



# SPRAT

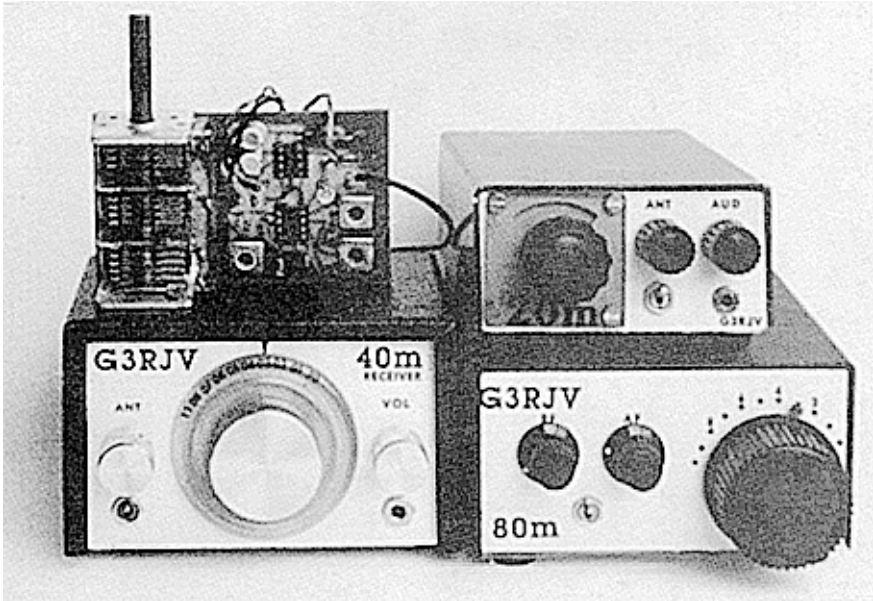
THE JOURNAL OF THE G-QRP CLUB

DEVOTED TO LOW-POWER COMMUNICATION

ISSUE NR. 58

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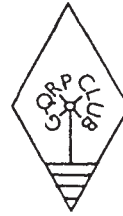
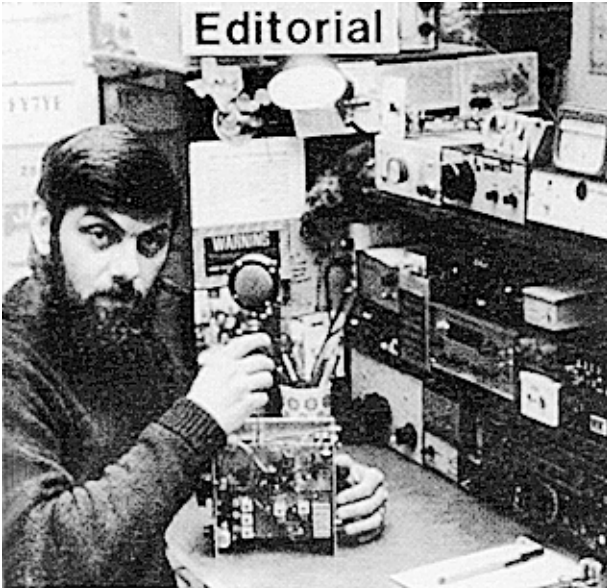
AUTUMN 1989



THE SUDDEN RECEIVER : PCB, 80, 40, 20m VERSIONS

FIELD STRENGTH METER - TTL PROBE - CW FILTER  
RIT CONTROL - ATTENUATOR - ALL BAND VXO TX  
OMNI ON QRP - G FILTERS - SUDDEN RECEIVER  
THEME & VARIATIONS - IRT MOD - IC735 ON QRP  
COMMUNICATIONS FORUM - SSB NEWS - VHF NEWS  
MEMBERS NEWS - QRP CONVENTION NEWS

# JOURNAL OF THE G QRP CLUB



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**Rev. George Dobbs G3RJV**

This is the second time that I have written this editorial, the repeat is due to a late news item, see opposite page, which had to be sorted out before SPRAT was sent for printing.

This issue marks the first of several which will contain articles backed up with printed circuit boards and, in some cases, kits. This issue has the SUDDEN direct conversion receiver, a simple club design for any constructor, the next will contain the LCK receiver and transceiver, a simple ladder filter superhet for 160 or 80 metres. The autumn issue will contain the White Rose Receiver project, an all band "supergainer" receiver for 160-2 metres.

For major QRP events, do not forget the Yeovil Convention, see later in this issue and we hope to run a QRP Mini-Convention in October in the North West of England. Ian, G3R00, and I are to represent the club as lecturers at the ARRL 75th Anniversary Convention in Dallas during the first weekend in June. The club will also mount a small recruitment and sales display at that convention.

If your address label has been stamped with an OVERDUE notice, please take note of the item by G4HYV on page 4, because this could be your last issue of SPRAT. Please bear in mind the "lead-time" between label printing and receiving this issue and some later payments and late bank standing order returns may not have been included before the stamping took place.

Hope to see you on the bands,

73 fer nw.

*George*  
G3RJV

CLARIFICATION ON  
EMC DIRECTIVE  
AND HOME BUILT  
AMATEUR RADIO  
EQUIPMENT.

Publication of this issue was delayed to seek further advice on the enclosed article by G3VA in the E&W for March 1989.

The article was forwarded by GM30XX & G8PG and seemed to contain grave implications for the amateur and home built radio equipment.

ELECTRONICS  
& WIRELESS WORLD  
March 1989

European EMC  
Directive

The DTI continues to express reservations about the draft of the proposed European Community Directive on Electromagnetic Compatibility (EMC) and has been lobbying for further changes after the UK abstained from voting last October on the Directive as presented at the Internal Market Council meeting. On present timescales the Directive is due to come into force on 1 January 1992, with a transitional period in the event of non-completion of the necessary standards at the date of its implementation but with a deadline limited to 31 December 1992.

A point of some interest to the radio communications industry and to radio amateurs in particular is the interpretation of the latest form of Article 2, Paragraph 3 and Article 10 Paragraph 5: Radio Equipment.

Article 2 Paragraph 1 states that the EC Directive will apply

"to apparatus liable to cause electromagnetic disturbance or the performance of which is liable to be affected by such disturbance"—a comprehensive description covering virtually all radio and electronic equipment. Paragraph 3, however, states: "Radio equipment used by radio amateurs within the meaning of Article 1, definition 53, of the Radio Regulations in the International Telecommunications Convention, is excluded from the scope of this Directive, unless the apparatus is available commercially."

This would seem to have the intention of excluding all home-built amateur transmitters, but apparently this is not the interpretation put on it by the DTI. They interpret it to imply that the Directive will apply "to all transmitters and receivers placed on the market and brought into service, including commercially available amateur apparatus. The only exception to this coverage is home-built amateur apparatus (though our interpretation is that the component part of the kit-built equipment would need to comply if on

offer commercially). In addition most transmitters, but not receivers, will need to be type-tested by an independent accredited test-house. Only amateur transmitter apparatus which is commercially available will fall outside this requirement."

I hesitate to interpret the DTI's "interpretation" but, on the face of it, the notes provided by J.F.C. Ketchell of DTI's Radio Investigation Service suggest that virtually any home-built transmitter would need to be submitted for type-testing by an accredited test-house. This would inevitably be a costly process that would make it uneconomic to design and build a one-off experimental transmitter. This, surely, is not the intention of the EC Directive.

Please note that this reproduced article is not to the usual SPRAT standard having been hurriedly copied

Concerned about the possibility that one off homebuilt amateur radio equipment may become subject to these restrictions, clarification was sought from the RSGB.

Mike Dennison of the RSGB, who has been in contact with the DTI's John Ketchell, mentioned in the article, offers the following information:

- 1) The DTI have no intention of including homebuilt, one-off amateur radio equipment, not made for commercial gain, within the regulations. (no test house type approval will be required)
- 2) The type approval is unlikely to apply to existing commercial equipment. (not retrospective)
- 3) Modification of type approved equipment is a "grey area" but it is unlikely that test house approval will be required but a "technical file" may have to be kept on such modifications in case of future problems.
- 4) Amateur radio kits and small scale production is another "grey area" but will probably be excluded.

The DTI seem reluctant on the whole package of regulations in the directive, hence the UK abstained in voting. The DTI do support the self-training and educational aspects of the hobby.

Mike Dennison asked that the point be made that the hobby could gain from the EMC regulations in that there would be an increased awareness of the problems of RF interference including the radiation of RF from receiving equipment (including television sets).

**SUBSCRIPTION UPDATES AND OVERDUE SUBS**

The labels for this copy of Sprat were printed on 27th February. If your subscription was received by G4HYY after 26th February, your label will still show that you are unpaid for 1989. The next Sprat label will show your updated subs status.

Some members may have paid by Bank Transfer but do not have an update on their label. This may be due to a slight communication difficulty with our bank!! These also will be corrected next time.

It is possible that errors may have got into our system. G4HYY has dealt with a very large number of letters recently! Our apologies if you think that our records are incorrect.

If you wish to check your subs status please write to G4HYY - with A STAMPED SELF ADDRESSED ENVELOPE PLEASE - it saves G4HYY a lot of time if he does not need to write your address!!!!!!

Member 4890 was enrolled on 26th February -- It will not be long now to member 5000.

**G QRP CLUB ACCOUNTS      Feb 16th 1988 to Feb 6th 1989**

INCOME		EXPENDITURE	
b/fwd No.1 bank account	£ 12449.03	SPRAT printing costs	£ 5151.00
b/fwd No.2 bank account	£ 1229.46	SPRAT mailing costs	£ 2550.75
Subscriptions	£ 9991.54	Components for kits & sale	£ 2872.61
Sales rally/conventions	£ 695.48	QSL card printing	£ 347.04
Sales by post	£ 1654.48	Officers expenses	£ 326.21
QSL cards supplied	£ 493.00	Purchase of books etc	£ 545.44
Morse tape service	£ 38.88	Capital equipment	£ 743.78
Miscellaneous	£ 418.18	Duplicating & copying	£ 115.06
	-----	Stationery	£ 264.17
<b>TOTAL</b>	<b>£ 26970.05</b>	Large post items	£ 526.81
	-----	Artwork for SPRAT	£ 138.92
		Awards & trophies	£ 179.50
		Rally & convention costs	£ 133.78
		Miscellaneous	£ 94.67
		c/fwd No.1 bank account	£ 11568.89
		c/fwd No.2 bank account	£ 1411.42
			-----
		<b>TOTAL</b>	<b>£ 26970.05</b>
			-----

This year has seen very little change in the club's financial situation and we carry forward to next year about the same reserve. Postal charges again are a major expense, and indeed also form a large part of both your officers' expenses and the apparent profit of the QSL card service (a bill for £102.02 for QSL printing has just been received). The club holds a fair stock of components, kits and books which do not appear above. Over £3000 of subscriptions has been banked during the week from the 6th February and will appear on the balance sheet for next year.

The Handbook costs are included in the SPRAT printing and mailing charges; in fact it cost £765 to print. Response so far would seem to indicate that it was an exercise worth repeating.

Capital items include a printer and interface for your Hon. Sec. for the production of SPRAT, software for your Hon. Treas. to produce the listings for the handbook, a printer buffer for your Hon. Membs. Sec. to ease the printing of labels for SPRAT covers, and a Century 21 transceiver (£120) which is currently on loan to a member.

Again grateful thanks are due to Peter and Betty Jackson, G3KNU/G1YNR, who have been kind enough to audit these accounts.

G3PDL Feb 13th 1989

## Sensitive Field Strength Meter By G4VSO

Following the requirement to do simple field strength measurements I found that the normal simple diode types suffered from lack of sensitivity, in particular when working with a low power transmitter

Pondering over the classic literature, the following design evolved. It consists of: a simple R.F. amplifier using TR1, and diode detector D1, where D2 and D3 are for temperature compensation. VR1 is used to set up the D.C. on TR2 by setting current through M1 to zero. VR1 has two functions it biases the diode D1 partly on and nulls the bridge set up by R5, R6, R4 and TR2. A further option used was a simple tuned circuit covering 15M to 30M, which was switched in or out as required.

Construction was on 0.1 vero board and mounted in a die-cast box. Measuring the sensitivity of the completed unit with R.F. amplifier and without amp & detector only, the results are:

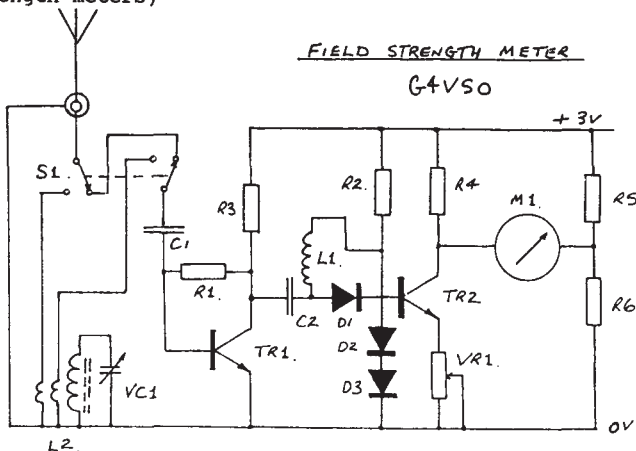
meter level	R.F. amplifier	detector only
500ua (full scale)	-38Dbm	-8Dbm
50ua (half scale)	-48Dbm	-18Dbm
5ua (10% scale)	-58Dbm	-28Dbm

### Component list

R1 R2 10K 1/4 watt 5%	C1 10n ceramic
R3 1k ditto	C2 4.7n ceramic
R4 4.7k ditto	L1 1mH axial inductor
R5 R6 560R ditto	D1 D2 D3 IN914
RV1 100R Preset	VC1 10-450pf
TR1 ZTX313	L2 20t on T50-6 with 2turns
TR2 ZTX312	input output coupling
M1 500 UA	
3V Battery holder	
Die cast box	
3 to 5ft Telescopic ant	
S1 DPDT (Broadband/narrowband)	

### References

Solid State Design page 147 ( diode detector )  
 Test Equipment for the Radio Amateur page 7.5 ( field strength meters)

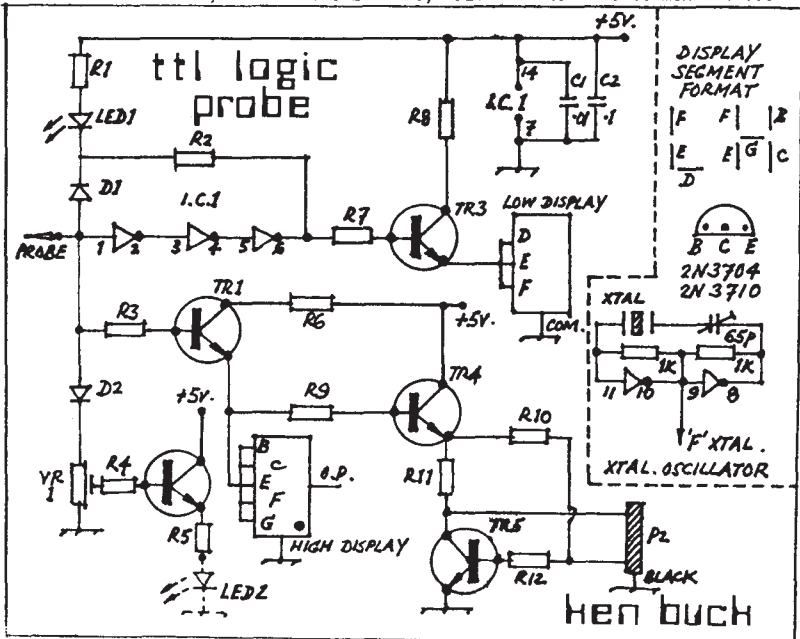


A TTL LOGIC PROBE

The increasing use of integrated circuits in SPRAT prompted this project. Most components were obtained in traditional QRP style test equipment. The fast response of a logic probe is better than a multimeter for the majority of tests and more convenient. A basic probe has two different coloured LEDs for high and low outputs and although capable of indicating a third state, the results of certain tests are not easily assessed as there is no reference. This circuit is more sophisticated and displays a H or L on seven segment LEDs. This draws more current and should be determined before use as these testers normally derive their positive supply from the equipment under test. The display capability is FLOATING\_HIGH\_LOW\_PULSING and combinations of these inputs. The ranges are self selecting and switched with bias voltages obtained from the ICs under test via the probe. A piezo element is switched together with the display for audible indication of any TTL logic state containing a high. When floating (no probe input) the high and low displays are blanked and LED1 will be on. LED1 is biased from the probe and IC pin 6 and when a low is sensed it is biased off, and is primarily a probe status indicator. With fast pulsing inputs 1E oscillators, high and low are displayed simultaneously and LED1 is reduced in brilliance. To determine VCC from a high, LED2 (the H display decimal point) is turned on and LED1 off. To set VR1 connect the probe to +5v and adjust for preferred brilliance. I chose a setting to give a brilliance level equivalent to true high as a reference. With the resistance values given, VR1 and TR2 will ignore a high output voltage of any logic state. The circuit is suitable for testing the complete TTL only range, 555 timers etc. operating from 5 volts. Current varies between 10,25mA. Low current displays are available but expensive. Resistance values are fairly critical and should be 5% or better. A combined CMOS/TTL probe was envisaged at first but as is often the case, a compromise had to be reached in the circuit leading to erratic operation. It is hoped to develop a CMOS version when time allows. As only three inverters of IC1 are used, a versatile piece of test gear can be made by using a further two. A popular crystal oscillator circuit is shown though usually associated with 7400 NAND gates. The XTAL should be removed before the logic probe is used.

TTL LOGIC PROBE : COMPONENT LIST

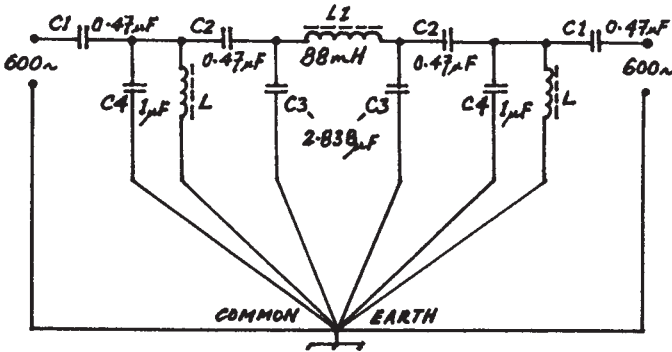
R1,2,5 = 680, R3,4,7,9 = 1K, R6,10 = 270, R8 = 390, R11 = 820, R12 = 6K8  
 VR1 = 47K, C1 = .01, C2 = .1, D1,2 = 1N4148, IC1 = 74LS04, LED1 = 3mm Red  
 TR1,5 = 2N3704 or 2N3710, PZ = Piezo Element, DISPLAY: .3" Red Common Cathode



THE BEST AUDIO FREQUENCY FOR SW RECEPTION  
Gerd DJ 4SB & Ha Jo DJ1ZB

Gerd points out that for many years he and his XYL, Rena, DJ9SB, found low frequencies best for cw reception. The reason for this became clear when an article on the selectivity of the human ear was published in a German magazine in 1979. This shows clearly that the selectivity (discrimination) of the human ear peaks around 300 - 400 Hz, being some ten times better at those frequencies than at 1000 Hz. The implications for the cw operator are obvious. To get the best of all possible worlds Gerd currently uses a filter variable in both frequency and bandwidth (300 - 2000 Hz and 100 Hz to 2000 Hz respectively). It is built using the circuit published in the RSGB "Amateur Radio Techniques", 1974, page 126. Used outboard of an HW8 fitted with the HB91K rit circuit is most effective. Ho Jo, has looked at the problem from a different point of view, using a computer program to design a suitable filter. Unfortunately owing to not having any 88 mH coils available he has not been able to actually build the design, but knowing his technical expertise it should certainly work. The only problem is the 600 ohm input/output impedance which may make it difficult to find suitable matching transformers, but if there is sufficient interest from readers H2 Jo is prepared to provide a design with different impedances. The design shown has a centre frequency of approximately 420 Hz, a bandwidth of about 80 Hz, and good skirt selectivity. The earthing shown in the diagram is that used in hf filters; it may not be necessary at af.

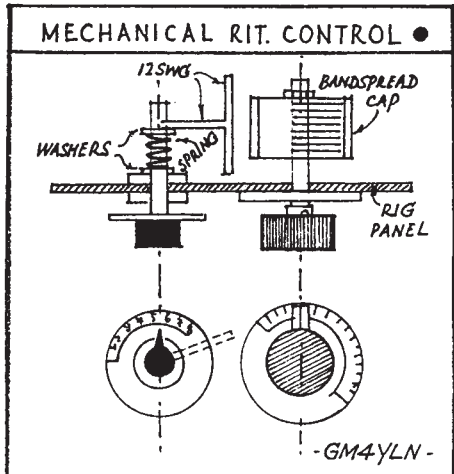
L1,2,3, 88 mH. C1 0.47 uF. C2 0.47 uF. C3 2.838 uF. C4 1uF all well matched.



**C.W. FILTER · DJ4SB-DJ1ZB**

MECHANICAL R.I.T. CONTROL  
GM4YLN

A very simple little idea for adding RIT or bandspeed to an existing variable capacitor. The diagram should explain itself. It works well and can be fitted to any receiver if there is space on the front panel. The degree of shift can be varied by changing the length of the arm or of the crosspiece.



TO CONVERT A 75 ohm ATTENUATOR FOR USE WITH 50 ohm LINES  
Gerald Stacey G3MCK/2148

I recently acquired a step attenuator which went from 0db to 59.5 db by 0.5 steps. The only snag was that it was designed for 75 ohm coax and I wanted to use it with 50 ohm coax. I solved the problem by fitting "matching" L section attenuators to each end. These make the filter think that it is being fed by a 75 ohm source and that it is terminated in a 75 ohm load whilst at the same time making the source think it is feeding a 50 ohm load and the load think that it is being fed by a 50 ohm source. The only snag is that these end sections introduce a loss of 12 db. In other words my attenuator now steps from 12 db to 71.5 db in 0.5 db steps. The circuit is as shown:

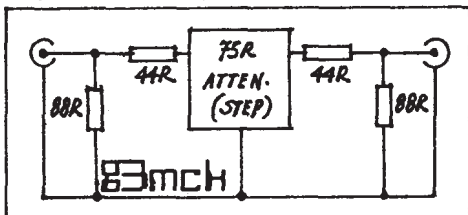
For the 44 ohm resistors I used 43 ohm standard value resistors. For the 88 ohm resistor the nearest standard value which I could get was 82 ohms, which is probably near enough. In fact I used two 150 ohm resistors in parallel which came from the junk box and which gave a measured resistance of 85 ohms. Alternatively a 150 ohm resistor in parallel with a 220 ohm resistor give 89 ohms, at least in theory!

The calculated total insertion loss of the end sections is 11.5 db. Mine measured at 12 db which considering my test gear is very good. I measured the loss as follows:

1. Feed a standard signal source into the RX via a 20 db attenuator and note the reading on the S meter.
2. Replace the 20 db attenuator with the switched attenuator.
3. Adjust the attenuator to give the same S meter reading as in (1) and note the attenuation, in my case this was 8 db.
4. The insertion loss of the ends is therefore  $20-8=12$  db and this figure must be added to all readings to get the total attenuation.

The only other check I could do was to measure the DC resistance at the input of the attenuator when it was terminated in 50 ohms. It varied between 49 and 50 ohms.

This mod is not a standards lab job but it is a practical way of solving the problem and should give satisfactory results for practical men.



WANTED: Front cover/grill for Redifon Safari transceiver, also coil sets A,C & E Any HC6U crystal between 5.00-5.20MHz also appreciated. John Haliburton, GM4AQQ 32 Glenbervie Road, Kirkcaldy, Fife, KY2 6LQ.

FOR SALE: CW Filter for Ten Tec Corsair or Paragon. 500Hz model 285 GI4PCY, QTHR. TEL: 0365 24993 (evenings)

BORROW : Circuit or Handbook of Lafayette HA63A receiver (circa 1966) Colin Hawkins, GoCEU, 3 Offord Close, London, N17 0TE.

WELL DONE..WELL DONE..WELL DONE..WELL DONE..WELL DONE..WELL DONE..WELL DONE.. Remember our fine Father Willis 1884 Organ at St. Aidan's Rochdale and the QRP Day to raise money towards its restoration?

Well The response was amazing.. The sponsorship money from members and qso contacts with G3RJV came to £957. May I thank you all..... and add that this is only £43 short of £1,000.... so (guess you know whats coming next!) if there are any members thought about.. but didn't, I wonder if we could make the thousand ?



ALL BAND VXO TRANSMITTER  
John T Collins KN1H

Building and using simple QRP Transmitters is a lot of fun, but, swapping crystals and output filters in order to change bands, and having no VXO range on the low bands, made me wish the whole mess was in one box with a tuning knob. Thus was born the following All Band QRP Transmitter.

The frequency mixing scheme was inspired by the presence of all but one of the needed crystals in my junk box. Possibilities abound for other combinations, but it's recommended that the VXO be as high in frequency as practical to maximise swing. Spend a pleasant evening with your box of odd crystals and a calculator; you may be surprised at what you find!

#### Circuit Description

With L1 set at 9uH the VXO can be tuned with C1 from 17.065 Mhz down to 17.050 Mhz. With larger values of L1, the frequency can be pulled about 25 Mhz, but stability suffers at the LF end. L1 is actually a miniature 10.7 Mhz IF coil with the capacitor snipped out. There is no practical way to get a perfectly linear tuning range with this circuit, but an acceptable compromise can be had by using a straight line frequency (off center rotor) type of capacitor for C1.

The Heterodyne Oscillator is a Pierce circuit allowing virtually any type of crystal to be used. Crystal frequencies were selected to produce output in the hotbed of QRP activity on each band when mixed with the VXO output.

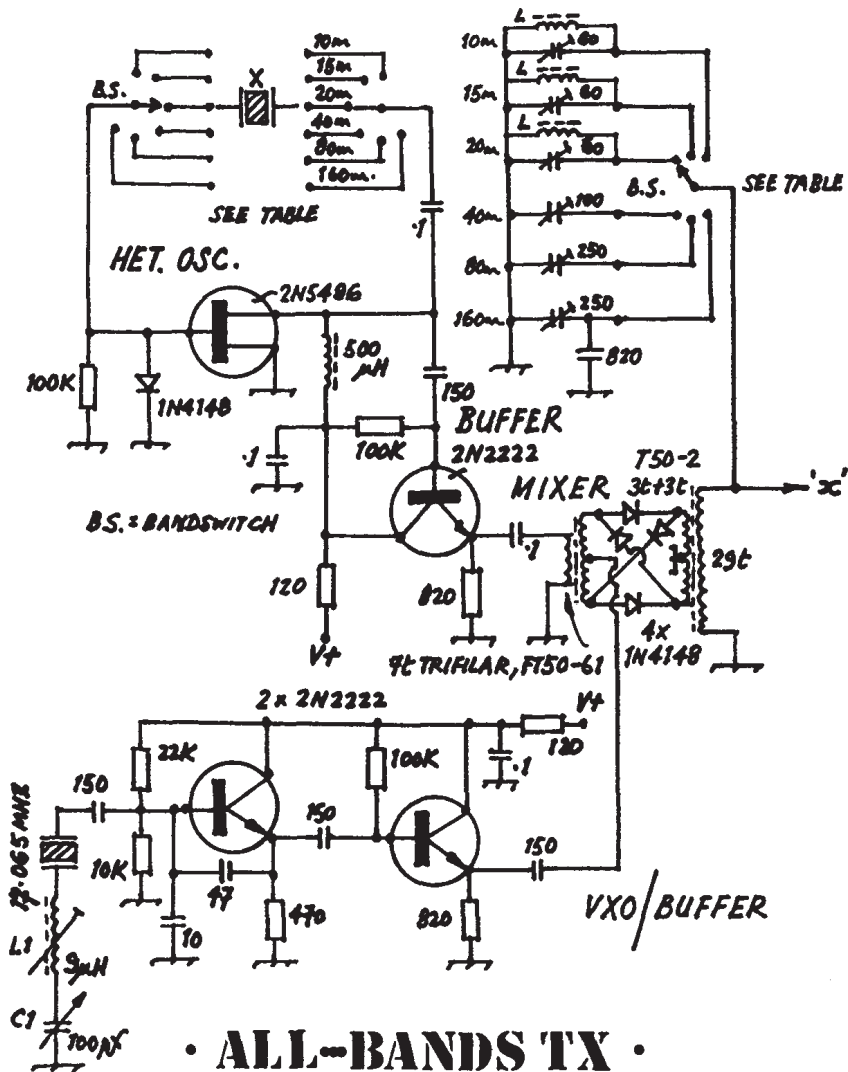
Both the Mixer and Driver circuits are based on ZL2BDB's 'Three Band Transceiver' series featured in Break in during the 1970s. The mixer input is a conventional broad band transformer, while the output is tuned to the desired frequency band. About 3V P-P at high impedance is available at G1 of the dual gate MOSFET driver, which, due to its own high input impedance, does not load the tuned circuits much. Drive to the pa is 40-50mw, depending on frequency, with Drain current set to 15ma. Adjusting the voltage at G2 will alter the Drain current and the gain of the stage, so some fiddling with the resistor values may be in order. The 800 ohm output impedance of the MOSFET is stepped down to about 10 ohms at the PA base through two 9:1 trifilar wound transformers. Ferrite beads were added to both G1 of the Driver and the base of the PA to cure a case of erratic behaviour, apparently caused by VHF parasitics. In the PA I started with a 2N3866 which worked fine, but 'went away' when the transmitter was accidentally keyed with no antenna connected. The 2N3137 in its place now seems to be more forgiving. Power output ranges from 700mw at 10M to 1.2W at 160M.

In the output are peaked low pass filters from a DJ1ZB design. They work better than conventional half wave filters at reducing the mixer product outputs that are below the desired frequency, as well as the harmonics that are above it.

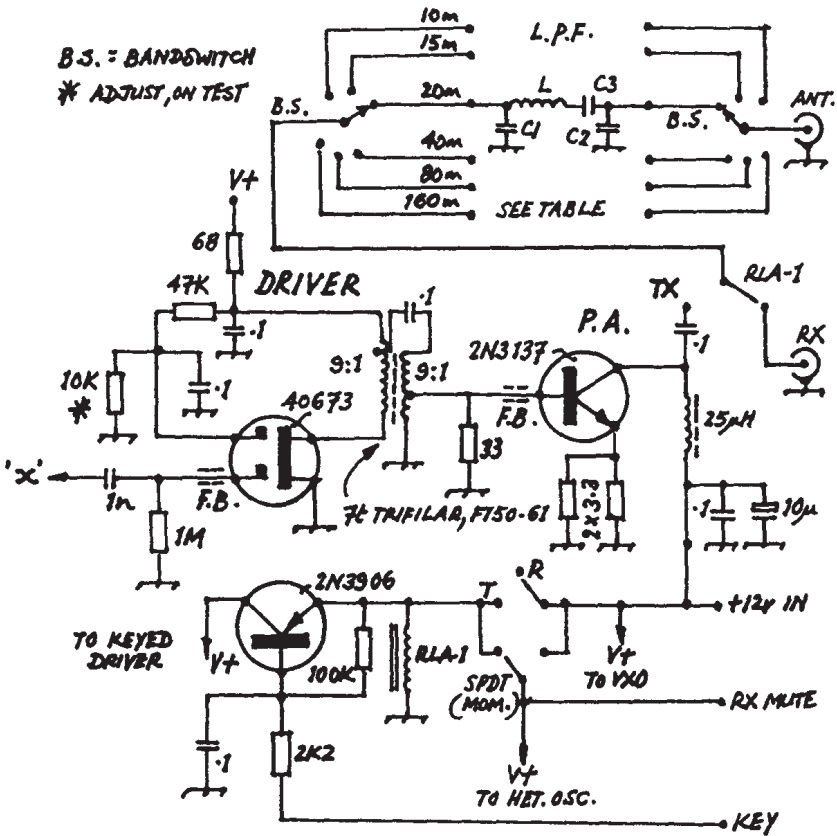
TR switching is accomplished with a toggle switch which controls a small 12V relay for antenna changeover, and feeds 12V to the Het. Osc., keying circuit, and receiver mute input. The PA and VXO are always powered up. A momentary 'spot' switch is wrapped around the TR switch to apply 12V only to the Het. Osc. and receiver mute input. I have the bias on my homebrew receiver's mute circuit adjusted such that there is enough audio output for netting a station to frequency with this arrangement.

It was found to be convenient to mount all of the crystals, tuned circuits, and LPFs on the bandswitch, with the active components 'sky\_wired' on a piece of unetched circuit board. The bandswitch itself is 5 LP 12T wafers, leaving room for up to six additional bands with the installation of a crystal, tuned circuit, and LPF for each band.

To date over 50 QSOs are in the log using this transmitter with a companion homebrewed receiver, including WAC on 10M which was quite gratifying. It's a real pleasure to change bands at a twist of the knob, and to have 15Khz tuning range even on 160M!



160 m USERS: Dick Pascoe, GoBPS has had several interesting comments following his note in the last issue. George, G3KXP, has managed to work some nice EU countries and sent a copy of 160m from suburban sites, circa 1973 : an interesting article. John, KN1H uses an Argosy converted to 160 and is close on WAS. He uses a GSRV at 65ft with strapped feeders and 4 elevated radials as counterpoise and seen a 3dB increase in antenna current! (135ft long, if you can fit them in!) Send any 160 info via KANGA.



BAND CHANGE COMPONENTS

Band	Mixer Tuning				Low Pass Filters				Turns on 1 50 2 Core
	XTAL	L	C	C1pF	C2pF	C3pF	LuH		
10	11 MHz	1uH	60pF	71	127	39	1.07	15	
15	4 MHz	1.5uH	60pF	92	168	51	1.42	17	
20	3 MHz	3.9uH	60pF	143	250	78	2.16	21	
40	10.02 MHz		100pF	280	510	150	4.3	29	
80	13.5 MHz		250pF	560	1000	300	8.5	41	
160	15.25 MHz		250pF +820pF	1060	1900	590	16.1	57	

MODIFYING THE TEN TEC OMNI FOR QRP/QRO SWITCHING  
Colin Turner. G3VTT

The Ten Tec 'Omni' is one of the lesser known QRO transceivers here in the UK but nevertheless capable of superb selectivity and sensitivity. There are only a few specimens around but they have a tremendous reputation. Although production ceased some time ago with the introduction of the 'Corsair' it shares many of the features of the 'Corsair' and according to the Ten Tec Chief Engineer at the time, K4XU, it was designed with the CW operator primarily in mind.

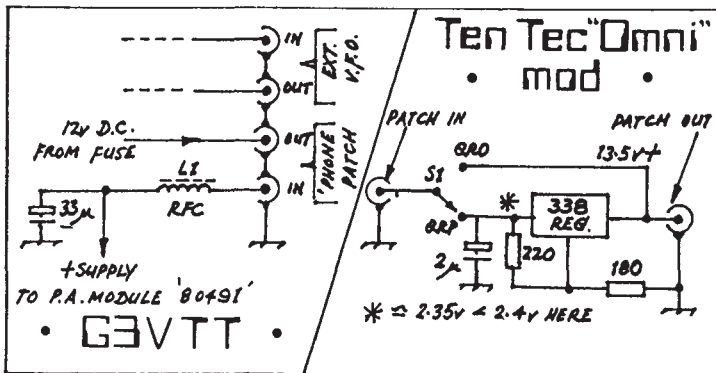
When operation on low power is envisaged the usual recourse is to turn down the 'drive' control until three watts are shown on an external WATTMETER. The main problems with this system are that the power level is unstable at the low levels, meaning it can wander above and below the required three watts, also adjustment of the three watt level itself is critical and requires a steady hand.

In WROSP Ade Weiss's book 'Joy of QRP' Ade shows how a Ten Tec 'Triton' can be run at low power levels by lowering the voltage fed from the main 12v supply to the Power Amplifier block. As lowering the block overall supply voltage also alters the bias accordingly it makes a very easy way of QRP/QRO switching. Luckily all of the Ten Tec rigs produced over the last few years use a similar PA block and this modification should suit not only the 'Omni' but also the 'Corsair', 'Delta' and doubtless any other transistor transceiver with a separate PA block. A similar method was used by G4BUE to obtain milliwatt output from an 'Argonaut' a few years ago.

All that is required is a voltage regulator to reduce the voltage fed to the supply pin of the block. The big problem is taking the reduced voltage to and from the PA block. I used the same system on my 'Omni' as my 'Triton' a few years ago. On the rear of the 'Omni' are two phono sockets marked 'phone patch' and 'in' and 'out'. We are not licensed in the UK for phone patch, not yet anyway, so these sockets are redundant. They can be used for feeding the 12 volt main supply out of the 'Omni' to a regulator and switch box and feeding it back into the PA block.

The rig is modified by first of all disconnecting the two screened cable inner leads from the phone patch sockets, leaving the screens connected, and taping the lead back on itself in each case to prevent shorting. Both screens must be left connected as they ensure to hum is coupled back into the 'Omni' audio circuits by the leads being left in place. The drawing should make this clear.

Each phone patch socket should now be decoupled with a .1 uFD capacitor of around 25 v DC working and the RF choke L1 from the PA block HT feed, see your Ten Tec manual, should be connected to the 'phone patch in' socket. A connection from the 12 volt supply, the best place is the fuse rear terminal, is then connected to the 'phone patch out' socket. You can now put the covers back on the 'Omni' as all further work is carried in an external box. For test purposes if the two phono socket 'inner' connections are now connected to each other, via a suitable jumper lead, full power output will be restored.



For QRO to QRP switching a switch box such as shown in the diagram is made. It can have metering but remember the meter will need to show around 15 amps on transmit in the QRO mode and this is not a particularly easy meter to find or convert from one reading a lower value. The box contains an RS type LM 338K regulator, part number 304 627, which is priced around #10. This may sound a little expensive but it does mean you can use your expensive QRP rig on QRP and not resort to buying another transceiver such as the 'Argonaut'. I used a simple rugged toggle switch to switch between full supply voltage, 12 volts, and the QRP voltage which should be a little less than 3 volts. I suspect in the QRO position there is slight drop across the switch contacts but I still get 90 watts output. (Oh what a give away).

As Ade Weiss's book shows you on page 58/59 (you lot should have a copy of this book anyway, if not why not?), a supply voltage of 2.35 volts will give the correct collector impedance at these QRP power levels to match the input impedance of the output filters.

It took me half an hour to modify the 'Omni' and to fit up the regulator box I had used on the 'Triton'. An hour later I had my first QRP QSO with a station in Los Angeles followed by contacts all down the American East Coast. I also worked Kentucky greatest QRP'er Hank K4FU who dropped his output power from 750 watts to 1200 m/w. Needless to say we had 100% communication. You can have heaps of fun by calling stations on QRP and showing them the difference, or lack of it, by switching to QRO. Oh yes, one word of warning, the regulator is dropping around 9 volts or so. This means it gets hot sink it!!

#### TECHNICAL HELP IS REQUIRED BY THE BLIND

Many blind people have tape reading cassette type playback units and are supplied with tapes from a large library in London. Help is needed to install and to maintain these initially by fitting a plug and by giving some guidance to the blind people whose average age is over 70.

There are now over 3,800 technical helpers looking after 'Talking Books' for the blind throughout Britain but there are over 64,000 blind readers needing help 4,200 of them are over 90 and we have as many as 130 over 100 years old. There is an urgent need at present particularly within the circulation of this journal.

WOULD YOU BE PREPARED TO GIVE UP SOME OF YOUR TIME FOR THIS REWARDING AND INTERESTING WORK?

Volunteers should be technically trained electrical or electronic engineers, they are generally able to look after up to ten or more blind people; to visit them when required and to assist in repairing defects in their sets.

Circuit diagrams and full technical details are sent out to each helper and technical support is available by telephone from London, if required.

If you are prepared to assist or would like further details, would you please write to me: if you feel that you cannot help personally then perhaps you would help by drawing the attention of a friend, with technical knowledge, to this appeal.

Thank you your assistance will be very greatly appreciated

DAVID FINLAY-MAXEWLL  
Hon. Recruiting Organiser of  
Service Volunteers,  
c/o John Gladstone & Co. Ltd.,  
Wellington Mills,  
Huddersfield.  
HD3 3HJ

G FILTERS  
Roy/Lewallen W7EL

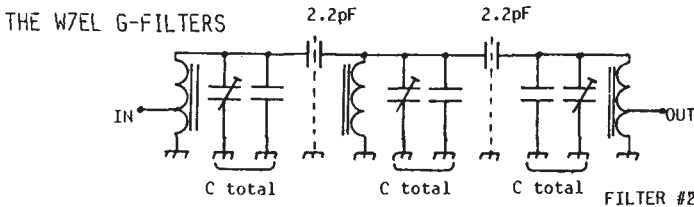
From my Oregon QTH, only one SWBC station has been strong enough to break through my little 40 meter "optimised" rig's direct conversion receiver. The station, located in San Francisco, gets through only very occasionally when propagation is exceptional. What I heard with the rig in England was another story! Several SWBC stations were constantly in the background. Since the mixer in the "optimized" rig is as immune to this interference as any I've found, the only solution is to filter the stuff out before it gets to the mixer.

Two filters were designed with the help of LADPAC, a program written and kindly furnished to me by Wes Hayward, W7ZOI (LADPAC is commercially available.) Prototypes of the filters were built and tested and performed remarkably like the computer model.

PERFORMANCE

G filter No.1 has a 3 dB bandwidth of about 100 kHz, chosen so that it would be relatively flat from 7.0 ~ 7.05 MHz. The insertion loss is 6.8 dB. G filter No.2 has a bandwidth of about 78 kHz. Its insertion loss is 9.3 dB.. Most receivers have enough gain to permit this amount of loss; if not, extra audio gain must be added. The noise figure of nearly all receivers is good enough that the insertion loss won't noticeably affect receiver noise. G filter No. 1 is simpler and has less insertion loss, but No.2 has substantially greater attenuation in the SWBC band.

Freq MHz	Response, dB	
	No.1	No.2
6.9	-18.3	-32.4
7.0	- 7.4	-10.9
7.025	- 6.8	- 9.3
7.05	- 7.2	- 9.9
7.1	-11.3	-18.0
7.2	-21.7	-35.8
7.3	-28.7	-46.4



ALL INDUCTORS: 22t. 30 swg (28 AWG) on T<sub>37</sub>2 CORE, SINGLE LAYER  
TAP AT 2t. FROM COLD END.  
C total : about 270pF.



CONSTRUCTION

The inductors must be duplicated exactly to achieve the same performance as the prototypes. Make the winding in a single layer, with turns evenly spaced. Don't coat the core with Q dope or any other material. Using wire a size or two smaller or larger probably won't have much effect. For the capacitors shown as variable, the best approach is to use as much fixed capacitance as possible, with a variable to make up the remainder. Mica, ceramic, or most types of plastic are ok for the variable, but I came across some subminiature plastic units that greatly increased the insertion loss of a 28 MHz filter, so use with care. For fixed capacitors use mica, polystyrene, or ceramic. It's a good idea to put shields between sections, but the filter may work adequately without them.

**USE**

These filters will work properly only with 50 ohm impedances at both ends. Connect the filter between the transmatch and receiver (not transceiver), or the antenna and receiver if a transmatch isn't used. In a transceiver, it must be connected on the receiver side of the T R switch. For rigs like the "optimized" transceiver which have a diode ring mixer and no rf amplifier, connect the filter at the input of the mixer. **DON'T TRANSMIT THROUGH THESE FILTERS!**

To adjust the filter, simply tune all capacitors for maximum signal at 7.025 MHz. Any other 50 kHz segment in the 40 meter band can be covered if desired.

If you use one of these filters, please drop me a line and let me know how it worked. I can't test them here under the same conditions encountered in the UK and Europe. It's possible to modify the design in several ways to optimize performance (for example, lower insertion loss can be achieved at the expense of using larger cores; sharper cutoffs are possible with more sections). Let's work together to make 40 meter direct conversion receivers as useful on the other side of the pond as they are on this side.

---

YEOVIL QRP CONVENTION YEOVIL QRP CONVENTION YEOVIL QRP CONVENTION 1989  
SUNDAY, MAY 7th from 9am, PRESTON CENTRE, MONKS DALE, YEOVIL.  
Lectures, Traders, Food and Drink.  
Details: Dave Bailey, G1MWM, 7 Thatcham Close, Yeovil, BA21 3BS.

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PRE QRP CONVENTION KEY-BASH

A QRP "FUN RUN" the week preceding the Yeovil QRP Convention.

CALLS GB2LOW from the Yeovil Club's HQ G-QRP No. 4248  
G3GC, QTHR G-QRP No. 3158  
G3CQR, Q1HR G-QRP No. 2813

WHEN At any time between 2100 GMT on Friday 28th April to 2300 GMT on Friday 5th May 1989

FREQS 3560 KHz and 7030 KHz +/- 10 KHz

RULES Contacts must be between QRP stations. Any of the three FUN RUN calls listed above must be worked first to start scoring on each band.

SCORING Contacts with G3GC and G3CQR will be worth 20 points and with GB2LOW 50 points. After working a starter "Fun Run" station each QRP QSO will score 5 points until a second "Fun Run" station is worked and then each QRP QSO is worth 10 points. After working the third "Fun Run" station each QRP QSO is worth 15 points. e.g. G3GC =20 points thereafter QRP contacts 5 points each, G3CQR 20 points then QRP contacts 10 points each, GB2LOW 50 points QRP contacts then 15 points each. This rule applies individually to each band. The overall score is the addition of the two band scores.

EXCHANGE RST, Power Output, Q1H, Name and G-QRP Number

ENTRY Separately list for each band all the call signs, commencing first with a FUN RUN station, together with the information in the "EXCHANGE" and points claimed. Bring your entry with you to the Convention on Sunday 7th May. Awards will be made at the Convention for the highest score on each band and for the best total score. If you are not fortunate enough to attend the Convention, then send your entry to G3CQR, Q1H-R, to arrive not later than 31st May to qualify for the separate postal award. Working GB2LOW operating at the Convention on Sunday 7th May will score an extra 50 points.

Have fun and we will do our best to be on the air as much as possible from all three FUN RUN stations.

THE "SUDDEN" RECEIVER  
George Dobbs G3RJV

A Simple Direct Conversion Receiver  
For Any Single Band from 160 - 20M  
Using Commercial Coils with available Kit or PCB

For several years club members have been asking for a G QRP Club simple receiver project and I had been half heartedly investigating the possibilities. Then on our visit to Dayton I met John Westphal, W8YNA. John, an avid constructor, introduced me to the NE602 and some of the circuits which had appeared using this IC in the USA ; he also provided me with samples. Amongst the circuits was a simple QST design called the Neophyte and this approached seemed to offer a possible solution to the request for a simple club receiver project.

The NE602 is a useful device : being a double balanced mixer, a voltage regulator and an HF oscillator all contained in one 8 pin DIL package. The Oscillator is capable of working to about 200MHz and the access to the IC allows for several VFO configurations. That adds up to about three quarters of a direct conversion receiver in one chip ... very handy!

I tried several designs, including the Neophyte and the device seemed to work well. The problem with the Neophyte was its use of balanced input and outputs which made the use of commercial coils more difficult. The circuit described here was originally hooked up on the bench to see the practical disadvantages of using the mixer single ended. The results were very pleasing for such a simple circuit. The mixer worked well and the VFO, which might be recognised as the popular Colpitts configuration, was remarkably stable. I build 80 and 40m versions and shared the circuit with G3R00, who quickly came up with the LC values for 160/30/20m versions all using standard Toko Coils.

The receiver uses a fixed tune input filter, from an RF attenuator, control feeding the mixer. The oscillator circuit (around pins 6/7) uses another Toko coil and is calculated for the cheap 10/10/20pF three gang capacitors sold by John Birkett. The band values chart shows the required LC values for each band including the use of this variable capacitor. Naturally other variable capacitors of similar value could be used.

The audio gain is provided by an LM386 8 pin DIL IC. There is plenty of available audio for driving walkman type headphones but hardly enough for good loudspeaker volume. The receiver is supplied by a 9 volt battery : A 12 VOLT SUPPLY MUST NOT BE USED.

The receiver fits easily onto a 2" x 2" printed circuit board. The copper layout and component layout are shown. Our prepared boards have been increased in size to allow the mounting of the three gang variable capacitor described above. However the board is marked for a saw cut to reduce it to the 2" x 2" size for mounting a capacitor off board.

Choice of components is non critical except for the capacitors C4/5/6 and capacitor across VC1, which should be polystyrene. I used miniature ceramic plate types for C1/2/3 and the rest are miniature discs and electrolytics. All resistors are quarter watt. The 1K attenuator control is a carbon track linear potentiometer of any value from around 50 ohms to 2.2K. The audio gain control is a log. pot. of 4.7K or 10K. During construction, it is helpful to build the audio section first (audio gain control to output) and test this section before completing the rest of the circuitry.

The only adjustments required are getting the oscillator onto frequency, using the core in T3 and peaking the input filter using the cores in T1/2. A counter can be connected to the unused winding on T3 but I found that this gave unreliable readings on my counter. The best, and simplest way, to adjust the oscillator is to tune a receiver to the required band and use a few feet of wire as an antenna, draped across the body of the NE602. The core on T3 is adjusted (slowly!) until the signal is heard in the receiver. The bottom end of the band may be set with VC1 fully meshed. Secure the core with "goo" : I like bees wax.



Connect an antenna or a signal generator and peak T1/2 for maximum signal strength. I suggest several "peak ups" in the order: centre of band, high end, low end and back again to centre for final peaking.

The receiver is simple but it works surprising well. The RF attenuator may be essential in the evenings to reduce BC breakthrough. A recommended way to use the two gain controls is to have the audio control set high and to use the RF control as the effective gain control.

Build it...I think you will enjoy this little receiver.. Why "SUDDEN" ? Well, that's G3R00's idea. When I am not building up QRP equipment (or for that matter when I am!) I am the Vicar of Sudden, once a village until it was swallowed by the town of Rochdale.

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SUDDEN RECEIVER PRINTED CIRCUIT BOARDS : £1.00

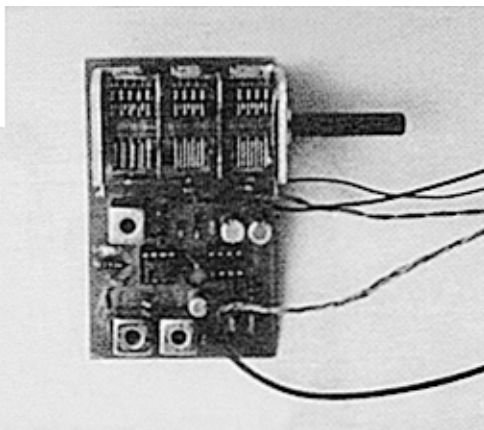
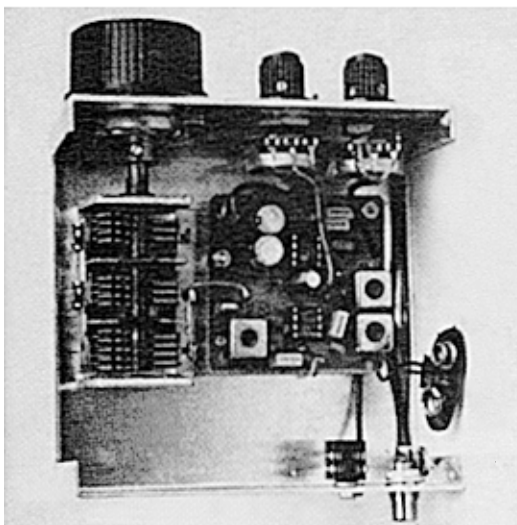
NE602 ICs (a few available) : £2.25

Available from Dave Aizlewood, G4WZV, 36 King Street. Winterton, Scunthorpe, South Humberside, DN15 9TP. (Cheques: G QRP CLUB, please add 20p postage)

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COMPLETE SUDDEN RECEIVER KITS including coils for 80m, variable capacitor etc. are available from KANGA PRODUCTS for £13.95 : see advert in this issue.

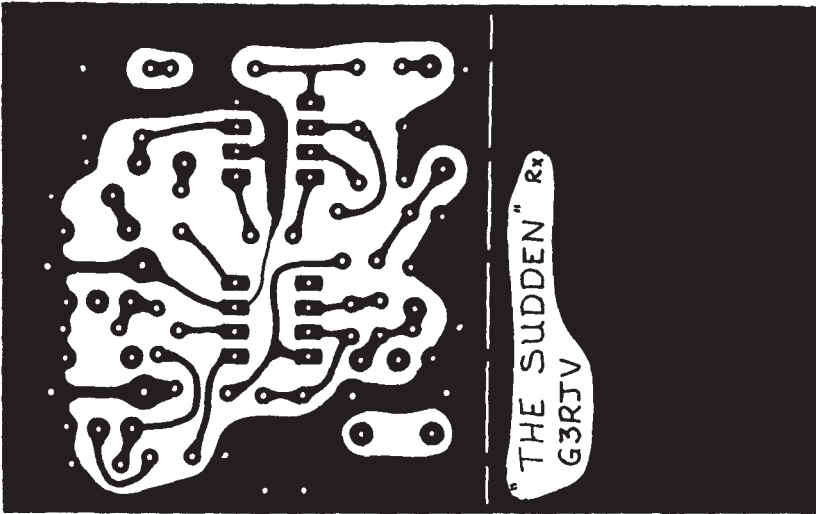
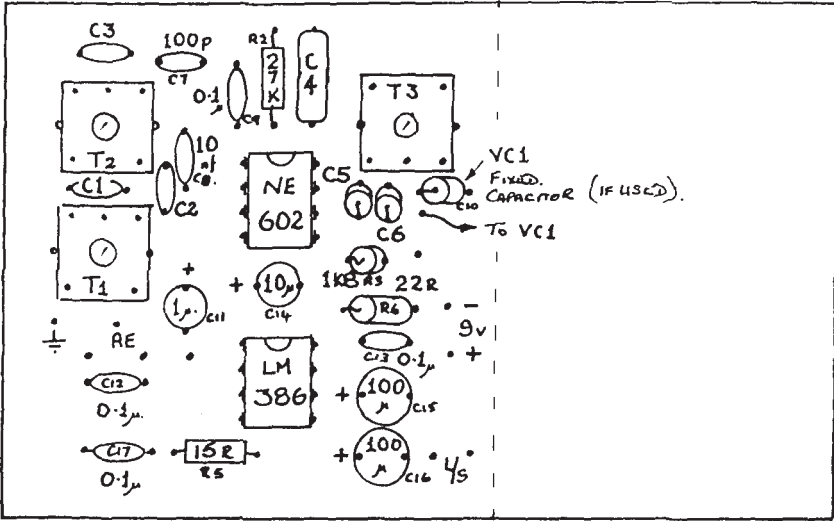
PROTOTYPE SUDDEN RECEIVER  
BUILT FOR 80 METRES.



THE SUDDEN RECEIVER BOARD  
KANGA KIT VERSION

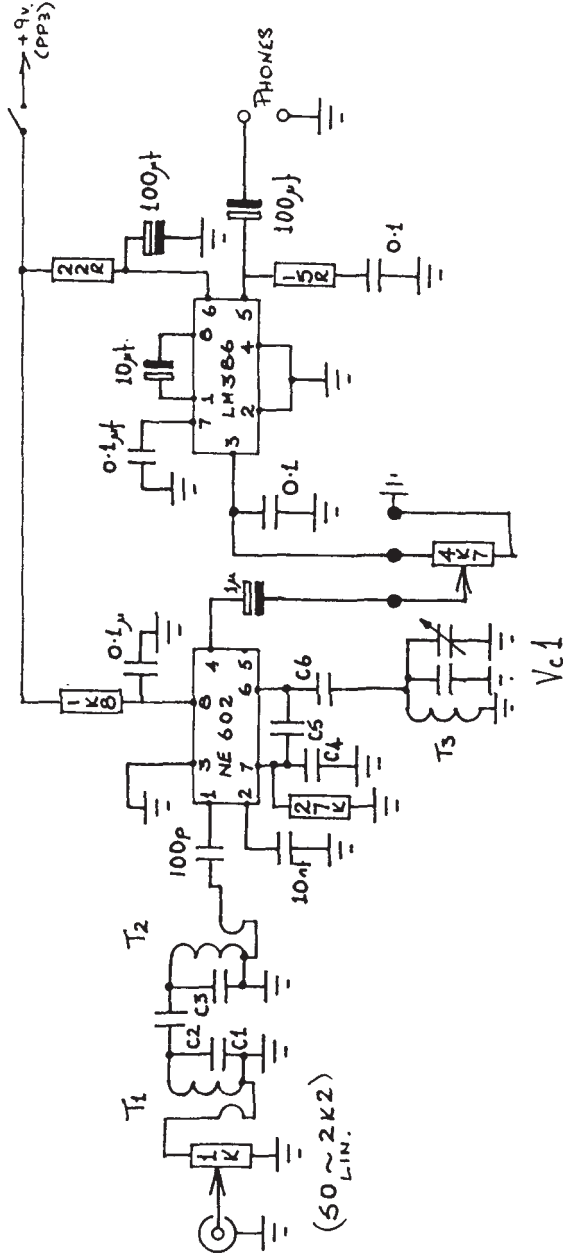
COMING SOON:

The "LCK" Receiver/Transceiver for 160 or 80m. A simple but good performance suphet design using NE602 ICs and a ladder filter. See Next Issue.



# The SUDDEN Receiver G3RJV

BAND	C1	C2	C3	T1	T2	Vol (Sudden)	C4	C5	C6	T3
160	220	10	220	3333	3333	100pF ALL SECTIONS +	1nF	1nF	560	3333
80	47	3	47	3333	3333	100pF ALL SECTIONS	1nF	1nF	560	3334
40	100	8p2	100	3334	3334	1SECTION + 47p	560	560	270	KXNK 4173AD
30	47	3	47	3334	3334	1SECTION + 68p	680	680	220	3335
20	100	3	100	3335	3335	1SECTION + 68p	220	220	68	3335



THEME AND VARIATIONS ON TWO WIRES  
Bob Brown NM7M  
504 Channel View Dr., Anacortes, WA 98221

Some years ago when I first opened my copy of the R5GB antenna book by G6XN, I was intrigued by the variety of radiators and beams described therein. Of particular interest, and also frustration, to me were the shortened elements and compact beams. I say frustration as I could deal with more conventional antennas and beams made up of linear radiators, thanks to having a copy of Kraus's book on antenna theory and a computer; however, loops and those bent elements were more than I could handle. All that changed, however, when the MININEC antenna program became available in the US in 1985. In case you're not familiar with MININEC, it's a "Mini" Numerical Electromagnetic Code which is much like its big brother, the Numerical Electromagnetic Code (NEC): however, MININEC uses a shorter program and is suitable for use with the sort of personal computers (PC's now found in ham shacks).

Earlier, NEC computations were compared with measurements on Yagi antennas made at the national Bureau of Standards (NBS) and found to give good agreement between theory and experiment. Then MININEC was used to make such comparisons and found to yield similar results, at least for the gain and patterns of antennas relevant to ham radio, say verticals, dipoles, loops and even 3 element Yagis. Indeed, with such success behind it, there is now a group, the Applied Computational Electromagnetic Society (ACES), devoted to studying those and other antenna systems using both NEC and MININEC.

With the MININEC program in hand and my own curiosity about the antennas in the R5GB book, I thought it would be of interest to examine some of the compact antennas, say two element beams, to learn about those characteristics that had eluded me earlier, say feed point impedances and radiation patterns, and make relative comparisons of gains and front/back ratios. So on looking through the R5GB book, I settled on the "Button Beam" version of the VK2ABQ antenna. In terms of compactness, it was the two element beam with the smallest turning radius (11ft 7in) which used full sized radiators. If you turn to p. 168 of G6XN's book, you will find it shown in Fig. 12.3. For purposes of calculation, only the outer pair of elements were used, taking  $248/\text{freq}$  or approximately a quarter wavelength for the dimension (in feet) of the rectangle which contains the two radiators.

Since the VK2ABQ "Button Beam" is really a variation on the basic two element Yagi, it seemed reasonable to unfold the wires of the two radiating elements, first making them straight and then start the calculations from that point by using that fundamental two element Yagi configuration as the standard of comparison. After those calculations were completed, the other geometries were considered in a natural progression, bending and folding the elements back toward the "Button Beam" configuration. When that was complete, the end segments of the radiating elements were then raised above the horizontal plane and the calculations were extended to the Double D antenna geometry, as discussed recently by G3LDO. Having said all of that, it is now time to get down to cases, not very technical in any sense, just giving some of the details of the geometries.

First, in making the MININEC calculations, the frequency was taken as 14.0 MHz, giving elements 35.43 ft (10.80m) in length. With the "Button Beam", the two elements are separated by half that distance, 17.71 ft (5.40 m). Keeping that distance, between the feed point and the nearest point of the parasitic element, unfolded into a pair of linear radiators and then bent or warped through a series of configurations, rectangular and diamond shaped, ending up again with the square "Button Beam", the one with the minimum turning radius. It should be noted that the separation of the wire ends were taken as 1 ft (.3m) for the rectangular and diamond shaped geometries and 1 inch (2.5 cm) in the case of the "Button Beam".

In the five MININEC calculations, the two radiators were each divided into 32 segments and the wire radius taken as 1mm. The calculations were carried out for the case of the antenna at a height of 35.43 ft (10.8m) above a perfect ground plane. While more complex ground systems may be used to study far field radiation patterns with MININEC, that simple approach seemed the best for purposes of comparison and generality. accordingly, the various geometries for the antennas are shown in Figure 1 and the numerical results of the calculations are given in a table which follows.

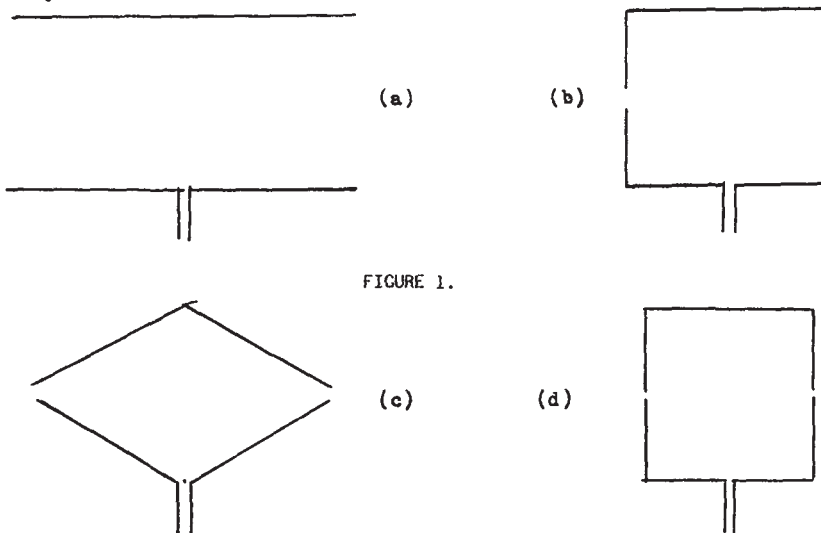


FIGURE 1.

## ANTENNA RADIATION PATTERN

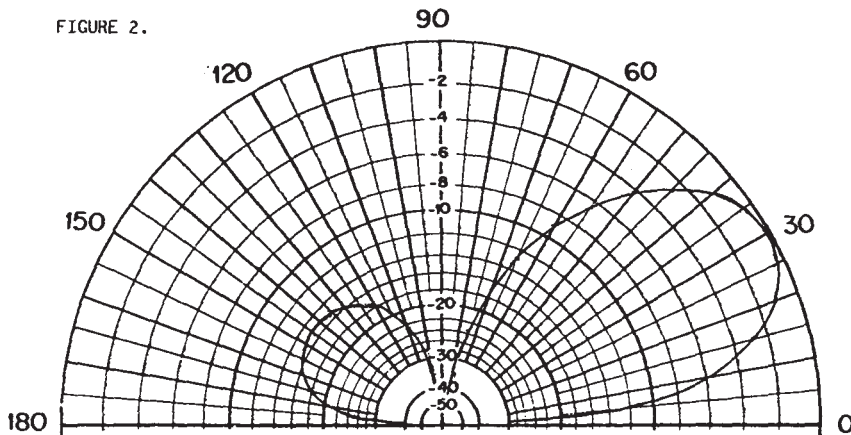


FIGURE 2.

### FIGURE CAPTIONS

Figure 1 Antenna geometries discussed in the text: a) the two element Yagi.. b) rectangular beam, c) diamond beam and d) Button Beam.

Figure 2 Vertical pattern for the two element Yagi discussed in the text. For the gain of the antenna, add 11.6 dB to the values shown.

Before reviewing those results, however, you should bear in mind that the figure for the gain of an antenna, in dBi, is relative to that of an isotropic radiator in free space radiating the same power. Further, the front-to-back (F/B) ratio, in dB, is the difference of the gains in the forward and backward directions, taken specifically at the horizontal angle where the forward gain reaches its peak value. In the present calculations, the intensity patterns were examined at 5 degree intervals and with that resolution, the maximum gain was found to occur at an angle of 30 degrees above the horizon, as shown in Figure 2 for the two element Yagi. Vertical patterns for the other antennas are similar, the back lobe increasing in importance according to the F/B ratio of the antenna.

For the standard two element Yagi as well as the rectangular and diamond shaped beams, the forward lobe is on the side of the driven element and back lobe on the side with the parasitic element. Those roles are reversed for the Button, Beam and Double D Beam, the stronger lobe being on the side of the parasitic element and indicated by a negative F/B ratio. With those remarks in mind, now consider the results given below:

Antenna	Impedance (R+jX Ohms)	Gain (dBi)	F/B Ratio (dB)	Side Rejection (dB)	Radius (ft)
2-el Yagi	105+j62	11.6	15	-11	19.8
Rectangle	126+j20	11.0	7.2	-7.2	12.9
Diamond	215-j20	9.9	4.9	-7.9	15.6
Button	37-j6	8.2	-0.3	-5.5	11.6
Double D	19-j63	8.7	-0.2	-8.7	11.6

The side rejection, expressed in dB, gives the decrease in the total radiation intensity from that in the forward lobe, including both horizontal and vertical polarizations, in the direction perpendicular to the main lobe and at the same elevation angle above the horizon. The actual mixture of horizontally and vertically polarized radiation in that direction depends on the wire configuration. For example, when viewed end on at an angle of 30 degrees elevation, radiation from the two element yagi and the diamond shaped configuration and the Button Beam have more horizontally polarized radiation due to the horizontal ends of the two wires closing toward each other.

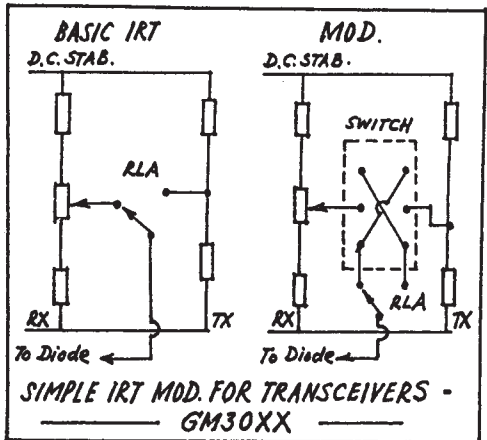
From the above Table, it can be seen that a price is paid in converting the conventional two element Yagi into a compact antenna. With the present results for antennas located above a perfect ground plane, a comparison can be made by noting that a dipole at the same height would have a feed point impedance of  $74+j36$  Ohms, a gain of 8.1 dBi, a F/B ratio of 0.00, side rejection of 7.7 dB and turning radius of 17.7 ft. Since turning radius of a beam is of concern when space is limited, the above results might well be compared to the gain, F/B ratio and turning radius (9-11ft) of a typical two element Quad antenna for 14 MHz. Of course, the Quad has its own set of problems, being a three dimensional structure, and they have to be considered in settling on a beam antenna for QRPing.

Before closing, I should add a few more remarks about MININEC itself. The version used in the present calculations was one I adapted from the original computer code, MININEX 3 (Version 10). Specifically, I stripped out a lot of the "bells and whistles", maintaining the essential code but making more memory available for antenna segments. Thus, while the original MININEC 3 code was limited to 50 segments, the present adaptation allows a maximum of 76 segments but is restricted to printing out numerical results for far field radiation patterns in free space or over a perfect ground plane. Recently, an enhanced version of MININEC 3 had been developed by Brian Beezley, K6STI, and it allows a maximum of 126 segments, a full implementation of the MININEC ground plane options as well as screen graphics and printer/plotter drawings of antenna patterns.

I would close this discussion by saying that MININEC has now made it possible to evaluate the pertinent features of antennas which can be represented in a reasonable fashion by the radiation from 50-125 short segments. This includes two and three element Yagis and two element Quads, say delta or square loops. With a BASIS compiler and a IBM compatible computer, characterized by 256K RAM and 8 MHz clock speed, the running time for a typical antenna problem is in the range of 30-45 minutes. Of course, with a math coprocessor, that time would be reduced considerably. But in any event, if you have an idea for an antenna, you can use MININEC to check it out and compare its features with antennas that you know from first hand experience. And with imagination, you can explore your own "Theme and Variations" to see how a given collection of wires or aluminum tubing can be arranged to give you the best "ERP for your QRP" or "Sound for your Pound".

I.R.T. REVERSAL  
George Burt GM30XX

A simple modification to help when the DX station says "3 up". With reversing switch fitted, in the RX mode, flick the switch to TX, adjust the IRT pot for correct offset and press the key. If you wish to hear the station being worked, when receiving flick the switch from TX to RX and adjust the IRT pot. Then when calling switch back to TX and the call will be on the same frequency. This is all done without touching the main tuning. A simple mod easier to do than to explain!



FROM THE MEMBERSHIP SECRETARY : G4HYY

- 1) Thanks to members for using the payment forms for their subs. It has made it easier for myself and Jennifer to check details and also brought out a lot of dormant address errors.
- 2) Thank you to those who sent donations for the "Dallas Expedition".
- 3) Thanks also to members who have sent an extra sub to sponsor members in Eastern Europe and other places where there are problems sending money to us.
- 4) BANK DIRECT DEBITS: Heartfelt thanks to members who have used this system. It is faster to check and enter on the database and reduces paper handling. Please consider this system for next year if you have not already filled in a form. A copy of the form can be had for an sae (Marked "Payment Form").
- 5) If members require a subs receipt, they MUST send an sae, not because of expenses but just sheer volume of paperwork at the beginning of the year.

Addition to Listing addenda : G4AOL Gill 4645

Deceased Member : 3626 G3ZUX Tom Whitehead

David Jackson, G4HYY, Castle Lodge West, Halifax Road, Todmorden, Lancs OL14 5SQ

EUROPEAN CW ASSOCIATION NEWS

The new G QRP CLUB representative for the EUCW is Angie Sitton, G0HGA, 29 Hudson Road, Stevenage, Herts, SG2 0ER. Angie replaces Colin, G3VIT, to whom our thanks are due for his work on behalf of the club.

The Associations Straight Key Day will be Saturday June 24th, the Swedish Midsummer Day. Further details in G3RJV's QRP column in RAD COM or from G3RJV.

THE ARRL 75th NATIONAL CONVENTION

G3RJV and G3R00 will represent the G QRP Club at this convention at Dallas in June to lecture on QRP Construction on fly the club flag.

QRP COMMUNICATION FORUM  
Gus Taylor, G8PG

37 Pickerill Road, Greasby, Merseyside, L499 3ND

WINTER SPORTS 1988 PRELIMINARY REPORT. This was the big one active plus! 35 countries active plus SM6YF/mm. AA2U & G4BUE make it on all hf bands 3.5 MHz upwards. G3PDL, G4JFN, and GM30XX make it across on 3.5 MHz. G3XJS and G4JFN ditto on 7MHz. Two-way trans-Atlantics commonplace on the hf bands. Several members work VS6VT despite a poor path. VK7CW with 4w to a mobile whip chats with G3XJS 1w) on 14 MHz. EA6ZY gives many members a new one. He says "My first time on QRP since WW2, but it will certainly not be the last. How do I join G QRP C?" Quite a few UA QRP stations show up. Excellent activity from other parts of Europe. The unsung ordinary members have a ball, pushing up both their members worked scores and their country scores. Randy AA2U, VE2KN and other N American members go to town. One sad member now knows that AA2U was frantically calling him on 3.5 while he was working Gs. It is going to take the Court of Appeal and the US Supreme Court to sort of merit awards this time - but it was a great event and we all had fun. That is what it is all about!

PRELIMINARY REPORTS ON THE OK/G TESTS also show greatly increased activity, particularly from the Czech and, with QSOs on all bands 3.5 to 21 MHz despite very moderate conditions and no opening on 28 MHz. Nearly all the Czech activity seems to have been from the UK1 area, unlike last year when OK3 was strongly represented. Once the Czech end of the story is received from Petr, OK1CZ, a full report will be prepared for the next SPRAT. Once again a lot of people had a lot of fun.

EXPERIENCE SHOWS THAT 80 PERCENT OF CURRENT QRP ACTIVITY IS IN THE CW MODE. QRP cw proficiency is thus a must for most of our members. The most important aspects of such proficiency will now be discussed.

Morse Code Proficiency. The operator must be capable of sending readable morse and reading weak signals through QRM and QSB. A newly licenced operator can read 14 wpm in the clear, but cannot read even slow signals through QRM. He should start by training himself to read 12 wpm through QRM and 16 wpm in the clear. He should then progress to reading 18 wpm in the clear. This should allow him to read 15 WPM through QRM, even if the morse is not too god. His final objective should be 20 wpm in the clear, allowing 17/18 wpm in QRM. Further speed will then come with on the air operating. Sending speed should be similarly increased, and quality regularly checked with a tape recorder.

Operating proficiency involves learning all the important Q codes and amateur abbreviations and using them to keep transmissions short rather than spelling out words. Every over should be a fairly short, information packed transmission, making the contact a dialogue instead of a monologue. Procedure signals such as K, KN, Bk and particularly SK must be used correctly. As skill increases the art of joining the "wolf pack" must be acquired. This means making sure the DX station can actually be heard, noting any instructions such as "up 2" and obeying them, and adapting to the calling procedure being used; there is no use in calling 4 times if the DX is answering single calls. If the DX is hooked keep it short - often just the RST - unless it is obvious that the DX wants a chat type QSO. Immense patience must also be acquired. If the dx is not worked on one day the time/frequency will be noted and an attempt made tomorrow. The art of tuning the band slowly and checking out weak signals which may be rare DX is also an essential requirement.

Antennas and propagation are the life blood of successful QRP. The successful operator will spend much time reading and experimenting to increase his knowledge of how and why antennas work, so as to achieve the best possible efficiency in his own particular location. Such reading and experiment is essential for real success, and it must also include antenna tuning units and how to set them up, and the correct use of swr and radiation meters. Propagation is another essential study, leading to a knowledge of how each band can be used at different time of the day, year, and sunspot cycle. This achieved by reading, watching what others are doing, and keeping a good log which can be referred back to. This leads eventually to an almost instinctive "feel" as to what bands are likely to produce at a given time. Leading QRP DXers have acquired such an instinct by study and practise.



The receiver, or rather how the receiver is operated, is also vital for success. A good operator with a crude receiver will walk rings round a poor operator with a sophisticated receiver, because he knows how to get the maximum out of it. The secret in using a receiver is to know what every control does, how to operate the controls in combination, and how to operate them with a delicate touch. Tuning must be done slowly and accurately. Often a tuning change of 100 Hz will make a signal readable through QRM. Balancing rf and af gain is also important in reducing QRM. Use minimum rf gain, thus avoiding overload, and plenty of af gain. Where variable selectivity is available it may not always be possible to use minimum bandwidth on weak signals, but careful adjustment between sensitivity and QRM level can work wonders. The operator who has learned how to use a receiver will often work stations other people cannot even hear.

The Transmitter, whether commercial or home brew, must be checked for freedom from drift, chirp, and key clicks. Chirp is particularly bad, as it often means full selectivity cannot be used at the distant receiver. If a transceiver is used great care must be taken to ensure that it does not onto the frequency of the station being called; many HB rigs are very bad in this respect. The serious operator will also ensure his transceiver has effective rit, to help mitigate QRM, and full BK to increase operating efficiency. He must also, of course, train himself to use the BK facility to its full potential.

Anyone who hones his skills in the areas outlined above should become a very successful QRP cw operator.

"I THINK G QRP CLUB is the best thing to happen in amateur radio since the morse key was invented". Quote from a member.

THE G2NJ TROPHY for 1988 goes to Ian, G3R00, for his excellent series of ONER articles. Well Done!

THE PARTRIDGE TROPHY for 1988 goes to Dave, G4XNP, for his switch, all band dipole article. Congratulations!

#### AWARD NEWS

NEW QRP MASTERS G3IVJ, G4ETJ, SM4KL and OK1DKR receive our congratulations.

QRP WAC.. G3IJV, SM4KL G4MQC, G3LHJ, G4CFAS.

QRP COUNTRIES. 175 G3XJS (Well done!), 100 SM4KL, 50G3LHJ, G2HLU.  
WORKED G QRP CLUB 660 GM30XX (all cw wow!), 620 G4JFN (well done!), 320 G8PG, 280 GM3RKO, 240 G2DAN, 220 ON4KAR, 120 LHJ, 100 G4VPV, GWODNR, 60 G3I3G, OK1DKR, GI4DQO, GOCQA, SM4KL, G3INZ. 40 GOBOP, GOFYP, 20 G4VVI, G40WH, G4PRL, G4EYX, GOBOZ, GOEVJ, GOIFK, G4WUS.

Congratulations to all the above, and an apology to OK1DKR. OK1CZ is ex OK1DKW, not ex OK1DKR as stated last issue.

WOULD YOU OBJECT to 0700 - 0900 gmt on two or three mornings in the next Winter sSports being set aside for trans-Atlantic QRP working on 3560? If so contact G8PG by 31st April. Also note we hope to invite FOC members to join us with 5W or less in the next Sports so that they can enjoy the thrill of QRP. This time such liaison produced EA6ZY. Next year who knows!

#### MILES AND WATTS AS CHESTER G3CCB

A few minor slips crept into Alan's Article in the last issue of SPRAT, the main ones being:

line 5; '....reduce the CHANCE of....'  
line 17 '....THUS 300 miles with....'The rest you can find yourself (no prizes offered).

G3R3V

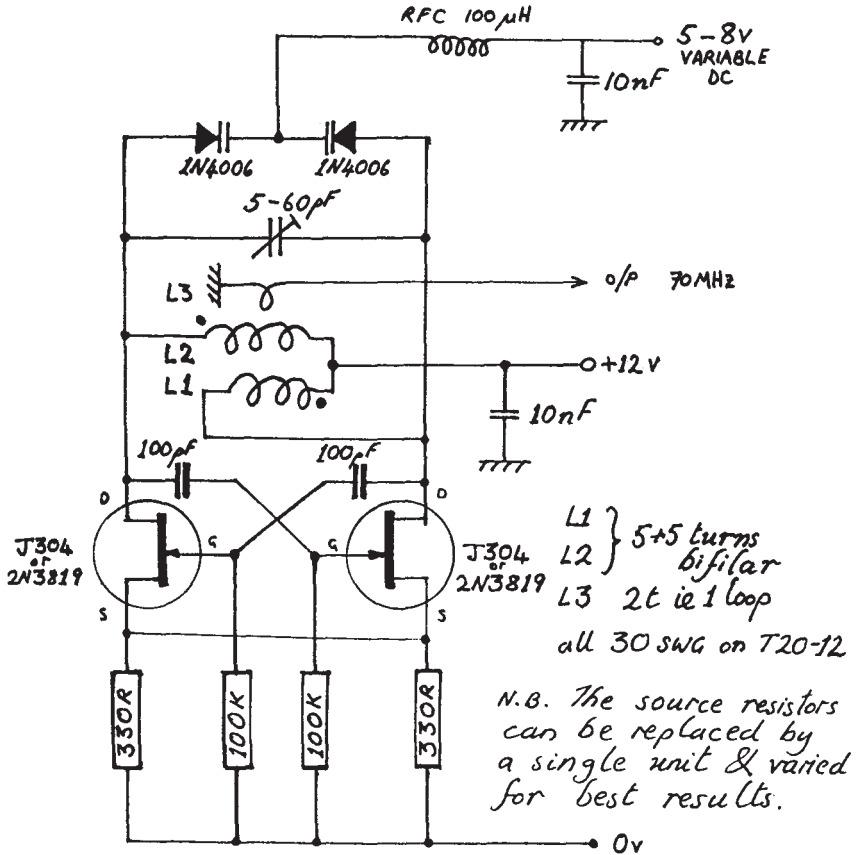
VHF MANGERS REPORT

John Beech, G8SEQ, 124 Belgrave Road, Wyken, COVENTRY, CV2 5BH.

First some more news from the States. Randy, AA2U reports that he has managed to work half a dozen UK stations on 50MHz, two of whom were running QRP (3w: 539 and 700mW: 529) He has also managed to work Ecuador on this band. He says he has his RX scanning at 2.5KHz intervals from 50.090 to 50.200. Its worth calling him in this range on QRP CW, when there is an opening, rather than battle it out with the rest calling the Stateside QRO merchants who are running kilowatts!

With antennas looking the other way, remember to keep an ear out for the Dutch, who are only allowed low power and CW and frequently call on 50.200.

Well, here is one for the experimenters. I have been recently playing with an old valve circuit remodelled using FETs. The old timers will recognise it as the Kaliatron Oscillator. I built it to give me a signal source for 70MHz (the forgotten band) to test another receiver. In the form shown it can be continuously tuned, frequency modulated or scanned by applying a sawtooth waveform to the varicap diodes. I built it using copper PCB pads stuck to a groundplane of plain PCB material, the whole lot being 30mm square. The layout more or less followed the schematic.



FOR SALE : Trio TS120V. Excellent condition. £295. Peter Greenhalgh, G3XCE 061 747 0487  
 13 Primrose Ave. Urmston, Manchester, M31 1TY.

SSB NEWS

Ian Keyser G3R00, Rosemount, Church Whitfield, Dover Kent.

Hi All,

Sorry that we missed last Sprat but things caught up with me and suddenly it was past the deadline.

Still not much response on the SSB front except Larry G0HTR 1258 is back on sideband and looking for contacts. His main problem with 80 metre SSB is the QRM, the same problem as myself! I think that the band is dead as far as SSB and the south is concerned. But I do a lot of CW on 80 and enjoy it very much.

Larry does make an interesting suggestion, QRP nets are difficult and on the whole SSBers are experimenters, so how about a QRO net for those of us who can QRO and QRP for those without higher powers. Our normal frequency of 3690 is untenable now so anyone interested in joining Larry and myself drop me a line or give me a ring and we'll get on the air someplace (160 metres?)

The winter sports has been poor for SSB, for me only one QSO, that was with Mike, W3TS on 10 metres, but the QSO lasted for two hours! CW qso's were considerable however and had a good time there.

An SSB QSO in the last few months I will never forget was when I was setting up the prototype for the transmitter section of the CHERITON receiver, a quick call was answered by WAIURV, the QSO lasted for 20 minutes without a word lost and my report was 53..... The surprising thing was that I was running the grand power of 22mW..... That is 3 volts peak to peak on the aerial!!!!

Back to the controversial subject of QSL's, I still have not had one letter against my comments on QSLing however I have received a copy of a letter from Ron CW3YDX to George in which, in my view, he sums up the whole matter. I hope that George is going to publish the letter in full [see Members News] as it IS A VERY IMPORTANT SUBJECT. Ron points out that as our sticking to our power levels is a matter of honour why cannot the same spirit of honour be applied to awards? After all, if a bloke going to cheat as far as claiming a cocontact he most definitely WILL have cheated concerning his power!

Finally in answer to Chris's last comments in his piece. I think Chris has filed to realise that large number of us are in the QRP section of the hobby are here due to financial constraint, in fact I would not be surprised if half the members come under that category! In modern parlance I have a "disposable income" of zero and cannot consider spending money that is not essential.

As far as Chris bringing in the "QRP Spirit" into the discussion, that is a non starter as the root of the whole subject is the dishonest award claimant who has no "QRP Spirit". My complaint is the fact that DO WE NEED to QSL? If we do, who should foot the bill....The Claimant? The Award Manager? The Club? One thing is certain in my mind, it is definitely not the person asked for a QSL....I don't go into a shop wanting postcard expecting the shop keeper to give it to me and pay for it himself!

By the way, big laughs at the winter party at Georges as I handed out QSL cards to those who came....the others are in SPRAT! That is almost the end of my QSL cards and from now on you know how to get a card from me!

WANTED: ARGOSY I or II. TEL: 061 301 3750

WANTED TO PHOTOCOPY: QST OCT 1983 pages 37 40. TEL: 0602 382509

WANTED: Ancilleries for B2 (spares box, key, phones etc), Also any bits (or complete sets) for the MK119, MK121, MK123 or MK128.

Have surplus to requirements: R210 RX, R109 RX, MK328 miniature spy RX (ideal QRP companion) and an A510 Jungle Set complete and mint with all ancilleries. Swap for above or offers to : Maj. Kemp, 4 ARMD WKSP, BFPO 41 (all answered)



We have a successful response to G3XJS's challenge for the quickest WAC. WGS5, an ARCI member, saw Peter's 3 hours and 35 minutes WAC in the ARCI Quarterly and has told me that his WAC was accomplished in 1 hour 24 minutes in non-contest conditions, the first five continents coming in the first hour. Dan uses a TH2 at 35ft. He also worked 207 DXCC in 1988 and wonders if anyone has done better. I know G3XJS managed 179. Peter has also worked UF6VAI who was running 1w and ZZ5FO for his first two-way QRP QSO with South America. ZC4FJ is QRV most days from 0900 on 14/21060 looking for other QRP stations, and G4MDU has been posted with his work to Moscow. Jon says he is monitoring the LF bands but hasn't heard any Club members yet. GOHGA has now worked all US and JA call areas on 10m. Angie had an unannounced visit from the DTI who thought she was an 11m pirate! G4CFS nominates AI6V for the "Friend of QRP" award. He made a special effort to work Glyn through a pile up at P40V and then replied by return with his

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

QSL. GOBVZ worked VS6WD and VS6VT within 20 minutes of each other on two-way QRP. Congratulations to our QSL custodian G4WZV, Dave worked VK5NM for his first VK contact. G3IQF has worked 5N0/G3GJQ on two-way QRP on 15 and 20m.

The Yeovil Amateur Radio Club will be holding their QRP Convention on Sunday 7th May from 9am in the Preston Centre, Monks Dale, Yeovil. There will be two lectures, traders and the usual supply of food and drinks. Further details from G1MMW (QTHr). Can someone let me have a report on it for the Summer Sprat please. The Winter Sports is now history and is reported elsewhere, but I must tell you what GOEVJ says about it, "To a relative newcomer to CW I must admit that at first the task seems a little daunting, but thanks to the patience of skilled CW operators I was soon welcomed and even complimented on my CW". Well done those of you who QSO'd Steve whose comments sum up what the Winter Sports is all about. Steve would like to borrow copies of Sprat 1-46 to photocopy. He recommends the Diamond SX200 power meter as being excellent for QRP as its lowest range is 5w, allowing him to use his Century 22 at 200mW. Still on the Winter Sports in view of the two-way QRP trans-atlantic QSOs on 80m that were made this year, I have suggested to Gus that future Winter Sports have 0700-0900z dedicated for this on 40 and 80m. Hopefully it will enable more members to get across on these bands. Please let Gus know if you object to this idea.

Talking of "milliwatting", it appears the bug is catching on. KH6CP tells me that KALCV has worked 25 States with only 10mW and DF4SB use an attenuator with his HW8 for milliwatting on 40m. G0FSQ uses 500mW and has worked the USA and W9SCH says milliwatting is "true" amateur radio. Rock has been using 100mW and has worked 12 countries in three continents with his 80m centre fed zepp at 25ft. He says "making milliwatt contacts is a genuine challenge as it involves much frustration and despair, but when you are lucky enough to click, the joy and sense of achievement seems well worth the effort." You can say that again. PA0GG says QRP beacons are now on 28249 and 50064, powers being given in the text.

Now to a problem. GM4XQJ has had his call pirated for the last three years on 40 and 80m SSB. Brian says the pirate gives his name as David and QTH at Worthing. His behaviour leaves a lot to be desired and any help members can give in tracing this person will be appreciated. On a more pleasant note, Brian says he has now got a new Argosy II and will be selling his Century 22. ZL1BLJ became voluntary redundant in August and is now ashore after 35 years at sea. Mike has 8 acres and a lot of time so many antenna projects are planned. Talking of New Zealand, did you hear about the Club member who went all the way to ZL to collect a QSL card? It's true! G4JFN wanted ZL1AV's card so much he went to New Zealand at the end of February to collect it. Before visiting him, Bob went into the Rotorua RF Service Office to pick-up his ZL0ACF licence. He told the guy there that he was going to see ZL1AV and the guy said "That's me!". Bob got his QSL and a visit to the ZL1AV QTH. Whilst in Hamilton, Bob contacted ZL1UJC and is hoping to meet other members before his return to the UK. Another ZL story from ZL4HB. George took his HW8 on a camping trip by the Taieri River in Otaga and with a dipole at 10ft worked two-way QRP to JA on 15m and into Europe. He is

listening for other QRPers from his home QTH and heard OK2BMA a few weeks ago but couldn't raise him, (how's that for a "got away" Pavel?). G4SSW will be QRV on 14060 from Malaga at the end of April.

The interest in military gear continues. GOHTR has been renovating the R1154/1155 combination. Larry compliments the newly formed FISTS CW Club and their slow morse group. G4WWX used a WS62 and Mk128 spy set whilst /A from GD last September. Ian also has a WS18 and WF19 and a US Army BC611 set. He has just acquired a Pye C-12. G4SSW is using a 46 set on 40m and has just been given an R1155. John would like a copy of the circuit if anyone can oblige him. Did you work WB9TBU from KP2 in July? Paula is the Editor of the ARCI Quarterly and with NU4B put KP2 on the QRP map. Paula worked 33 DXCC and WAC with 2-5w, but had various problems including conditions. She intends going back again, so QRX.

GOKCA is QRV with 2w from an Argosy and GOEXC uses a Oner for 20 and 80m with a Howes RX. Paul has worked the USA with 750mW and his 20ft G5RV and wonders if any members have used the Oner on 10m? He mentions the words on a DL QSL card, "A good antenna is the best PA". New member G3PBA also uses an Argosy to a G5RV and 10m dipole and in his first week worked several Europeans and K3TKS and VE2KN. Jim says he has "had as much of a kick out of it as I did with my first week as an amateur". He asks if anyone has an RITY programme for the Atari 800XL or Newbrain AD computers. Congratulations on an upgrade of licence to GOKYR who "wonders what the official club line on DSB is?" I don't know! Can anyone help? G3IQF is very enthusiastic about the new WARC bands and says we should give them a chance for QRP, (see what Randy, AA2U and I did in the Winter Sports Bob!) Bob has worked 31 DXCC on 30m, 14 on 18MHz (including 8P9HT and a VE6) and 11 on 24MHz. G8QM also mentions 30m and is so taken with the band he has converted his HW7 to work on it. Vic has worked 25 DXCC on then band including W1, and has been heard by ZL3BJ who he is trying to work by sked. G8JR worked 5U on 24MHz and TU on 18MHz.

Now to two unusual news items for this column. Have you an unusual news item to compete with those offered by GW3ATM and OE6HS? GW3ATM mentions that GM30XX once held the world distance record for 10GHz with GW3PPF. Doug went out /MM on Dunn Sands near the Severn Bridge on January 1st to celebrate the new licence conditions and worked club member G4DOU/P at 18Kms and then GW3PPF at 39Kms. Doug was using 1mW and signals were 59 both ways on wide band FM. OE6HS has been experimenting with infrared light communications and a "beacon" on about 950 nanometres (pulse modulated). Heinz says the signal can be received up to 400 metres direct line of sight. He wonders if other members have done similar experiments, and/or with laser?! For QRP he uses a FT277 with different PA valves to give 5/8w and a 40 cms dia. magnetic loop antenna amongst others.

PY2TU has a new QTH and hopes to be more QRV with a simple 23m long wire. VU2LID has also moved QTH after his graduation - congratulations Salim. He is building gear and monitoring the bands. G2HLU has QSY'd to Dorset and has a 160ft doublet up. GOHSM recently worked member LA9UJ and Andres, referring to Sprat, said it is "groundplane info". Tom thinks he means it is down to earth! After 10 years of 2Kw SSB, I3DGF says after a visit to a local QRP'er he has re-learned cw and is now QRV with 2/3w after changing his TS830 for a TS120v. G4KKI has been troubled with AM breakthrough on his HW7. Bill finally cured it by a combination of the S042P mixer mod in Sprat 38 and a PW Teme board with Toko bandpass filters on. G4EHT says the TS140S makes a great QRP rig. Bill uses it with a Butternut HF6V and is pleased with the performance. Congratulations to G3XJS who worked J79OUT for his 200 DXCC. G8JR is up to 109 DXCC with his half size G5RV at 18ft and 3w.

My comments in the last Sprat about G3ROO's stance on QSL cards have brought an avalanche of opinion from you, some very strong which I dare not publish! First the case in support of Ian's comments; the only letter came from GW3YDX, who also QSLs direct only, but his reasons are different to Ian's. Ron is an avid contesteer and found that after every major contest he was inundated with QSL cards through the bureau, many for repeat QSOs, causing him to spend a lot of time answering them when he could have been on the air. He mentions a DL who sent him 12 cards for repeat top band contacts! Five years ago he stopped the supply of envelopes to the bureau. Ron says the requirement for cards for the club awards is absolutely ridiculous, we are on honour as to the power we use, so why not on honour for the actual QSO? He suggests a log extract and declaration should be all that is required. What do you think about Ron's suggestions for club awards? My own view is that we should continue to require QSL cards because a card is the only way of confirming the contact was valid. It can happen that an amateur genuinely believes he has made a QSO with another station, but for some reason the contact was not completed, or his call was mis-read, causing it to be an invalid QSO. By only requiring log extracts this type of border line QSO would not be picked up.

DXers all agree that the acquiring of the QSL card is often more difficult than making the QSO, and is all part of the fun, (and frustration) of the award chasing game.

Now to the case against Ian's comments, set out in soapbox format: **G2HIU** - I am appalled!! I should feel ashamed not to QSL; **G0FQS** - QSLing via Sprat or RSCB is surely no problem. In the Autumn 1988 edition of Sprat Ian asks members to look out for **G3INZ** and QSL!; **G4CFS** - I recently received a QSL from a G2 who had no QSL cards, so stapled a hand written confirmation to the back of my card. Let's remember that QSL means "I am acknowledging receipt" not "I have an expensive postcard to give away". So at very little expense everyone can QSL via Sprat without necessarily owning cards for QSL purposes; **G30XX** - If you want QSLs you have to work hard to get them. In general Club members are awfully good, I did a count on my members QSL system and found I had 1195 cards, but I do have a black list of 41, but not complaining hi, just look on it as part of the fun. All my black list members are in the Call Book as details with held at licencess's request; **I3DGF** - Everybody can decide to reply or not but must remember that card is final courtesy of a QSO. Our special world of QRPers cannot have similar problems and I'm very happy to answer by direct; **G4ODNR** - ROO is prepared to have QSOs but is not willing to play fair with fellow club members according to time honoured usage and etiquette. At 75 years of age this is the first time that I have felt driven to reply to any article contained in a magazine; **G4SSW** - The subject of QSLing is a sore one with me, my return rate via RSCB over the years being less than 50%, and yet the 50 odd members in the Club I've QSO'd, (all cw on 80m) return 100%. Many seem to send direct, enclosing very interesting letters, so I think the spirit is still alive, at least within our QRP club; **G4KKI** - I think that Ian's views are quite wrong and entirely against the spirit of our club. Will those members who don't wish to QSL, please think again, they could be the contact needed to complete a long sought after award. I've been chasing DXCC for 6 years and am only at 55 confirmed, so imagine how I would feel to be at 99 and be told, "sri om don't QSL here!"; **ZLARB** - If someone does QSO me, please do not worry about SAEs or IRCs, here glad to say QSL 100%, bureau permitting; **G0EJR** - I do strongly feel that it is a duty of fellow amateurs to have and send QSL cards which, after all, are one of the very old traditions of amateur radio. This operator always 100% QSLs and it would help greatly in obtaining awards if others did likewise; **G0EMC** - I am all for QSLing. I feel that the exchange of QSL cards is one more rung in the ladder for promoting international friendship, which after all is in my mind what this hobby is all about; **G3XJS** - I was delighted to read your paragraph on QSLing in Sprat, as you know I agree with what you say. It is the difficulty of getting hold of cards, even from G members, that has decided me to stop chasing the members award endorsements now I have reached the 500 sticker from Gus. I am one of those who are in favour of doing away with the need to have a QSL supported award claims; **ZL1BLJ** - Agree basically with your QSL bit in Sprat. I used to QSL 100% each month, I've modified this a bit and now QSL on receipt; **G4MXQJ** - I do not agree with G3ROO's comments, I also do not want to see a list of stations who will not QSL. I am happy to QSL 100% direct or via Sprat or RSCB; **G8JR** - Have at the moment given up on 80.....and the QSL response from club members was so poor, only about 5 QSLs of the last 60 worked!

So there you have it. If this controversy continues we shall have to run a separate column for it, otherwise I shall not have any space for other news! Seriously though, I think it healthy that important issues, such as QSLing, are openly discussed in Sprat. It is by hearing your views and opinions that the Committee can run the Club the way you want it. On a final word from me on QSLing, I have just received a letter from G4WZV enclosing some QSL cards for QSOs made during the Winter Sports. Amongst them was a very nice bright yellow unsolicited QSL card from G3ROO! Perhaps he didn't really mean what he said after all!

A lot of reading this time, but that's because you sent me lots of news. Please keep it coming and let me know how your spring goes, by 15th May please. Dayton is beginning to look doubtful for me at the time of writing. A combination of a clash of dates with my college course and running out of leave days! Don't forget to put the date of Saturday 19 August in your 1989 diary for the Summer QRP Party here. Full details elsewhere in Sprat.

73, Chris

WANTED: Coils or cores suitable for Codar T28 RX 160/80 Receiver. Particular looking for oscillator coil. Would consider scrap T28 for parts. Currently making collection of all Codar items, if any available. Have circuits of T28 and AT5 : copies for sae. CI3YMT, 1 Cairnshill Rd. Belfast. BT8 4RG

WANTED: QRP 10/15m SSB Portable transceiver eg. Mizuho MX15/MX10, AEA 10m DX Handy, Dentron MLX etc. Also WPO Communications 2m to 20/15/10 transverter. Colin Mackay, ZL1BIT, 84 Francis St. Takapuna. Auckland 9. New Zealand.

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1989 SUMMER QRP PARTY

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Pam and Chris, G4BUE will be holding their sixth annual Summer QRP Party at their QTH in West Sussex on Saturday 19th August 1989. It starts at 2pm and will continue until everyone has gone.

All members and any other amateurs interested in QRP are invited. At the present time three of the PA QRP gang will be staying over the week-end, and other accommodation is available for any other overseas or members who will be travelling any distance. Depending on what degree of comfort you require will depend on how many members can be accommodated! If in doubt get in touch with Chris.

The Summer Parties started in 1984 to enable Ade Weiss, WORSP, who was staying with Chris, to meet some of the UK QRP gang. Since then they have been a regular summer event. If you've got anything to sell, you've just built, want to show off or get to work, or want to try out on Chris's antennas, then bring it along. There is no formal programme - just come and do as you like: talk QRP, operate, tinker, read QRP books/magazines, get a sun-tan (hopefully!), eat and drink!

Everyone is welcome as space is not a problem, at least it hasn't been in previous years! Please let Pam and Chris know you intend going so that sufficient food and drink can be available. They can be reached on 0903 814594 or by post to "Alanosa", The Paddocks, Upper Beeding, Steyning, West Sussex, BN4 3JW.

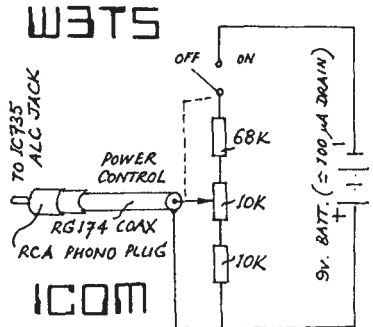
STOP PRESS NEWS..... Petr, OK1CZ, hopes to be at the G4BUE QRP PARTY.



"-SRI OM - MUST QRT - QRM DE XYL -  
- VY LATE FER TEA -"

ICOM QRP CONTROL CIRCUIT  
(Without Mods to Rig)  
Mike Michaels W3TS

By feeding a negative 1 to 4 volt into the Icom ALC jack you can turn the RF power down to 0 watts. With the circuit shown, my IC735 can run from 5-0 watts, with the front panel power control set on any point (this over-rides that control) My 735 would only go down to 6 watts with the front panel control. Now I can go down to 900mW or less for Milliwatting.



ICOM QRP CONTROL

## ANTENNA ANTICS!

As seen by GLIJW (xyl of  
G3RJV) at the family home  
...

Ian, G3ROO, decides to  
erect a can of lager in  
place of the 2el tribander  
which the team of (L to R)  
G2HKU, G4LQF, G4WZV, G3VTT  
(in authentic miners gear!)  
and G3PDL failed to get  
into place.

The beam still lies on the  
front lawn

"I'm a very patient wife  
(no comment! : Editor). So  
for your next trick..."



## QRP Mini-Convention 1989

With the demise of the RSGB Convention at the NEC and the need for a central and northern gathering for the club, we are pleased to announce our first :

G QRP CLUB MINI CONVENTION SATURDAY OCTOBER 28th  
ST. AIDAN'S HALL, MANCHESTER ROAD, ROCHDALE, LANCs

A new (trial) event, it will include a full programme of lectures, component and kit traders, bring/buy/swop stall, exhibition of homebuilt equipment, library of circuits with photocopier, club items for sale, etc... Lunch and Tea available.

More details in the Next SPRAT : Book The Date

### FROM BOOTBLACKS TO BANKERS...

Some Thoughts extracted from a letter from Rock, W9SCH  
From some probing into the history of amateur radio, Rock concludes that perhaps "not more than about a thousand amateurs have actually completed transoceanic contacts using less than, say, 250 milliwatts, or even fewer 100 milliwatts or less...If I am in the 'ballpark' (or cricket ground) this would make successful milliwatt contacts quite an exclusive group...Now exclusiveness is no virtue, God knows, but, if this be so, it ought to be a stimulant towards more current milliwatt activity.

I admit to being piqued by the haughtiness of some of the DXer and FOC set. What further bugs me is that, really, DXing is something that one buys into. IF you have the money and can buy yourself a KW Linear and a Big Beam - you're probably "in" (unless you're stupid or just plain lazy)! I do except some of our members and several of the 'super DX Tigers' over here. But to me, DXCC can be just an "electronic country club" which one buys-into. I remember a time when amateur radio's ranks included those from Bootblacks to Bankers. But it seems to be getting less so every day - at least over here - too bad."

...A Challenge ? ...Right of Reply ? If you wish to add your comments, I suggest that you do it via Chris' member's news column.



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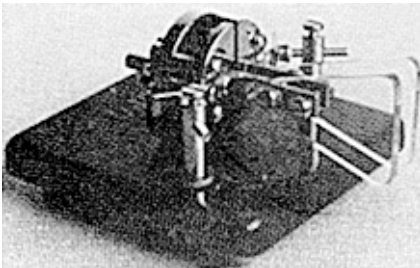
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