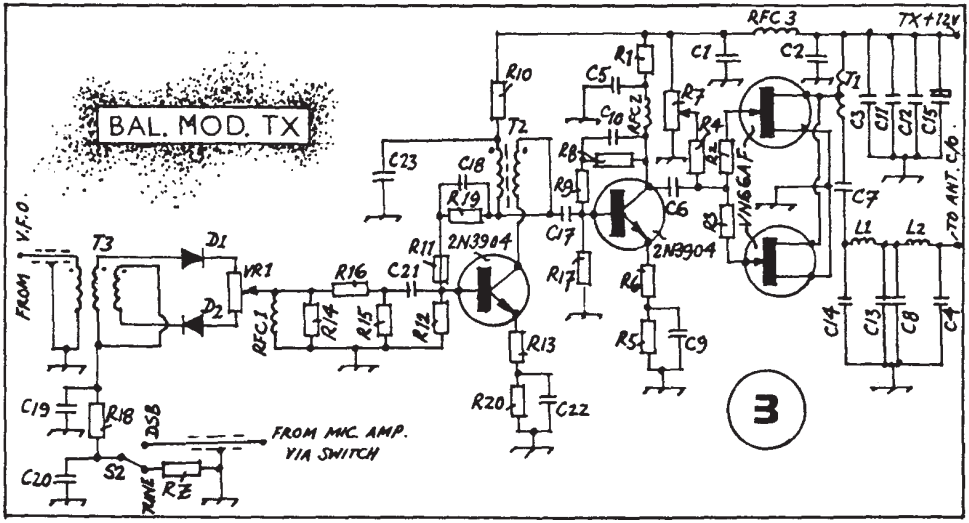
Bits from:- VN88AF and other transistors — R.S. Components
Fairite cores — Cirkit
Case — Minffordd Engineering



R1	100K	C1	180p sm	L1	55 turns 26 swg on T68-2
R2	2K2	C2	68p cer	D1	1N4148
R3	10K	C3	2,200p poly	D2	6.2v zener
R4	1K	C4	10µ		
R5	220	C5/6	0.1µ		
R6	100	C7	2,800p poly		
R7	330	TC1	5.5-65p trim		
		VC1	75p air spaced		

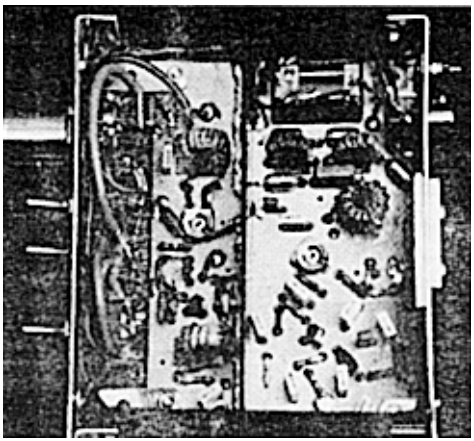



2
C15
R12
R13
R11
R15
C11
C24
C23
C22
R18
R25
12v RX
R24
FROM R.F. OUT
ON RX/V.F.O.
8
7
5
9
MC 1496 G
R14
C17
R23
R22
C21
AUDIO HI-Z 'PHONES
C8
C14
C19
ANT. C/O.
L3
L2
C25
TC2
1
10
4
2
3
6
C12
R19
BC107
C9
R17
R9
R16
R10
C10
C13
C16
R21
C18
VR1
R27
C20
R26
R20
RECEIVER


RFC 3
TX+12V
R10
C5
R1
C1
C2
T1
BAL. MOD. TX
T2
C10
RFC 2
R7
R4
C3
C11
C12
C15
C23
C18
R8
R19
R9
VN66AF
C7
TO ANT. C/O.
FROM V.F.O.
T3
D1
C6
2N3904
C17
L1
L2
R11
2N3904
VR1
R16
C21
R17
R6
D2
RFC 1
R14
R15
R12
R13
R5
C9
C14
C13
C8
C4
C19
R18
DSB
FROM MIC. AMP. VIA SWITCH
R20
C22
3
C20
S2
TUNE
R2

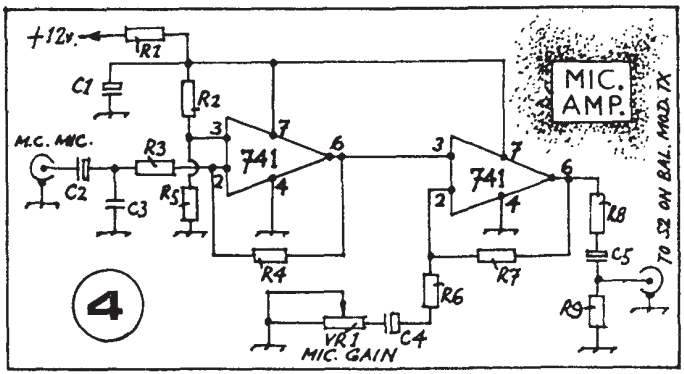
R10	1K	C8	33p sm		
R11	1K2	C9/10/11	0.1µ		
R12	1K	C12	0.01µ		
R13	1K	C13	0.1µ		
R14	820	C14	2µ2		
R15	3K9	C15/16	0.1µ		
R16	1K	C17	10µ		
R17	820	C19	0.1µ		
R18	39	C20/21	10µ		
R19	1K	C22	100µ		
R20	10K	C23	10µ		
R21	1K	C24	0.01µ		
R22	4K7	C18	2µ2		
R23	1K	C25	470pf sm		
R24	2K2	TC2	5.5-65p trim		
R25	10	L3	50 turns 38swg		
R26	2K2		on T68-2		
R27	47K	L2	6 turns on L3		

RECEIVER

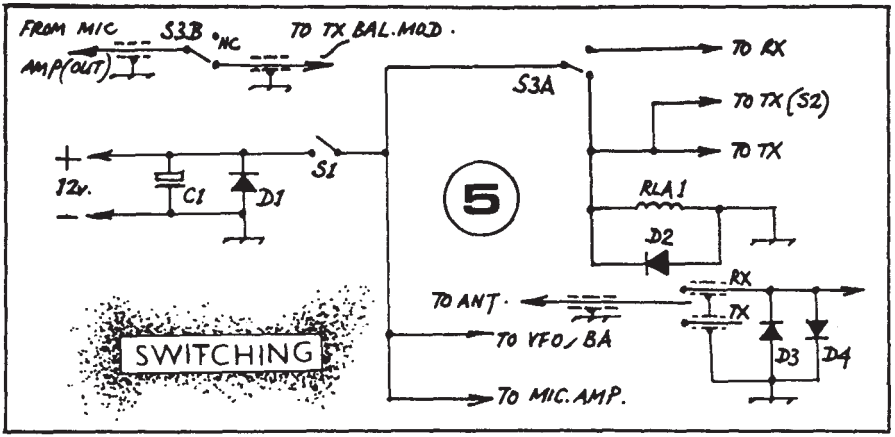


BAL. MOD. / TX

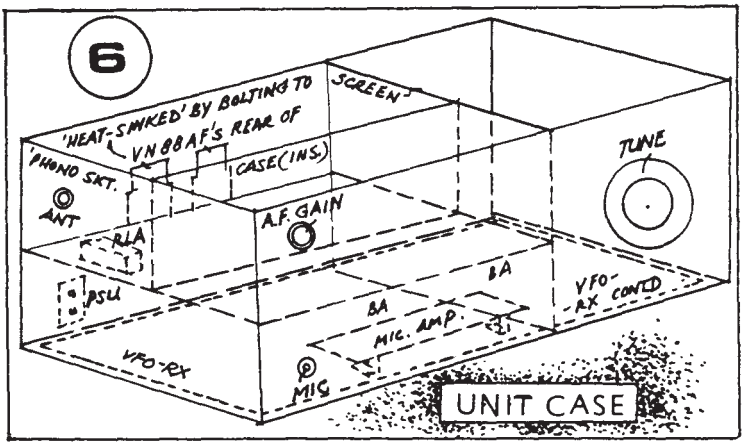
R1	10	R13	10	C1/2/3	0.1µ	D1/2	Hot Carrier Diodes
R2	10	R14	150	C4	1,800p poly	VR1	100 preset
R3	10	R15	150	C5/6/7	0.1µ	L1	30 turns 26swg on T50-2
R4	10K	R16	39	C8	1,800p poly	L2	30 turns 26swg on T50-2
R5	33	R17	330	C9/10	0.1µ	T1	13 turns 18swg
R6	10	R18	100	C11	0.01µ	T2	12 Bifilar turns 28swg
R7	10K	R19	1K	C12	0.001µ	T3	15 turns Trifilar 28swg
R8	1K	R20	100	C13/14	1,800p poly	T1/2/3 on Fairrite Core	
R9	470	"R2"	15-22K	C15	2µ" tant		type 59-61001101
R10	10			C17	0.1µ		
R11	470			C18/19/20/21	0.01µ		
R12	680			C22/23	0.1µ		



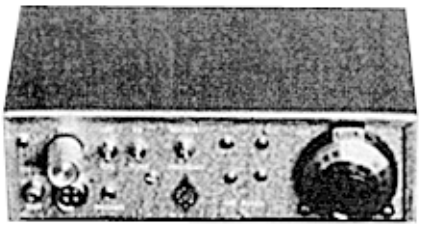
R1	22	R6	4K7	C1	47µ
R2	22K	R7	47K	C2	4µ7
R3	1K	R8	100	C3	0.01µ
R4	4K7	R9	1K	C4	2µ2
R5	22K	VR1	20K	C5	10µ



D1 3A, 100PIV. D2/3/4 1N4148. RLY1 12V S.P.C.O.
S1 on/off. S2 tune/dsb. S3 trans/receive.



CASE IS MINIFFORDD ENGINEERING J8. SCREEN COPPER CLAD BOARD.



CONVERSION OF THE C.M.HOWES DC RX TO MULTIBAND

MAC McNEILL G3FCK

The above kit, which seems to be popular with many amateurs, particularly QRP enthusiasts, can be easily extended to cover four bands, and thus enhance its usefulness in the shack.

The components required are few, comprising one DP4W rotary switch, one SPDT mini toggle switch, four 7mm diameter slugged-core formers (ex TV type), and a small quantity of 28 SWG enamelled copper wire.

The coils are all close wound with 28 SWG (clockwise from the ground end), as follows:-

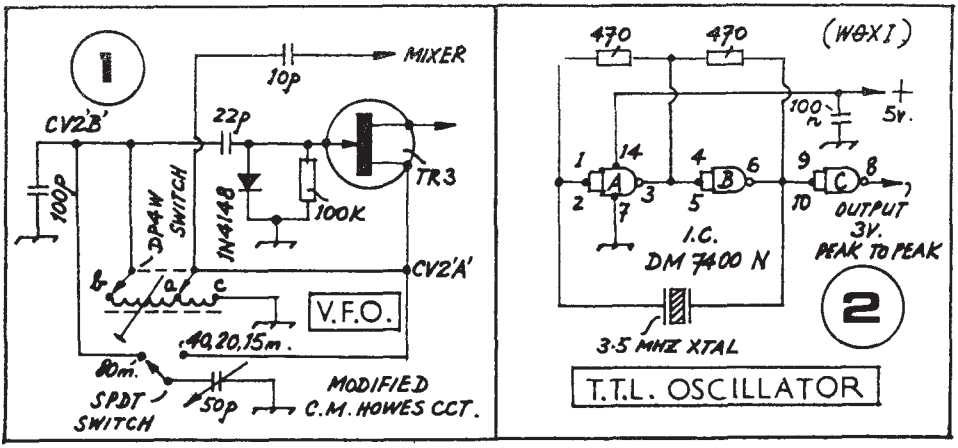
80m	50 turns tapped at 20 turns
40m	24 turns tapped at 10 turns
20m	12 turns tapped at 4 turns
15m	8 turns tapped at 3 turns

The 50pF (VFO) capacitor should be set at about 70% of full-mesh for each band, which can be slug-tuned LF by using an XCO with a 3.5MHz crystal in circuit as a band edge marker. The coil slugs should not be "fixed" until operation is checked with the unit cased", as some slight retuning may be necessary. For simplicity, only one coil is shown in the band-switching diagram (Fig. 1). A powerful signal can be otained from the cheaply, and quickly constructed, TTL oscillator reprodiced un Fig. 2.

BC breakthrough is a problem at times, but can be partly offset by using a "variable pivet" type ATU. Improvements to the front-end (by pre-selector, or other means), and output filtering, are being experimented with as possible long term cures for BC QRM.

As the existing simple modification is somewhat unsophisticated, it should be remembered that on the age old principle of " owt for nowt", some performance is lost, compared to a single band version.

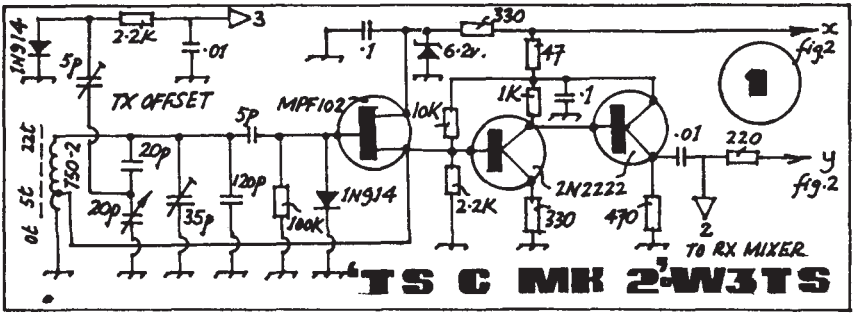
Grateful thanks for helpful comments are made herewith to C. M. Howes Technical Manager, David G4KQH.



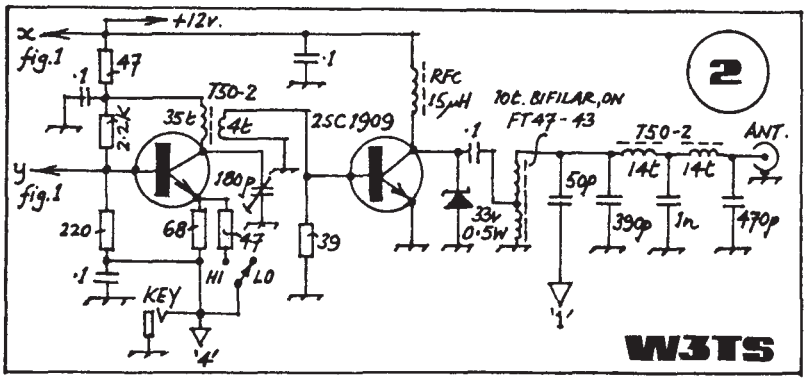
G-QRP-CLUB QSL CARDS: A distinctive and novel Club QSL card is available for club members. Details of the card and an order form can be had from our Treasurer, Alan Lake, G4DVW, 7 Middleton Close, Nuthall, Nottingham, NG16 1BX.

THE TSC MKII

MIKE MICHAEL W3TS



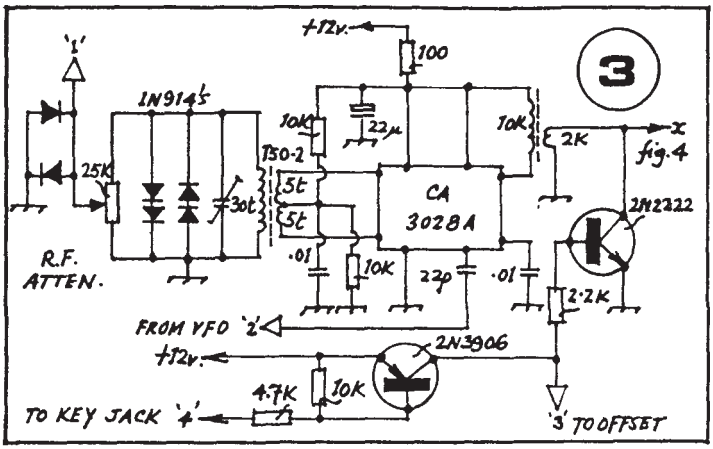
A SUITCASE COMPETITION ENTRY

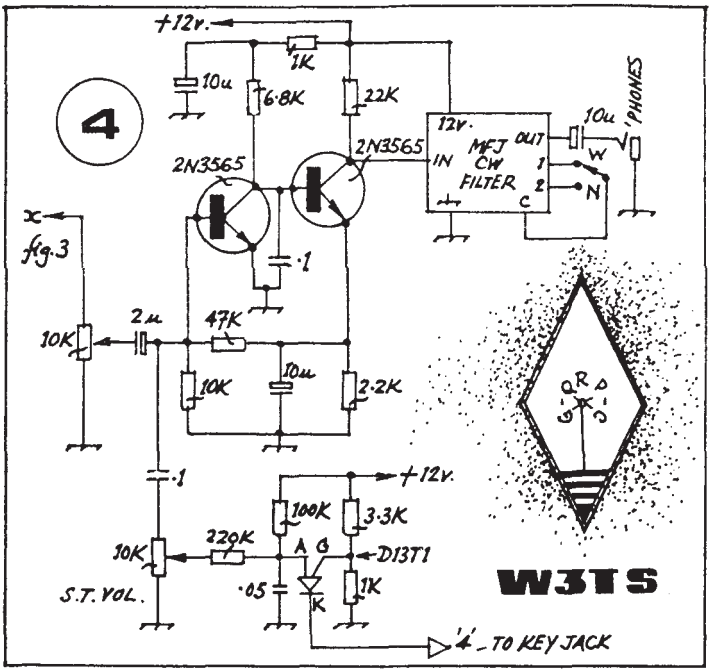


After building the C Mk I wished I had a similar rig for use at work, one that would store in my desk, but could be pulled out and taken outside to the picnic tables and used at lunch time.

The basic TCVR was built about six years ago, and used now and then. I was trying to sell it, but changed my mind and made it into a field rig for use at work. The main rig is housed in a 3 x 4 x 6 inches chassis with a bottom plate. I bolted another 3 x 4 x 6 inch chassis onto the side, and cut out the front and made a hinged door fot it. On the inside of the door I mounted my hand key. The rest of the space houses 10 "AA" Ni-Cads, mini earphones and two 33 feet wires, one for the antenna (as a sloping quarter wave) and the other for a counterpoise.

The main TCVR circuits were taken from Solid State Design for the Radio Amateur from ARRL. I added a two stage active CW filter by MFJ (CWF3, the two stage filter in the SSD is the same), and changed the final stage around, so I would have 1 and 4 watts output. I wanted 4 watts so I could work someone with the poor sloping quarter wave antenna that I erected at lunch time in very low trees, about [illegible] that is quickly [illegible] ten feet high.





CLUB QSL BUREAU: G4BUE will distribute QSL cards for other Club members via the mailings of SPRAT. Please note this service is for inter-Club QSOs only and cards for non-mwmbers cannot be accepted. Please add the Club number of the recipient of the card on the back top right hand corner. The cards are sorted by Pam, G4BUE/2 and should be sent to her at "Alamosa", The Paddocks, Upper Beeding, Steyning, West Sussex, BN4 3JW, England, by the 10th of the month of publication of SPRAT, (i.e. March, June, September and December).

A ONE VALVE, THREE BANDS, QRP TRANSMITTER.

By H. Acomb GM4CCV

* mica capacitors 400V wkg. or more, others 500V wkg. disc ceramic.
3 -30pF trimmer - Phillips type, mica compression type or air space.

PI COIL - 1 1/4" dia., 30 turns at 8 turns per inch of 18 SWG tinned copper wire tapped at 10 and 20 turns from the antenna end.

The 100pF tuning capacitor plus the 100pF padder could be replaced by a 200pF variable, thus making S1B redundant. The loading capacitor plus padder could be replaced with a three gang 500pF capacior. The taps on the coil would then have to be adjusted by trial and error, (lots of trial and lots of error!).

XTALS - It is NOT recommended that modern HC6U etc. type crystals be used as they get quite warm and drift badly. Therfore old type crystals must be used, e.g. 10X, FT243 or other war surplus crystals. Fundamental crystals should be used for each band. 14MHz operation can however be achieved by selecting the second harmonic from a 7MHz crystal with the bandswitch set for 14MHz. Good output power can be obtained, but this method is not recommended because there is also a fairly strong third harmonic content on 21MHz. There is also some fourth harmonic content, so if the transmitter is connected to a multi-band antenna, e.g. a trap dipole or a trap vertical, it is quite easy to see that you can be transmitting on three bands at the same time!

A local amateur about half a mile away heard me on 21MHz at S4 and promptly gave me a call. He was rather puzzled at not receiving a reply. I was operating on 14MHz and the antenna connected to the transmiter at that time was the HF5 vertical.

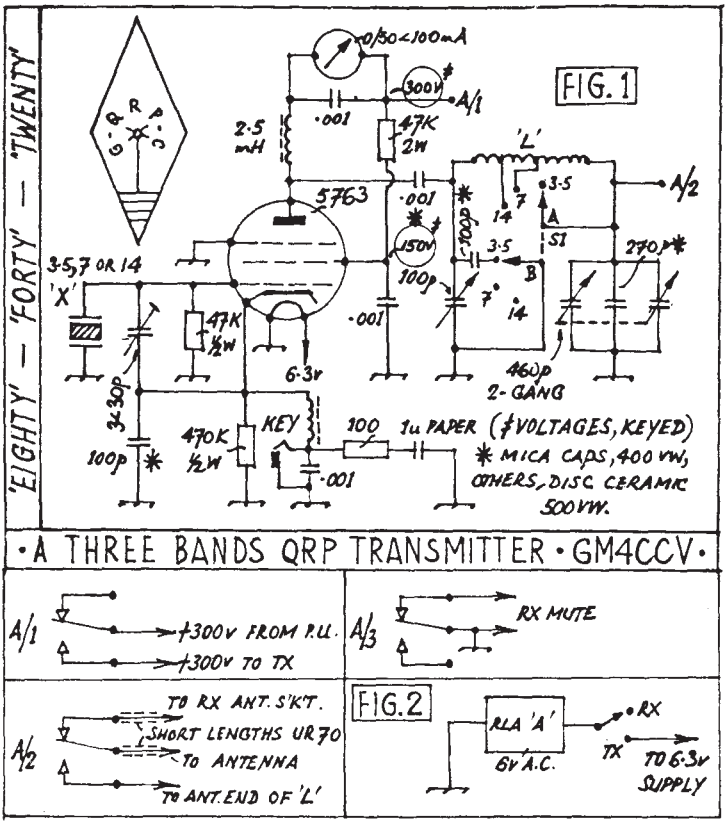
Another interesting point about this transmitter is that when set for 3.5MHz operation and connected to the HF5 trap vertical, all my three 3.5MHz crystals refused to oscillate. This must be due to the loading effect on the single valve circuit cause by the HF5. I have not tried this transmitter on a full size proper trap dipole because I do not have the garden space to erect such a device. It does, as you know, work when using a quarter wave wire at 3.5MHz, (66 feet). The wire is sloping down from about 25 feet at the shack end to four feet where it is attached to the garden fence.

Fig.2 shows the control and switching. The relay contacts are in the receive position. If a 6 volt AC relay is not available a suitable Yaxley type switch will do equally well, (three pole three way).

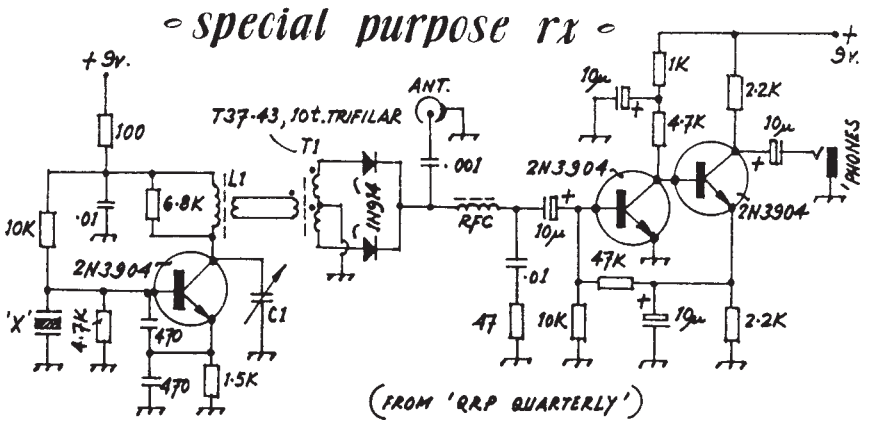
The power supply requirements are 300V+ at 60mA and 6.3V at 1A, both can be more but not less. The anode current when loaded 35 to 45mA, depending on crystal activity, is 10.5 to 13.5 watts DC.

CZECHOSLOVAKIAN MONTHLY QRP NET

The OK QRP Club have a net on 3560+/- QRM on the first Friday of each month at 1700 GMT. Petr, OK1DKW acts as net controller using QRO, but all of the other stations in the net are either QRP or QRPp. The net, which includes QRP information in Czech, lasts until approximately 1900 GMT, with the last hour for contacts between participating stations. Petr is very anxious to know if any of the QRP stations in the net are audible in the U.K., as it would greatly encourage those new to QRP. If anyone can spare the time to listen and send reports of any stations heard direct to Petr, this would be greatly appreciated. Try calling into the net if you hear them.



A SPECIAL PURPOSE RECEIVER WES HAYWARD W7ZOI



(FROM 'QRP QUARTERLY')

SPECIAL PURPOSE RECEIVER

By Wes Hayward W7ZOI

How often have you been operating in the QRP contests, having just called CQ, and find that a station is calling you on a frequency that differs from yours by several hundred Hertz? The same problem occurs during the popular QRP net sessions. This practice creates extra QRM and certainly degrades operating efficiency.

More often than not, the guys and gals who are not calling on frequency are using a direct conversion transceiver, typically an HW8. When queried, the user admits that he or she realises the problem, but does not know what to do about it. The answer is found through the use of a simple, special purpose receiver that we will describe.

First, let's examine the problem and its cause. The simplicity of a direct conversion transceiver results from the sharing of a common oscilllator between the transmit and receive functions. Assume the oscilllator frequency is fixed. A CQ is transmitted. A fellow QRP addict hears you, and being mindful of using no more spectrum than is absolutely required, he zero beats your signal exactly. His transmitter is now on exactly the same frequency as yours. He calls you, but you hear nothing. In frustration, the CQ is repeated.

The problem would be reduced if you offset your VFO frequency during receive periods. You would then hear the fellow calling you, The offset equals the pitch heard. A problem remains: unless you know the amount of the offset in your transceiver, you cannot effectively zero beat a signal you wish to answer.

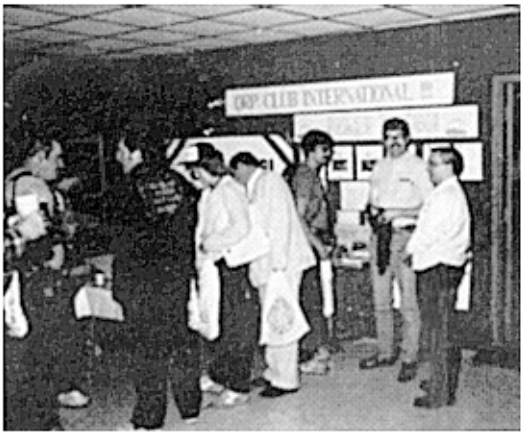
There are several ways to handle the problem. One is with a frequency counter. Measure the oscillator frequency in both key-down and key-up conditions. Then tune your transceiver to produce a pitch equaling the difference in the counted results. An audio filter can be set for this frequency. Alternatively, the sidetone oscillator can be set to produce that same pitch. (Be sure you are on the right side if using a DC transceiver.)

Another answer is to eliminate the offset circuitry in the transceiver, replacing it with an RIT that can be switched out of the circuit. With the RIT switched to an off state, exactly zero beat the station you wish to call. Then, activate the RIT, and tune it for the desired pitch.

A special prupose receiver can also be built to provide the needed information. The circuit, shown in Fig.1, is a simple direct conversion receiver using but three transistors and a couple of diodes. Q1 is a crystal oscillator with output coupled to a singly balanced product detector. Silicon junction switching diodes, (1N914, 1N4148, et5c), are suitable. L1 has a reactance of about 100 ohms at the crystal frequency with C1 picked for resonance, (e.g. about 2 microhenry and 250pF at 7MHz). A three or four turn link is coupled to the oscilllator and applied to the detector. T1 is about 10 trifilar turns on a ferrite core such as the Amidon FT-37-43. All electrolytic caps in the audio amplifier (Q2 and Q3) are 10 microfarad or higher, use what's available in the junk box.

The receiver can be built "ugly" on a scrap of circuit board material. There is little need to put it in a box for this application.

While this will not be the hottest receiver around, you should be able to hear some stronger signals with an antenna connected. The addition of a preselector filter and another stage of audio gain would produce a useable ultra simple receiver, (see Solid State Design for the Radio Amateur, Chapter 5).



The busy ARCI Stand

The Display of Hombrew QRP Gear

John KNIH and Joyce WB2IPX/2

QRP AT THE 1985 DAYTON HAMVENTION ETC.

By Christopher J. Page
G4BUE

Although being G-QRP-C members, Colin G3VTT and myself were taking part in the QRP Forum at the Dayton Hamvention wearing our QRP ARCI hats. The ARCI were promoting the forum and Colin and I had promised our support. It was really great to meet so many QRPers including many G-QRP-C members. After New York and 24 hours on a Greyhound coach we arrived in Chicago. Our good friend W9KNI showed us around Bencher Inc. where his famous paddles are made.

Bob drove us to Dayton the following morning and we immediately discovered the Hamvention was every bit as big as we had been led to believe. It is massive with trade stands, forums, and more important - a terrific flea market with over 1800 stands. We quickly found the ARCI stand, which was located in a very prominent corner position close to the entrance to one of the refreshment areas. We were welcomed by XYLs Joyce (WB2IPX) and Jeane (KZ9H), as their men were checking out the flea market bargains. The girls did a fantastic job of manning the stand over the week-end, and I´m sure it was their charm which was mostly responsible for the 47 new members and even higher number of renewals that were made.

During the Friday afternoon and Saturday it was a case of alternating between trying to pick up the bargains in the flea market and meeting as many QRPers as possible. First surprise was to meet Andy, WB2RZU, who has given many G QRPers their first two-way QRP QSO with the

Colin G3VTT promoting SPRAT

Chris G4BUE describing the 'OXO'

Chris G4BUE, Paul OA8V and Brice W9PNE

USA during the Winter Sports. We then met Les, WB2IPX and Jim W1FMR, (who had shaved off his beard since our previous meeting at Houston in 1983!). They were responsible for the organisation of the QRP Forum on behalf of ARCI. I then met Brice, W9PNE, who had inspired my milliwatting experiments of a few years ago, Red K5VOL, John KN1H, Mike W3TS, Ed VE3JFH and Al KZ9H all of whom I had worked on two-way QRP but had never met. It was nice to see Bill, K4AHK and Ade, W0RSP again, and to meet Jim KK7C, Joe WA1WLU, Dave WB2UXI, Bob KD2IM, Mike WB8VGE, Peter N2CQE, Jerry WD9CTB, and KA8NRC. On the Sunday morning, just before Colin and I were due to give our presentation at the QRP Forum, I met Paul OA8V. It was as the result of a QSO with Paul in February 1976 on 3.5MHz CW that I became hooked on QRP. I was running QRO chasing countries for my 5BDXCC, and when I received Paul's QSL showing he had been using a 509 Argo at 5 watts, I had to find out more about QRP.....

During the Friday evening we had a QRP Banquet at the Red Lobster where I was introduced to Strawberry Daiquiri and Hush Puppies! A QRP Hospitality Suite had been set up at the motel where all the QRPers were staying and it went on into the early hours. The Saturday evening we went to the official Hamvention Banquet where we made up a QRP table with W0RSP, KK7C, W9PNE.

Sunday morning was scheduled for the QRP presentations, and after introductions by Les, WB2IPX it commenced with Ade, W0RSP explaining how we can cope with QRP through the declining sun-spot cycle. I went next explaining how you can start homebrewing your own QRP transmitters, and Colin continued with more complicated homebrewing and test

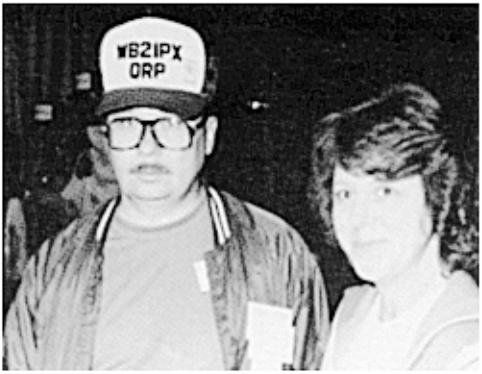
Mike W3TS

Andy WB2RZU and
Chris G4BUE holding
the ARCI Flag

Jim KK7C

Rod K5VOL, Brice W9PNE and Joe WA1WLU

Ade W0RSP presenting Chris
G4BUE with his Milliwatt
Certificate for the ARCI
1984 Spring QSO Party



Les WB2IPX and Joyce KZ9H/2

Jerry WD9CTB and Ed VE3JFH

W3TS, KK7C, KZ9H, WB2IPX and Joyce KZ9H/2

equipment. The audience of over 100 seemed to appreciate it, as I didn't notice anyone falling asleep!

We very reluctantly had to leave Dayton after our presentations as we were travelling south to Kentucky with N4AR, an FOC friend of ours. Bill is an antenna homebrewer and has ten acres which accomodates his 9 towers. The climax of our visit was climbing his two 200 feet towers, one of which holds 4 stacked 4 element yagis for 14MHz! Bill also has a full size 3 element yagi at 160 feet for 7MHz and a 6 element Bobtail Curtain at 160 feet for 3.5MHz. It was an experience putting our little QRP transmitters on those antennas as you can imagine, and much to our delight Bill showed a genuine interest in QRP, so much so we made a gift to him of the Howes CTX80 transmitter that we had taken with us. Our delight was increased even more the following week when we were staying at the QTH of Pete, W1RM in Burlington, CT. We had a QSP from Bill that he wanted to try a sked that evening with the CTX80 on its frequency of 3579KHz. To enter into the spirit of the QSO we persuaded Pete to reduce the drive of his TR7 to one watt out, luckily he had a Bird Thru-line meter. We exchanged reports with Bill, giving him 459 and receiving 449 over the 700 mile path, and maintained the QSO for over half an hour at 25 w.p.m..

We then had another experience of 24 hours on a Greyhound which took us to Boston, Mass where we stayed with another FOC friend, W1DA. The following weekend we attended the FOC North American Dinner at Danbury, CT and after a visit to ARRL, (where we both operated W1AW), we picked up a hire car in New York and drove south through Washington to Nofrolk, VA where we stayed with Rich, K7YHA. We got to know Rich and his family very well when he was G5CSU living in England, but it was great to meet him on his home ground. We then drove to Atlanta, GA where we stayed with N4TO for a few days, and then turned north, through the Smokey Mountains to Sevievereville, TENN, home of Ten-Tec.

We stayed with K4FW, Chairman of Ten-Tec and an FOC friend. It was very interesting to see where the Argonauts were made and to talk to the guys who designed them. We met Larry Worth, who is in charge of the Service Dept., and even had a glimpse at the new transceiver which will be Ten-Tec's answer to the TS940 and FT1. We were both very impressed with everything we saw there, even to the extent of confirming the rumour we had heard that one of Dolly Parton's sisters once worked on the production line! Our only regret was that they no longer make the Argonauts, (or that Dolly Parton's sister no longer works there!!).

We then drove back to New York and caught the plane back to England and back to reality in the shape of rough weather, going back to work, bills to pay etc. We had had three weeks in the USA with radio amateurs, without whom the trip would never have been possible. It has changed our outlook on several aspects of life, one of which is that whenever the going gets rough we can put our headphones on, tune into our friends, and in the words of N4AR, picture the faces of all our friends in the USA behind the dials of our rigs.

I shall be visiting the Dayton Hamvention again in 1986, but on that occasion will be exchanging Colin for my wife Pam, (nothing personal Colin!!). It will be Pam's first trip to the USA and we already have our hotel booked in Dayton. Hope to see you there.

A DIODE PEAK DETECTOR FOR QRP

GRAHAM LAMBERT ZS6HV

Most radio amateurs have a power meter in their shacks with a full scale range of 1KW. Such a meter would hardly lift off the stop with an input of one watt! In QRP work it is useful if one can accurately measure the output power. In some contests it is esential to have the facility to measure the output of the little rig.

Using either a multimeter, DVM or a 500uA meter, the diode peak detector described in this article is easily constructed and provides accurate power level measurement.

Take care to wire the two 100 ohm resistors, (or two 150 ohm resistors if a 75 ohm input is required), with very short leads directly across the socket.

The circuit is directly coupled, and so can be calibrated by using a battery in a potential divider configuration, providing the input signal is greater than one volt. The circuit will be accurate well up into the VHF bands if good construction techniques are used.

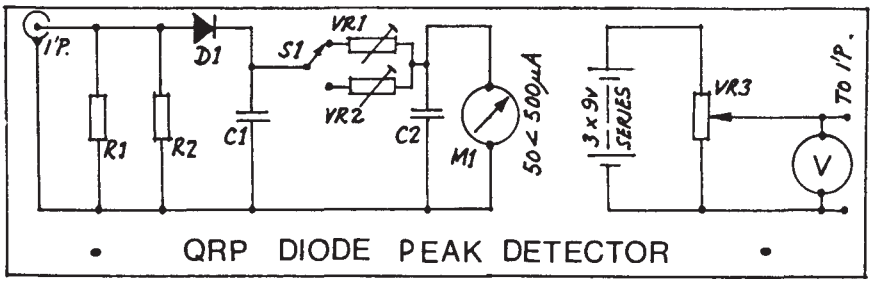
Caibration is carried out as follows:- set VR3 to give 10V and with S1 in the 10V position, adjust VR1 so that M1 reads full scale. With S1 in the 15V position set VR3 to give 25V and adjust VR2 so that M1 reads full scale. The QRP power meter is now calibrated to read peak voltages accurately.

The relationship between this reading and the output power is as follows:- P=VxV/R where V=RMS volts and R=dummy load resistor. Peak voltage is 1.414 RMS voltage and therefore VpxVp=VRMS and VpxVp/2R=P, where Vp=Vpeak or Vdc as calibrated. For example, a 50 ohm system and 10V peak would be P=10 x 10/2x50 which is 1W. Full scale deflection is equal to one watt. Half scale deflection i.e. 5V is P=5x5/2x50 which is 250mW. Full scale deflection with S1 in the 25V position is P=25x25/2x50 which is 6.25W.

The author has built the instrument, calibrated it on a battery as described, and compared it with laboratory equipment and found it to be accurate within 5% from DC to 1GHz. With a 50uA meter, accurate readings can be made as low as 50mW. Below this value the diode becomes non linear and the scale on the instrument will have to be calibrated and marked by hand.

PARTS LIST:

R1,R2	2W carbon (100 ohm or 150 ohm each - see text)		
D1	1N914 or 1N4004	C1,C2	0.01uF ceramic
VR1	preset 270K	VR2	reset 500K
VR3	potentiometer 10K-1M	S1	switch.



R.I.T. FOR THE DSB80 TRANSCEIVER

By Rod Young G4MQH

I purchased the DSB80 a couple of years ago, and because I wanted the finished article to look good, I also bought the hardware kit as well. Included in the hardware kit was the option of fitting a 47K pot. as a power out control on CW. This I fitted, but found in due course that I never used it. What the kit really lacked was RIT, and after studying the circuit diagram I came up with the following changes.

Components required:-

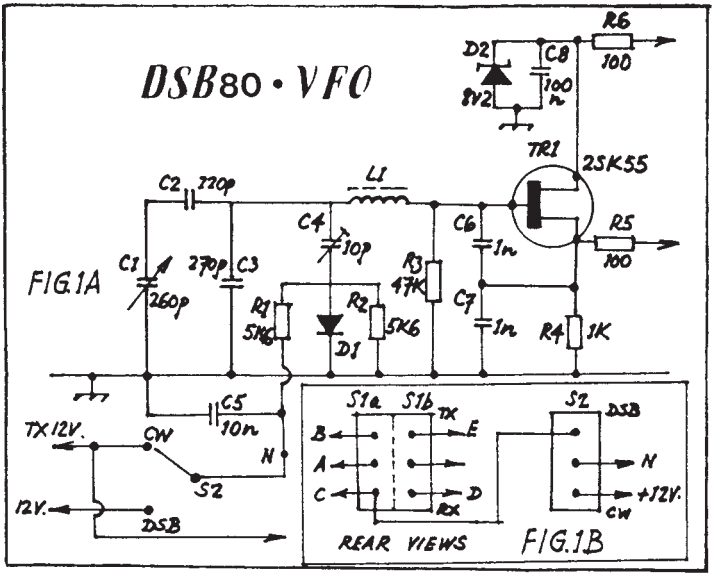
Da	BA102 varicap diode	Ra	100K
Rb,Rc	22K	VRa	47K miniature pre-set
VRb	47K lin. pot. (supplied with hardware kit).		
S1	miniature three pole changeover switch.		

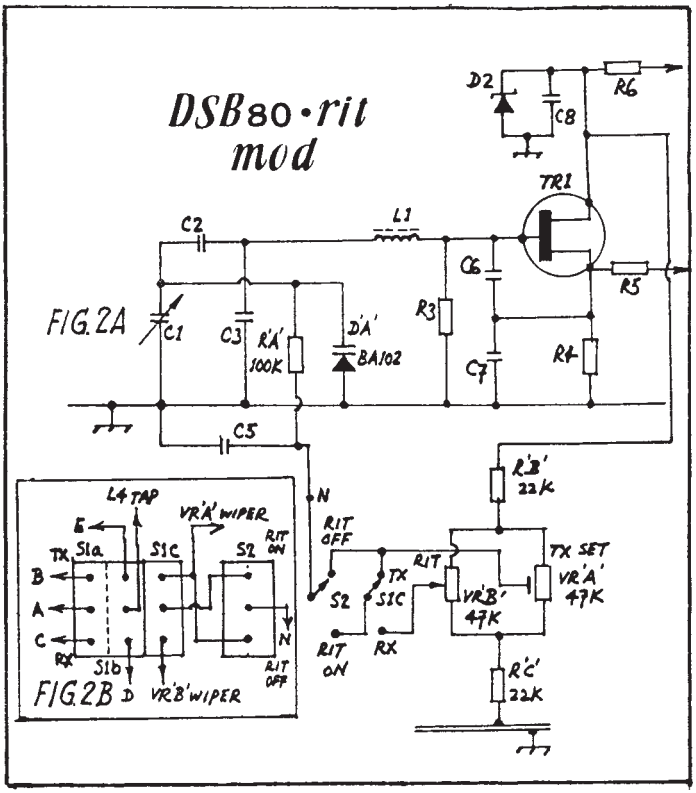
Fig. 1a shows the original circuit for the DSB80's VFO. Remove D1, R2 and C4. Then remove the wire from switch S2 to switch S1a and also remove the other wires from S2. If the CW drive pot. has been fitted remove the wiring from that, remembering to reconnect the wire from the DIN socket directly to point M on the board.

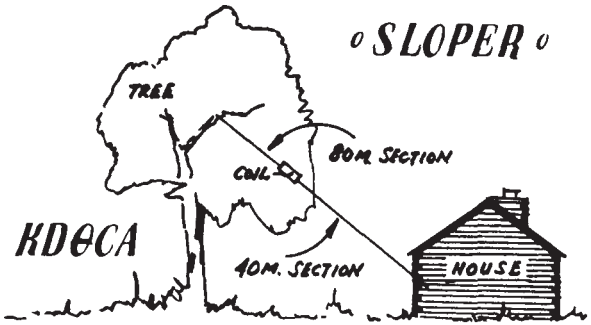
Insert the new varicap diode, Da into the position originally occupied by D1. Remember to solder it in the right way around, (i.e. the opposite end to the band must go to earth). Insert the 100K resistor, Ra, into the position originally occupied by R1. Now solder a wire from the hole nearest to Ra, which held C4, and solder the other end to point P, (P is marked on the board). This wire is mounted underneath the board at the junction of C8 and R6. This supplies regulated voltage for the RIT circuit. This completes the modifications to the board.

Now remove the TX/RX switch an d replace it with the three pole chanegover switch. Resolder S1a and S1b as shown in Fig. 2b, (i.e. as the original). Either by using two pieces of stiff wire or by gently prising apart the legs of the preset resistor VRa, solder the preset across the variable resistor VRb. Take one end of the resistor pair to ground via a 22K resistor. This can be any convenient point on the ground plane of the board. Solder another 22K resistor to the other end of the resistor pair and solder the wire coming from the junction of C8 and R6 to this 22K resistor. Now wire up the original DSB/CW switch, S2 as shown in Fig. 2b. This completes the modifications.

Set the panel mounted VRb to mid way and set switch S2 to RIT ON. Listen to the VFO on an external receiver or use a frequency meter. Flick the TX/RX switch to TX and adjust the preset for the same frequency as on receive. To use the transceiver, first switch the RIT off and zero beat the station you wish to call. Switch to RIT ON and tune VRb either side of centre and away you go. A nice, easy and cheap modification which enhances the DSB80.


DSB80 • VFO
FIG.1A
R6
100
D2
8V2
C8
100n
TR1
2SK55
L1
C2
220p
C4
30p
C6
1n
R5
100
C1
260p
270p
C3
R3
47K
R1
5K6
R2
5K6
D1
C7
1n
R4
1K
C5
10n
TX 12V.
CW
N
S2
12V.
DSB
S1a
S1b
TX
B
A
C
E
D
RX
S2
DSB
N
+12V.
CW
REAR VIEWS
FIG.1B


DSB80 • rit mod
FIG.2A
D2
R6
C8
TR1
C2
L1
C6
R5
C1
C3
R'A'
100K
D'A'
BA102
R3
C7
R4
C5
N
R'B'
22K
L4 TAP
VR'A' WIPER
E
TX
S1a
S1c
S2
RIT ON
B
A
C
RX
S1b
D
VR'B' WIPER
N
RIT OFF
RIT OFF
S2
TX
S1c
RIT
VR'B'
47K
TX SET
VR'A'
47K
RIT ON
RX
R'C'
22K
FIG.2B



THIS SLOPER NEEDS NO TUNER

JERRY BARTACHEK KDØCA

(FROM QRP QUARTERLY)

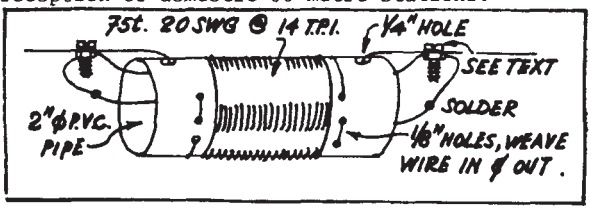
If you do not own a tower but want to erect a sloper, take heart! My ground fed sloper for 80 and 40 metres runs from the back of my house up to a large maple tree. I got the idea from the promotional literature of the W9INN antennas. He says you can feed the quarter wave sloper from the end closest to the ground and obtain good results if an adequate ground is used.

Last Autumn I thought I would experiment by throwing a 33 foot insulated wire over a limb of our large maple tree. I bought the feed line into a hole in my house wall 7 feet above ground where my coax cable used to exit. I fed the antenna with RG-8 coax and connected the shield pigtail to a cold water pipe which passed horizontally by the hole. The shield pigtail is clamped to the water pipe with a hose clamp after the pipe is sandpapered clean. The centre conductor of the coax is soldered to the antenna wire and is protected from contacting surrounding material.

The wires slopes up on the northwest end and down on the southest end. Directivity is strong off the lower end and Florida. Carribean and South American stations are 3 to 4 'S' units stronger with the sloper than with an inverted vee dipole up 26 feet at its apex. Also there is much more vertical polarisation with the sloper evidenced by the noise level which is much higher on the sloper than the dipole.

Borrowing another idea from W9INN, I wound a loading coil of 75 turns of No. 20 bell wire on a two inch I.D. PVC plumbing pipe and added an end section of about 5.5 feet of wire to create an 80/40 metre two band sloper. After much cut and try, I obtained an SWR of 2:1 or less over a 70KHz spread on 80 metres, with resonance at 3530KHz. The entire 40 metre band seems to be inside the 2:1 SWR limits. Please note that you should assemble the antenna with about 34 or 35 feet for the inner section of the sloper and trim it for proper resonance on the higher band first. Then you can trim the end section of wire for resonance on the lower band. If your coil has more inductance than the one I made, the 80 metre end section will be longer and the bandwidth will be broader.

This antenna seems less directive on 80 metres than on 40, but still retains the low angle/high noise vertical characteristics. This is the first resonant antenna for 80 metres I have ever owned in 15 years of amateur radio, so you can imagine my surprise and awe to hear Japanese SSB stations down in our CW band. This is the first DX I have ever heard on 80 metres. Heretofore, my random wires and feedlines tuned against ground only allowed reception of domestic 80 metre stations.



RE-USING OLD PANEL METERS

By Dave Logan G4EZF

Like most QRPers I have gathered a reasonable collection of ex-military panel meters from rallies at £1 each, only to find "Counts/Sec" and such like dial markings are not the in thing on QRP equipment. The following idea enables the more useful mA, Volts, Watts RF or 'S' points to be added at very little expense.

First, start off by carefully removing the meter movement from the cabinet, then unscrew the dial retaining screws and gently slide the dial away from the movement, paying particular attention not to catch the needle or hair spring with the dial. Place the movement on a shelf well away from elbows and cigarette ash, etc.

Scrub the dial with household washing up liquid, warm water and an old tooth brush. For obvious reasons do not use abrasives for cleaning, unless plain dials are all the rage in your locality! Try to find two small panel pins which just pass through the dial retaining screw holes and lightly, (very lightly), nail the dial to a small piece of plywood. By using a plastic protractor ensure the panel pins are at right angles to one straight side of the plywood. Using a school india rubber, carefully erase the unwanted lettering, i.e. "Counts/Sec", "Jones Gas Works 1941", etc. With the plastic protractor and straight edge of the plywood as a reference point, apply your new lettering. I found the Woolworths Rub Down Lettering at 29p per packet ideal for this purpose.

Sit back and admire your masterpiece, then wipe the inside of the meter glass with a piece of dry cloth and put the meter together again, remembering to just miss the hair spring and needle when replacing the dial.

The best signal strength report I have heard in 25 years of SWLing was "You are 20dBs per square inch OM", to which he later added, "Sorry I should explain I am using an old RAF fuel pressure guage for an 'S' meter". I bet that meter is still working to this day when the plastic import version died many moons ago.

THE G QRP CLUB AND THE DATA PROTECTION ACT

Member's names and addresses and callsigns are all sorted on computer to facilitate administration of the Club. The addresss labels for SPRAT are also printed from this information. The information conerning names and addresses is only available to CLUB OFFICERS. This information will not be divulged to any other organisation or company.

Members can obtain a printout of the CALLSIGN/NUMBER listing from G3RJV for 75p, but not names and addresses listings. Members objecting to their being listed in this manner are urged to contact G3RJV immediately.

MEMBERS SMALL ADS.....

WANTED: Mizuho MX4, 200mW, 70MHz. - Robert, G4RJC, (04022.21523 - not Sundays)

FOR SALE: Datong FL1 audio filter £30. Sony ICF7600D £120. SEM Ezitune £20.
WANTED: Heathkit or KW valve receiver, SB301, KW202 or similar, (offers from UK welcome) - Noel Cameron, EI4DZ, 16 St. Mary's Crescent, Westport, Co. Mayo, Eire.

WANTED: Calibrator for Drake 2B. Software for Atari 800XL - Peter (3212), 2 Huxley Close, Norwich, Norfolk, NR1 2JS.

COVETOUSNESS wins again! G3RJV would like to obtain a Drake 2B - any offers?

BOOK REVIEW BY G3RJV

THE HOT WATER HANDBOOK

HW8 Recipes By Fred Bonavita W5QJM

The Heathkit HW8 QRP CW Transceiver must rate as perhaps the most modified item of amateur radio equipment ever. The basic transceiver is good but can easily be made better using a variety of small circuit changes which have appeared over the years. Most HW8 owners have seen some of the array of circuit modifications which have appeard in the radio press over the years - SPRAT has not been short of them. What Fred has done in his book is to gather together lots of the more popular and well proven modifications for this popular rig. He has passed over, but given references to, the more major modification projects, such as the popular series from CQ Magazine by Ade Weiss, W0RSP, and included the simpler ideas capable of being undertaken by the average amateur.

Fred draws on sources large and small for these circuits, even SPRAT. The range of modifications is amazing - there are 34 ideas in the book. Although some are differing approaches to the same problem. None of them are outside the scope of most amateurs and all of them will enhance the HW8 in operation.

Now that the HW8 is available for reasonable prices on the second hand market, this handbook could be the key to obtaining a good CW multiband transceiver at low cost. It should be useful for any HW8 owner or for that matter any constructor because the modifications could easily apply to homemade transceivers already built or being planned. A good little book - well done Fred! I think the caption at the foot of page 7 sums up the whole approach, "Have you hugged your HW8 today?"

The book is available from Fred Bonavita, W5QJM, P.O. Box 12972, Capitol Station, Austin, Texas, 78711, USA for $5 surfce mail or $6 airmail, ($4 within the USA). Please send US funds only.

THE SECOND YEOVIL QRP CONVENTION

Yeovil Amateur Radio Club - GB2LOW

This event will be held on Sunday 13 October 1985 at the Preston Centre, Monks Dale, Yeovil. It is approached via Preston Road and Larkhill Road and maps are available from the Secretary. Entrance fee is £1 and this includes a programme and lucky draw number. The programme is as follows:-

0900 Talk-in commences on S22 (G8YO/A)
0930 Convention opens
1030 Lecture "Can we work VK on QRP?" by G3MYM, (followed by a discussion)
1200 Lunch break
1400 Lecture "The World of QRP" by G4FAI, (followed by a discussion)
1600 Prize draw
1700 Convention closes

Light refreshments are available at the Convention, and nearby are The Bell and The Preston Plucknett public houses. GB2LOW will be operating QRP on the HF and VHF bands. There will be an equipment display, (bring yours along too!) together with retail kits and component stands.

For further information contact the Secretary of Yeovil Amateur Radio Club, Eric Godfrey, G3GC at 60 Chilton Grove, Yeovil, Somerset, BA21 4AW, (Tel: 0935,75533 or 0935.21246).

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DONT FORGET THE G QRP CLUB WINTER SPORTS. DEC.26TH TO JAN.1ST (INC)

CHECK THE TIMES AND CW QRG FROM THE WINTER ISSUE OF SPRAT OR RAD COM.

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CLUB ITEMS FOR SALE

PRINTED CIRCUIT BOARD AND BADGES:

Please note that the stockist for BADGES, as well as Club PCBs is Mick Hodges, G4OPE, 51 Carnford Road, Sheldon, Birmingham, B26 3AG.

BADGES:

LAPEL BADGES (metal) 1 inch dia., Club logo in silver on black. 70p ($1)
CALL SIGN BADGES, as above but with call sign engraved on base bar.
Please order with call sign clearly printed (slight delay). £1.50 ($3)
KEYFOBS, leather with metal insert of Club logo. 75p ($1)
BADGE INSERTS 1" plastic disc with Club logo in silver on black. 20p (2 for $1)

Postage rates: add 20p for up to 3 items. Dollar price includes postage (surface)

PRINTED CIRCUIT BOARDS:
The following are available with circuitry and layout drawings:

THE S.C.D. TRANSMITTER BOARD. £1.25
A simple transmitter (xtal) for 80/40/20 from Short Wave Magazine by G3RJV.

THE S.T.X. TRANSMITTER. £1.00
About the simplest possible HF xtal transmit board by GM3OXX from Sprat 35.

THE FOXX TRANSCEIVER BOARD £1.10
Ultimate fun rig by GM3OXX, Sprat 35, on 2"x2" PCB.

WARC CONVERTER BOARD £2.25
Receive converter for 10/18/24MHz (to 14 and 29MHz) by DJ1ZB, from Sprat 35.

V.H.F. NEWS

John Beech, G8SEQ, 14 Hollow Crescent, Radford, Coventry, CV5 1NT.

First some more news from OE6HS. Heinz says he has heard YU3, HG1 and OE stations using his version of a two metre DC receiver using just an HB9CV antenna. He also mentions listening for bursts of signal from stations 200Kms distant using thunderstorms in between as reflectors. I have tried similar experiments, but thunderstorms are less frequent in this country.

His comments about receiving signals via aircraft remind me of something I read about a pair of stations having a regular morning sked with a scheduled aircraft from an airport!

Next Peter, G6NGR, mentions an interesting technique for breadboarding at VHF and UHF. For this he uses thin (1/16") PCB cut into 3/16" squares which are then superglued to the copper side of a piece of cleaned single sided PCB. The pads are stuck to the board wherever a junction occurs, and he lays them out more or less the same as the schematic. Longer strips can be cut for power supply rails, etc. Peter claims the technique will work for frequencies as high as 5000MHz.

Some people may have had difficulty in getting surplus crystals to oscillate in the transmitter circuit I published in SPRAT 42. This can be cured either by increasing the capacitance between the collector and emitter of the oscillator stage by about 15pF, (the original circuit relied on strays), or by connecting a 27K resistor between the collector and the metal can of the crystal.

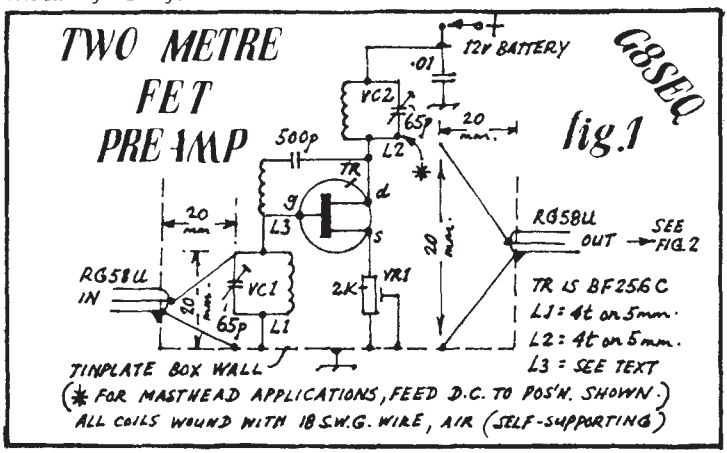
Well let's hope the WX and DX conditions improve before winter sets in.

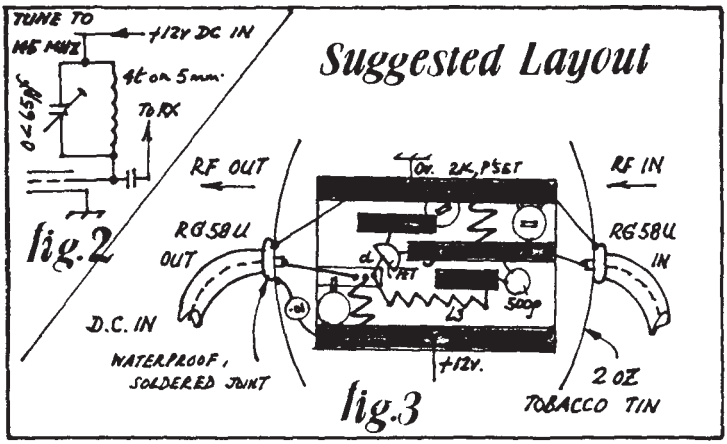
73,
John

2 METRE FET PREAMP

By John Beech G8SEQ

Much of this circuit was borrowed from W6OSA and K6HMO when FETs were $3 to $12 each! If you can't build the whole lot for less than $2, then you are doing something wrong!





The input/output matching is by delta match formed by stripping about 40mm of the coax and twisting the coaxial braid together. It can be made rigid by flooding with solder. The inner plastic insulation can be left intact up to the point where it is soldered to the board. Set VR1 for minimum received noise.

L3 is the neutralizing coil of about 12 turns wound on a 5mm former (18SWG self supporting). The coil should be adjusted to prevent oscillation should this occur. Two back to back 1N918 diodes can be placed across L1 if some antenna is used for transmitting. If using coax to feed DC to the amplifier then the supply voltage can be varied to optimize the noise figure from the shack.

AWARD NEWS

A.D. (Gus) Taylor, G8PG, 37 Pickerill Road, Greasby, Merseyside. L49 3ND.

NEW QRP MASTER: Congratulations to Frank, G3BFR, who has become QRP Master No. 19. Well done OM.

OTHER AWARDS: QRP WAC to GI4SNC QRP Countries 75 to G3BFR
Worked G-QRP-CLUB 80 to G3BFR and 29 to GM4XQJ Two Way QRP 20 to G3BFR

CW NOVICE Award is still going like a bomb and bringing in many new members. This is as it shoud be. The Novice of today will become the backbone of the hobby in the future, and our Club realises this and tries to encourage him.

PLEASE PUT YOUR POWER ON YOUR QSL CARD as otherwise it will be rejected if used for a Worked G-QRP-CUB application. "2 way QRP" is not acceptable under the rules; we need your actual power.

ALTERNATIVE 3.5MHz FREQUENCY. The only suggestion received was 3570 from GM4XQJ. As an experiment, if 3560 is unuseable because of QRM, try calling CQ QRP on a clear spot in the range 3570-3575KHz, and also please monitor this range for CQ QRP calls.

SOLAR FLUX AND GEOMAGNETIC ACTIVITY INDICES. With the problem of receiving WWV since the station was moved to Colorado, does anyone know of a European or UK source of up to date solar flux, A index and/or K index information? This information is invaluable for short term propogation forecasting. Surely with all the resources available in Western Europe there must be a source nearer than the American mid-west??? Info to G8PG pleae.

AND TALKING OF SUNSPOTS the current gestimates, (including one from NASA), are that the minimum will occur in 1987, just about the time when, (if he is spared), G8PG will be celebrating having held that call for 50 years. Just my usual luck.

"Alamosa", The Paddocks, Upper Beeding,
Steyning, West Sussex, BN4 3JW.

Have you ever wondered how those people feel who appear on television in "This is Your Life" when someone who they haven't seen for ages, or who they thought was round the other side of the world, suddenly appear in front of them? I came as close to it as I am likely to get on the Friday before my QRP Party on 17th August. I had been fishing with my son Steve, and when we got home about 7pm there standing in our lounge was Leo, KC5EV and his wife Sharon, having arrived in the UK the day before. They, together with my wife Pam, had planned the visit to coincide with the party and as a surprise for me. Needless to say the party went with a swing especially as we had PA3DUV and PB0MAM make the trip over from Holland, so we had a real international flavour here. Other closer members of the Club who made it were G4KLS, G2HKU, G3VTT, G3MCK, G2HNI, G4ZFY, G3LDO, G0BOP, G3WWS, G3ROO, G4UYA, G4ZHK, G4GIU, G3RJV, G3SYC, G4HYY, G8WWO, G3WPO, G4LQF, G4FAI, G3KFE and non members G3FXB, G3MXJ and G5RV. Quite a week-end with a very good selection of homebrew gear in evidence and G3VTT running a surgery during the evening for sick rigs!!

G3RJV, G3SYC, G4HYY, G8WWO, G4LQF, G3KFE, PA3DUV and PB0MAM all stayed overnight and the following morning we had a visit to the Vintage Wireless Museum at Amberley where Ron Ham looked after us. Late on the Saturday evening we managed to work G0ATS on 3.5MHz. I think we left Eileen rather confused as we all exchanged reports and club numbers with her one after the other.

A few weeks before the party Ade Weiss, W0RSP spent a few days here, and a few of the local amateurs came round to meet him. In addition to all the QRP chatter, my boys managed to pursuade him to go fishing with us, and Ade showed us up by catching the first fish! We spent a great day at the VTT QTH before Ade made his way back to Oxford where he was staying. Other recent visitors here have been VK6LW (ex G4EHF), W1DMD, N5MM and W2MEL, so the Summer has been very great despite the very bad weather we have had.

Talking of G3VTT, Colin has managed to pursuade the local planning authority that a 37 feet tower would enhance the scenic beauty of the Maidstone countryside!! Well done Colin, and hopefully by the time this appears we will have got it up with help from G3LQI, and ehanced Colin's HF signal by a few 'S' points.

Still on the social scene we are looking forward to the RSGB HF Convention on 29 September and then the Leicester Exhibition. Unfortunately the HF Convention coincides with the Clubs' Late Summer Activity Week-end, so if our overseas members wonder why the activity is down on the Sunday, that will be the reason. The second Yeovil QRP Convention is being held on 13 October, see information elsewhere in SPRAT. Several members have said they will be going, including G4FAI, who will be giving a presentation.

Congratulations to GM3OXX who was runner up in this years RSGB Low Power Contest in April. It was nice to see so many Club calls amongst the 39 entrants. George is progressing with his new rig, and is now building the transvertors. WB2IPX has moved QTH and is QRV with a five band vertical with which he has worked into Europe with his Argonaut. Les is organising the QRP events at next years Dayton Hamvention in Ohio, and I hear that

great things are planned. I shall be taking Pam and hope to meet many of the USA QRPers there.

ON4KAR has worked a W9 in Wisconsin on 7MHz with his FT77 at 2 watts and a dipole just 5 metres high. W9PNE was pleased to receive the first place certificate for W9 in this years WPX CW Contest as he was only running 250mW. Brice managed a total of 37 countries during the contest. OK1DKW sends information about the OK QRP Group who meet on 3560 between 1700-1900 on the first Friday of each month. On a personal basis Petr has worked J28 and 5Z4 to take his milliwatting to 103/95. WB1GMH has improved his Skeleton Cone antenna by doubling the size of the antenna, he now has 102 feet in each leg. G4GDR recently worked ON6QE of the Benelux QRP Club and PA2JJB on his 3 watt homebrew rig for 7MHz.

G3ASV sent a photograph of his all homebrew QRP station. Gordon has recently returned to amateur radio after 38 years absence and has built W9SCH's "Old Timers' Junk Box Rig". DL1HCU has been using a magnetic loop antenna from the balcony of his house, and GW4JMN has exchanged his FT101 for a FT77. Mike said he got jaded over the years by the loss of amateur spirit, but since joining the Club is 100% CW, (is there any other mode...?!), and has received a new lease of amateur life making new friends around 7030.

G4VGA is awaiting the arrival of a TS120V which he is going to use /P from some of the Isle of Wight hills. G3MCK suggests 3579 as an alternative to 3560. Gerald says the crystals are available and cheap, and it is the frequency used by Howes in their CTX80 rigs. G4TJE should agree as he has built one recently. BRS87789 sent the first letter from a SWL. Peter is studying for the RAE and would like to hear from members in the Norwich area who can give him some help with homebrewing. He can be contacted at 2 Huxley Close.

G4HYY recently spent a couple of weeks with DK4HU who is into QRP by building a TCVR for 3.5MHz from a design in CQ DL. Dave has been experimenting with the TF2D antenna. 4X4SN mentions the growing interest in QRP in his country, abd G3DNF complains about the Arabic station which has settled on 14060. It is now being jammed and despite promises of attention from the RSGB, is still there. SM7KWE found an opening on 28MHz, and mentions that his father-in-law is SM7MQV. G3ICH will be at Yeovil, but said he had to miss last years event as he was in KH6, no offence to Yeovil but what a contrast! K2JT has put up a TA33 at 30 feet and with his Argonaut has worked 43 countries in seven weeks. G3IJV is using the PW Teme on 7MHz with a 103 feet dipole at 15 feet. Bob has worked 43 countries including VP9, W3 and EA9. GM4XNQ is also using a Teme and on 14MHz David has been working all around Europe. He would like to hear from other members who have built it.

G3OEP mentions that his son is quite often QRV on 21020-30 between 1630-1800 BST as either A4XZG or A4XRS, and G4EBO has been finding the USSR QRP stations. Eric has worked UR2RHV (5w), UC2IDW (2w) and UA3UDK (1w). KH6CP has worked FT8 and BY5 for new ones and found some DX on 21MHz during the Radiosport Contest. G4NNJ has built the G3OGQ TCVR for 14/3.5MHz from Rad Com (1983). Allan has had SSB QSOs on 3.5MHz with it at only half a watt out. G3OQF/HB9ANW has gone back to the simple and trusty HW7 and fitted the circuit board into a home made box only 68mm high by using smaller front panel components. Dick has removed the crystal circuit and says that all the active devices, including the CA3035 can still be found. Finally G4VXJ mentions the new 10, 18 and 24MHz bands and there suitability for QRP. Leonard suggests we ought to encourage activity on them and so if any if you have ideas please let us know.

Space has beaten me again, but please keep your letters coming and let me know how your Autumn goes, by 20th November please. Hope to see some of you at Oxford and Leicester, and, of course, on the air.

Best 73,
Chris

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