



# SPRAT

THE JOURNAL OF THE G-QRP CLUB

DEVOTED TO LOW-POWER COMMUNICATION

ISSUE NR. 53 © G-QRP CLUB WINTER 1987 / 88



GM3C01

THE ONER V.F.O.    THE UNICHIP SINGLE IC TRANSCEIVER    UNICHIP "BOOTS"  
 IMP ALL BANDS TRANSCEIVER    REGENERATIVE AUDIO FILTER    VFG SIDEKICK  
 AUDIO MODULE FOR RECEIVERS    PIPIT 21MHZ TRANSCEIVER    PHOTOSPREAD  
 GU3JNB REPORT    ARGOSY MODIFICATIONS    XOGGY 14MHZ TRANSCEIVER  
 WHITE ROSE 50MHZ CONVERTER    QRP COMMUNICATION FORUM    MEMBERS NEWS

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 ELEVEN PRACTICAL PROJECTS TO BUILD  
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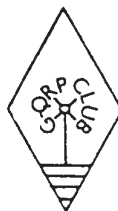
ALL CLUB SUBSCRIPTIONS ARE DUE BY JANUARY 31st

# JOURNAL OF THE G QRP CLUB



Editorial

Rev. George Dobbs G3RJV



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

1987 has been a significant year in the life of the club. The Membership data and subscriptions were rationalised at the beginning of the year. The club run major stands at the RSGB National Convention, The Dayton Hamvention and the Scottish Convention. New Officers have been appointed. In spite of thinking that a plateau may have been reached in membership, recruitment has continued at a rate equal to recent years. With the influx of new members the financial state of the club is such that we hope to be able to present some new club offers in the year ahead.

CALLSIGN BAR BADGES ARE BACK AGAIN - I have located a new source of much stronger callsign badges and have bought a limited number of blanks. At the moment these are available from me for £2 each, post paid. Please print your callsign clearly on any orders - cheques to "G QRP CLUB".

May I wish you and your loved ones a very happy year in 1988 and hope that you find your amateur radio a fulfilling recreation.

Hope to see on the bands.

73

## QRP MOUNTAIN WILDERNESS EVENT IN WESTERN CANADA

The Fraser Divide Expedition which I mentioned in my portable paddle article in SPRAT is being put on a back burner in favour of a spring effort called FORTY DAYS AND FORTY NIGHTS : THE STEIN RIVER DIVIDE EXPEDITION From May 17 to June 25 1988. This 200 km wilderness trip which is part of a major effort by Native Canadians and others interested in conservation to save the Stein River drainage basin, with its intact virgin forest, from being turned into wood pulp. It is the last such major drainage basin in BC which as been spared the chain saw.

The expedition will be a high profile effort. H.R.H. The prince of Wales and Staff of the National Geographic Society have been invited to participate.

Amateur QRP radio will be an integral part of this mountain expedition.

WE COULD USE ONE MORE OUTDOOR ORIENTED QRPER TO JOIN THE EXPEDITION.

Anyone interested please contact Bruce Prior, VE7CKF, Expedition Co-ordinator 309-2648 Graham St. Victoria, British Columbia, Canada VT8 3Y9 (604)386-4237

# All Subscriptions Are Now Due

FROM THE MEMBERSHIP SECRETARY (DAVID G4HY)

THE CHANGEOVER FROM CHRIS IS NOW COMPLETE, PLEASE SEND ALL SUBSCRIPTION RENEWALS, CHANGES OF ADDRESS, CHANGES OF CALLSIGN ETC TO ME:

PLEASE QUOTE MEMBERSHIP NUMBER (+ CALLSIGN) IN ALL CORRESPONDENCE

PLEASE ADD YOUR NUMBER (+CALLSIGN) ON THE BACK OF ALL CHEQUES

THE CURRENT RATE IS £5 OR US\$10 (CASH) IF US CHECK \$12.00. NO I.R.C.s

IF MEMBERS HAVE DIFFICULTIES IN PAYING PLEASE CONTACT MEMBERSHIP SECRETARY:

HOW DO YOU KNOW IF YOU HAVE PAID ?

BECAUSE OF POSTAL EXPENSES, THE CLUB DOES NOT ISSUES RECEIPTS BUT BUT THE SPRAT LABEL DOES CONTAIN A CODE TO SHOW IF YOU HAVE PAID:

(E.G. "88" MEANS SUBS PAID UNTIL THE END OF 1988)

PLEASE CHECK YOUR LABEL ON THE SPRAT ISSUED AFTER YOU HAVE RENEWED SUBS:

MANY THANKS TO THOSE MEMBERS WHO HAVE PAID IN ADVANCE AND EASED THE WORK LOAD. ALSO THANKS FOR THE MESSAGES OF CONGRATULATIONS (& SYMPATHY) FROM MANY OF YOU ON MY "ELEVATION" TO THIS JOB:

CHRIS G4BUE DID THE REALLY HARD WORK SETTING UP THE DATABASE & DESERVES A HEARTY THANK FROM US ALL: 73, DAVID G4HY

DAVID JACKSON, G4HY, CASTLE LODGE WEST, HALIFAX RD, TODMORDEN, LANCS, OL14 5SQ

OVERSEAS MEMBERS: The club bank charges us £1.50 to exchange overseas cheques even if they are in Stirling (so much for the EEC) The BEST way to pay us is to send a Stirling £5 note (or US Dollars) although we do understand the risk  
\*\*\*\*\*

G QRP CLUB ACCOUNTS

FROM THE TREASURER (PETER G3PDL)

SINCE TAKING OVER THE ROLE OF TREASURER AT THE BEGINNING OF THIS YEAR, THE METHOD OF ACCOUNTING HAS BEEN REVISED, SIMPLIFIED AND BROUGHT UP TO DATE; A NEW AUDITOR HAS BEEN APPOINTED;

TO BRING THE ACCOUNTS INTO LINE WITH THE FINANCIAL YEAR, MY FIRST FULL AUDITED ACCOUNTS WILL RUN TO THE END OF MARCH, THUS THE FIRST SET OF THESE ACCOUNTS WILL RUN FOR FIFTEEN MONTHS AND THEREAFTER EVERY TWELVE MONTHS:

A STATEMENT OF THE AUDITED ACCOUNT WILL APPEAR IN THE FIRST ISSUE OF SPRAT AFTER THE LAST DAY OF MARCH.

IT DOES HELP IF MEMBERS ADD THEIR NUMBER AND CALLSIGN TO THE BACK OF CHEQUES.

PETER G3PDL

## Please Quote Membership Number

### FURTHER LOOP IMPROVEMENTS

By John McDonnell, G3DOP

The loop described in "I have to mow the grass to find my antenna !" (SPRAT No. 50) has now been rebuilt using 1/8 inch diameter copper tubing instead of co-axial cable. This has produced a noticeable increase in radiating efficiency on both 7 and 14 MHz. On 7 MHz signals have been reported as stronger than those from my Cushcraft vertical. Using 2W from a JU6 on 14MHz during the CQ WPX Contest I had 6 contacts with east coast W and VE stations. Lowering the loss resistance by using tubing instead of co-ax certainly pays off ! (Having worked John at 250 miles distance on 7MHz I can vouch for how good the signal is ! G8PG).

THE ONER V. F. O.  
Ian Keyser G3ROO

KIT  
Available

Before we go any further into the VFO we must point out although this was designed to run into the 'Oner' transmitter it is a very useful little VFO in its own right. As it is out high stability VFO compressed onto a very small board (one inch square) with the frills removed it will no compare with the stability of that unit but it will be adquate for QSOs on 80 and 40 metres.

It is impossible to give any meaningful drift curves as the unit is unboxed and the coil is wound on a dust iron core ring, but as can be seen it is more than stable enough.

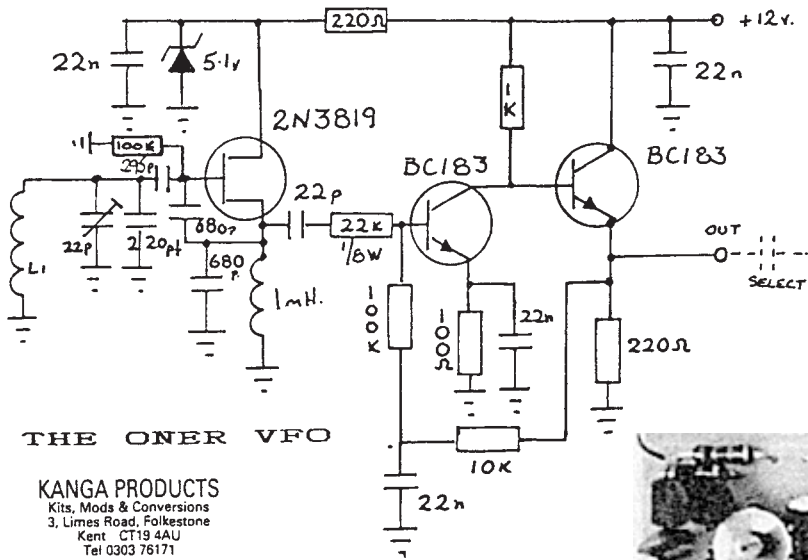
The original VFO for the Oner was built when George ('RJV) was on a visit to this QTH and we built a Oner for fun. Our unit was lacking somewhat in drive and so I laid out the board as shown below and we now have 5mW across 50 ohms...could even drive a diode ring for the receiver!!!

The circuit is a 2N3819 FET oscillator loosely coupled to a wide band amplifier which I knocked together many years ago on a visit to George. (Suprising the inovation that takes place on these visits, the only thing that we have not managed to do is to feed the gang on five loaves and two fishes!). There was sufficient room to include the output capacitor on the board and so one end is soldered to the connection of the 220 ohm resistor to the emitter of the output transistor and this is used to connect to the base of the Oner's oscillator transistor...saves the price of wire!

The tuning capacitor used is a trimmer and this has a 3/32 brass adjusting screw. To make this adjustable you have two courses open to you, the first is to use a disc of plastic Araldited to the adjusting screw and edge tune it. Or secondly to take a length of 1/4 inch knitting needle and drill a hole at its end and Araldite this on as an extension spindle to take the knob, reduction drive or whatever you want. The most important thing is to supply support for the shaft and I have done this using another one inch square piece of board with a 1/4 hole drilled in the correct position. This acts as the front panel soldered upright on a one inch by 3 inch strip of board as a base plate. The VFO is mounted 1 inch behind the front panel and then a screen with two holes in it, one to take the +12 volts and the other the feed capacitor to the Oner PCB. This second piece acts as a screen and reduces the chance of feedback. A third piece of 1 inch PCB acts as the backdrop and takes the low pass filter built ugly style and the aerial socket. No aerial switching is used as I use the transmitter on the main aerial and use the whip aerial of the station SRX30 for receive!

There is not much else to say about it except to place all the resistors on the board first keeping the 10K resistor forced as far as possible to the edge of the board as this fouls the tuning trimmer. In fact it is not a good idea to solder the 10K resistor in until the trimmer has been tried. When this is correct solder the trimmer in place then add the other components leaving the polystyrene capacitors till last. Also note that the 220pf and 680pf poly capacitor use the same earthing hole.

For those of you who have followed my articles in the past will know that I use beeswax extensively for fixing, it is the best thing for tuned circuits especially and this circuit is no exception. There is no room to mount the coil ring and so this is soldered to the board across the underside of the trimmer capacitor when the turns have have been adjusted to get it oscillating on almost 3500KHz with the trimmer capacitor fully meshed. Beeswax is then dripped onto it to fix it in place. Final trimming of frequency is done moving the turns on the ring until the lower point is fixed on 3499KHz, the top frequency with the capacitor unmeshed should be about 3590KHz.



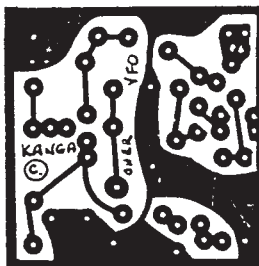
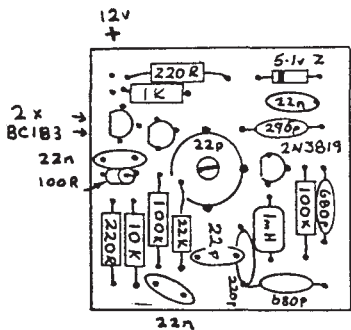
**THE ONER VFO**

**KANGA PRODUCTS**  
 Kits, Mods & Conversions  
 3, Limes Road, Folkestone  
 Kent CT19 4AU  
 Tel 0303 76171



**COMPONENTS**

- |                     |                              |
|---------------------|------------------------------|
| 1 : 5V1 Zener       | 1 : 1K                       |
| 3 : 22N             | 1 : 10K                      |
| 1 : 22P             | 1 : 22K 1/8 WATT             |
| 1 : 220 POLY        | 2 : 100K                     |
| 1 : 295 POLY        | 1 : 1MH RFC                  |
| 2 : 680 OR 560 POLY | 1 : E555 OR 2N3819           |
| 1 : 100R            | 2 : BC183                    |
| 2 : 220R            | 1 : 22P TRIMMER              |
| 1 : 1K              | L1 : 35 TURNS 30SWG ON T37-2 |



**KIT AVAILABLE**  
 See Back Page of This Issue

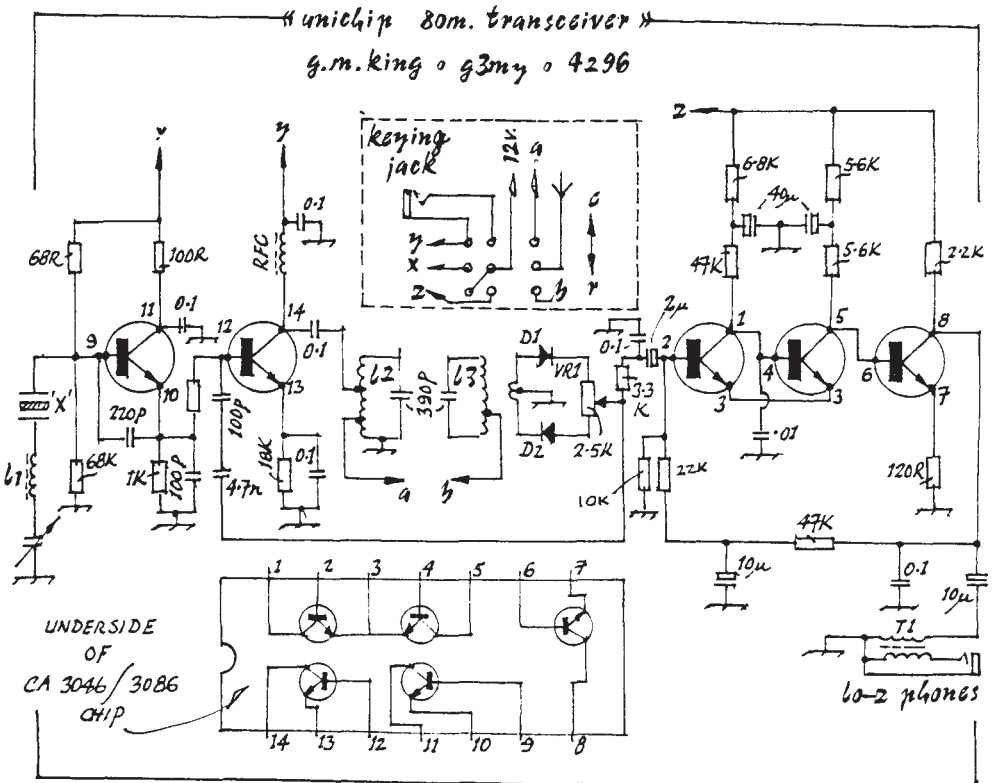
# THE UNICHIP

By Mike King G3MY

The Unichip is built around a single CA 3046 chip which is described as a differential pair plus three separate units. The layout of the pins makes the device very suitable for a design with the chip in a holder in the middle of the circuit board. The receiver is then laid out on one side and the transmitter on the opposite side.

The transceiver was designed as a simple no frills circuit and it is sufficient to say that it worked the minute it was switched on, only requiring the two slug tuned coils to be resonated. Input to the "PA" stage is 50/55 Ma at 12 volts and the measured output is just short of 300 milliwatts into a 50 ohm load. The VXO runs all the time on receive but is keyed along with the PA on transmit so that if needs be it can be used with a separate receiver without any sidetone and of course no drain on the Nicads except when the set is actually transmitting. The transceiver was built on Veroboard because I am no great designer of Printed Circuits; although I am sure that it should be quite simple to produce a suitable board and thereby make construction very much easier. (and quicker).

I might add that the chips came from Birkett some years ago and were the usual untested devices but I am glad to say that 9 out of the original 10 work satisfactorily. I think they were 5 for £1 but the newer and equivalent CA3086 can be bought for 45p, as a top quality branded device.



## UNICHIP 80m TRANSCEIVER by G3MY

X Crystal 3561 kHz  
L1 120uH iron core choke  
VC1 100pf polycon or air spaced  
RFC 7ft 30swg enamel wire on 2 ferrite beads end to end  
L2 30ft 28swg close wound on 7mm slug tuned former, taps at 6T and 12ft from ground  
L3 Same as L2, tap 5ft from ground  
L4 3 bifilar turns over middle of L2

After winding the cores and the RFC sprayed with "Holts Ignition Sealer" plastic spray.

D1 D2 IN914 T1 = LT700. SI T/R switch 3 pole 2 way toggle switch

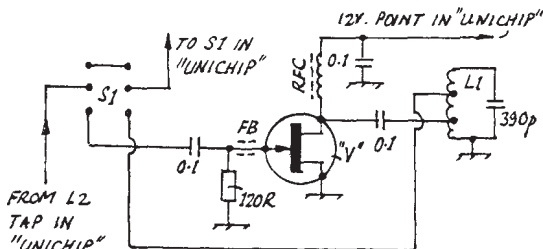
### BOOTS FOR THE UNICHIP TRANSCEIVER

By Mike King G3MY

The Unichip has grown a pair of "Wellies" in the form of an outboard VMOS PA, which is fixed to the back of the little ABS. box used to house the transceiver. This PA can be switched in or out by means of a simple toggle switch as shown in the circuit. In this way the function of the T/R switch in the transceiver is not effected.

RFC 2 Ferrite beads end to end 6ft 28 swg enamelled wire.  
L1 7mm slug tuned from 30ft 28swg enamelled wire close wound, taps at 9ft and 12ft from ground.  
S1 2 pole 2 way toggle switch (HI/LO POWER!)  
FB Ferrite bead on the gate lead - right up at the device fixed in place with polystyrene cement.  
V N Channel VMOS, VN10KM or VN66AF with 6sq cm copper heat sink. Bolted to small copper tab - 4BA bolt takes from tab through external heat sink.  
VN90AA also fine, more QRO, TO3 type mounting.

Built in a 60mm x 40mm x 25mm plastic box, heat sink external. Box glued to back of unichip box with Araldite.  
VMOS PA cut off with no drive so there is no need to key the stage.  
RF output 2.0 - 2.5 watts, d.c. input approx 300-350 mA at 12 - 14 volts.



'BOOTS' FOR "THE UNICHIP"

### LADDER FILTER OFFER

Set of 8 crystals (either 8913KHz or 9063) to build a six pole filter with two carrier crystals (ideal for 80/20m). Supplied complete with suitable circuit: £5.00 inc post and packing from John Haliburton, GM4AQO, 32 Glenbervie Rd, Kirkcaldy, Fife KY2 6LQ.

# THE "IMP" ALL BANDS TRANCEIVER

By Nigel Flatman GOEBQ

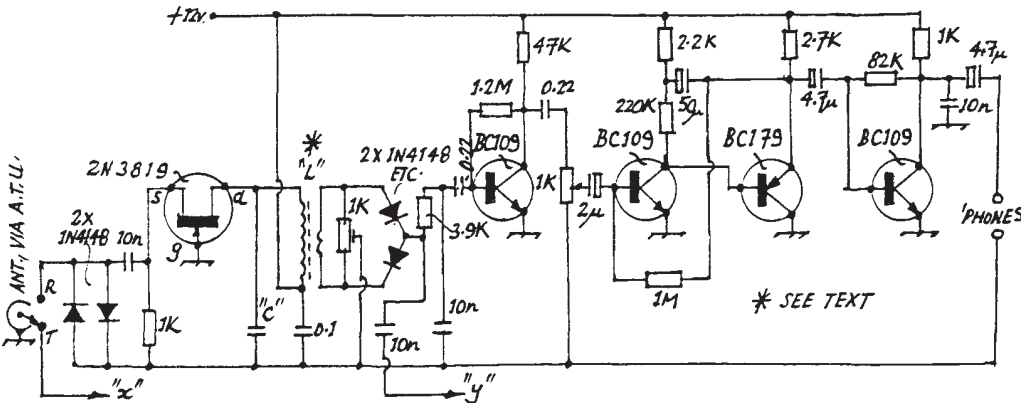
I needed a cheap and simple /P rig since I often work away from home. This effort is totally unoriginal and was pinched from various designs in the QRP circuits handbook; the receiver is basically the EBOR and the transmitter is an OXO.

The great thing about this circuit is that only one tuned circuit is required. I used 14 turns on a surplus 3/16 inch former, with a three turn link and C 120pF to tune 20 metres. For a multiband version make C 3/500pF variable (use slow motion drive!); then the rig should work on 40 to 15 metres with suitable crystals. Alternatively use a 40 metre coil (about 22 turn primary) to cover 40 and 80 metres.

The rig was built on a breadboard, for well under £10, in a plastic box obtained cheaply from C.R. Supply Co. of Sheffield; they also stock most of the components. The 2N3866, FET and VXO tuning capacitor can be obtained cheaply from Birketts.

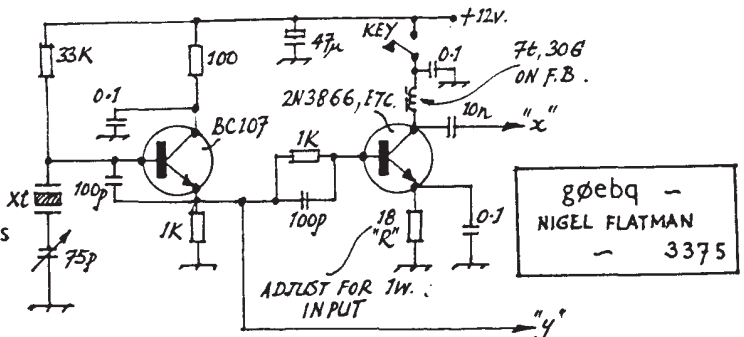
Improvements could include I.R.T and a keying transistor, although my version is gives a T9 note without the latter. The receiver is on all the time producing a nice buzzy 'sidetone' on transmit. Output was only 250mW for one watt input, which was good enough to work SM, DF and a 2-way QRPQSO with member GM4UYE in the first few days of testing.

The rig, by the way, was named after my daughter Amy, who causes me more QRM than all the QRO merchants put together!



\* SEE TEXT

"The imp"  
all-bands  
trcvr.



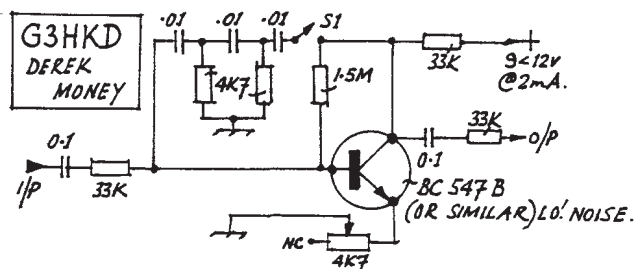


## REGENERATIVE AUDIO FILTER

By Derek Monday G3HKD

This circuit is basically a ladder network oscillator, backed off from the oscillation point by the pot in the transistor emitter. With the pot in its maximum resistance position the filter is out and with the pot in its minimum position it will oscillate; just before this position the circuit is highly regenerative and some very high selectivity can be obtained. It can be inserted in the headphone lead with an audio amp but I prefer to put it in the RX directly after the audio gain control. The frequency can most easily be controlled by substituting R1 and R2 with a double gang pot. To check the frequency frequency make it oscillate and put it on a counter or use your ear! Some narrowing of passband is evident even with the pot turned right back; making SSB copy difficult, so I use a switched pot and the switch S1 switches out the feedback circuit leaving a straight AF amp with small gain.

The circuit has a gain of at least 10DB in the narrow position and RX AF control has to be backed off to stop overload.



### IMPROVING THE GM4JMU ANTENNA CURRENT TRANSFORMER

This great little circuit (Sprat 52, page 10) but as Ken says it gives poor readings at the end of voltage fed antennas. The answer is simple; add a separate 2-turn winding on the toroid former, and bring it's ends out to a couple of terminals. When measuring on a voltage fed antenna connect one terminal to the atu through an inch or so of wire and connect the antenna to the other. The extra pick-up will give you good readings.

### CONSTRUCTORS TIPS

Colin Hawkins G0CEU

- 1) Small dials and scales can be made from 0.024" (approx) thick PLASTICARD obtainable from Model Shops. It can be marked and cut with engineers dividers, cleaning the edges with a file and lettered with letraset of similar rub down lettering.
- 2) Before marking and drilling cases etc, I cover them with white fablon or similar contact sticky backed plastic. This can be easily marked out with pencil and when drilling etc is complete the Fablon is removed to reveal a pristine surface.

### STAND WIRE GAUGE AND AMERICAN WIRE GAUGE

Following mail from both sides of the Atlantic about SWG (British) and AWG (American) the following might help.

As a rough guide : 14 AWG = 16 SWG, 18 AWG = 19 SWG, 20 AWG = 21 SWG.

22 AWG is midway between 22 & 24 SWG and 26 AWG is roughly 27 SWG.

Having said that, if the circuit is variable, the gauge is none too important. I tend to work roughly on AWG = one gauge up on SWG.

## THE VFG SIDEKICK

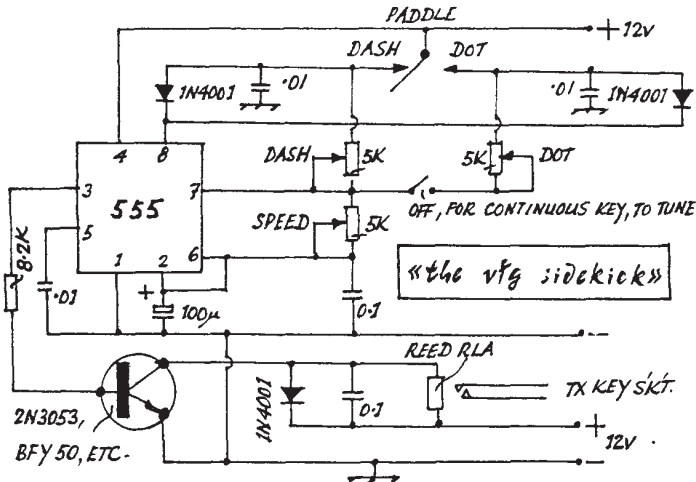
By G4VFG

This is a simple 'side swipe' type keyer suitable up to about 25 WPM or so. It has three controls, one for speed and the other two the mark/space ratio; the dot and dash function of the latter can be transposed by altering the settings.

Reference was made to Radcom, Tech Topics October 1979, although that circuit didn't actually work.

The circuit is straight forward. The reed relay is RS or similar. I fitted the 555 and the BFY in holders to aid maintenance. The original was constructed on Veroboard and mounted on spacers horizontally above the key itself. This key is a Himound double paddle which, although not cheap, is a good investment and should last a lifetime. I do not prescribe to the nailfile and bent wire brigade.

The whole thing is mounted in a metal box. A screened lead was used to connect it to the rig - in this case an FT77. No sidetone was incorporated because it was not needed. Power was taken from the shack 12V CBtype PSU



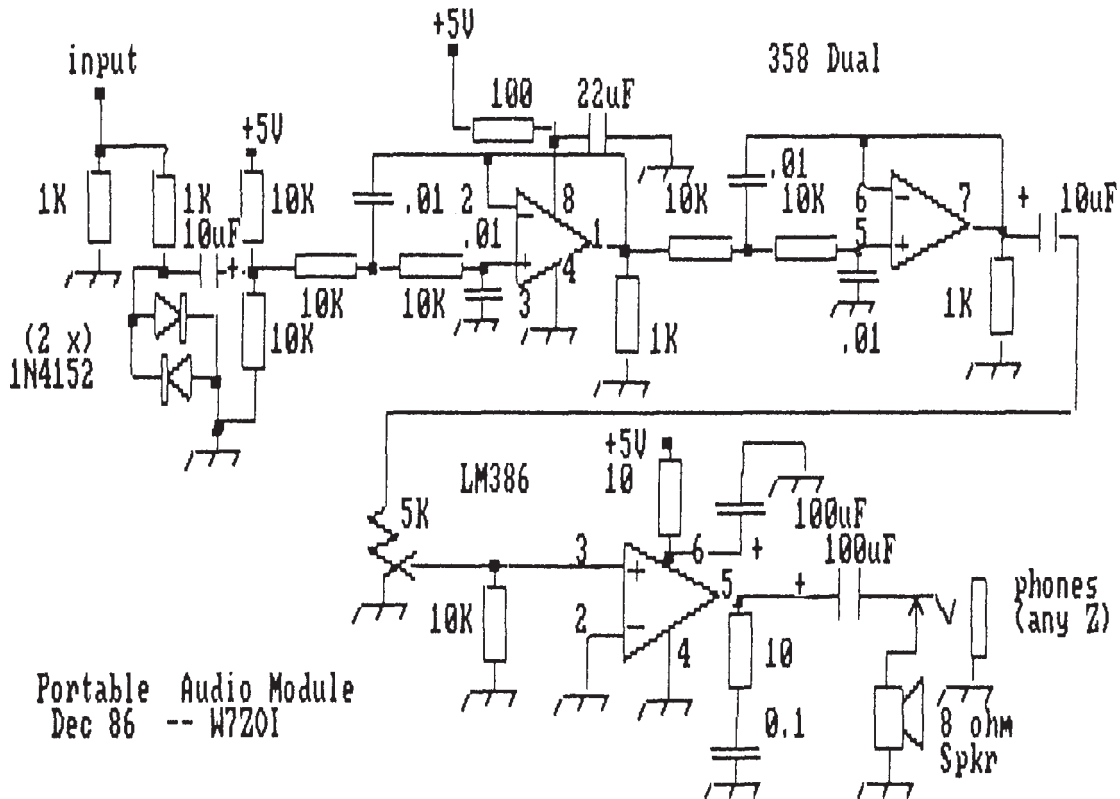
AN OUTBOARD AUDIO MODULE FOR SIMPLE RECEIVERS

By Wes Hayward, W7ZOI

Most of the little receivers that we all build are used with our favourite set of headphones. We all have them. However, there is occasional need to drive a speaker, perhaps to demonstrate something to another club member.

Direct conversion receivers could sometimes use some gain limiting, a replacement for a more complete AGC. In other instances, we need a bit more audio gain, or some selectivity, or a quick tail end for the next receiver of the month.

The attached circuit serves these functions at W7ZOI/W7. The circuit begins with a pair of back-to-back silicon diodes. These operate as a clipper, limiting the peak signal amplitude. Odd order harmonics will be created by the clipping. These are, however, largely removed by the four pole RC active low pass filter that follows the clipper. The filter uses a small, dual op-amp. The filter then drives an output amplifier using the ever popular LM386. The resulting audio excites either an internal speaker, or external headphones. The circuit operates from 5 volts, supplied by four NiCad batteries. The no-signal current is 12mA. The entire circuit, with batteries and speaker, resides in a 1x3x6 inch box. Not shown in the schematic is the off-on switch, a switch for the clipper, and circuitry for NiCad charging. A mylar cone speaker was chosen, for it is more tolerant of moisture.



Portable Audio Module  
Dec 86 -- W7201

## The G3XBM 'Pipit' 21MHz Transceiver

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### Specification

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Frequency Band	21MHz
RX Sensitivity	<0.5uV for 10dB S/N
TX Power Output	approx 0.8W
VXO Range	2 x 15kHz
Break-in	Instantaneous electronic (listen between dots).

### Circuit Description

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The circuit is loosely based on the OXO transmitter with an SBL1 based DC receiver. It has a full QSK keying system without relays or TX/RX switches being necessary. Only one component, the RX input tuned circuit, needs alignment.

The only gain control is the RF attenuator on the RX input. This is the best place since, whenever possible, it allows the receiver to be de-sensitised giving added protection from overload and breakthrough. In practice, most contacts with QRO stations occur with around 10-20dB input attenuation in line.

PIN diodes were used in the antenna change-over circuit because these were at hand. They could probably be replaced by 1N4148 diodes with only slightly degraded performance.

The toroids used were Neosid rather than the more common Cirkit ones, again because these were at hand but other types could be substituted, maybe with minor turns adjustment.

There is a slight frequency offset between TX and RX as the oscillator loading alters when the TX PA is keyed, the amount of shift being just about optimum for CW! Increasing the turns on L8 will allow further frequency shift with the VXO but the difference between RX and TX frequency can then become too great to be usable.

The TIS43 provides sidetone with R9 and C14 helping to make the note more agreeable to the ear. M1 and TR1 could probably be replaced by a MOSFET mixer with some conversion gain, but this hasn't been tried.

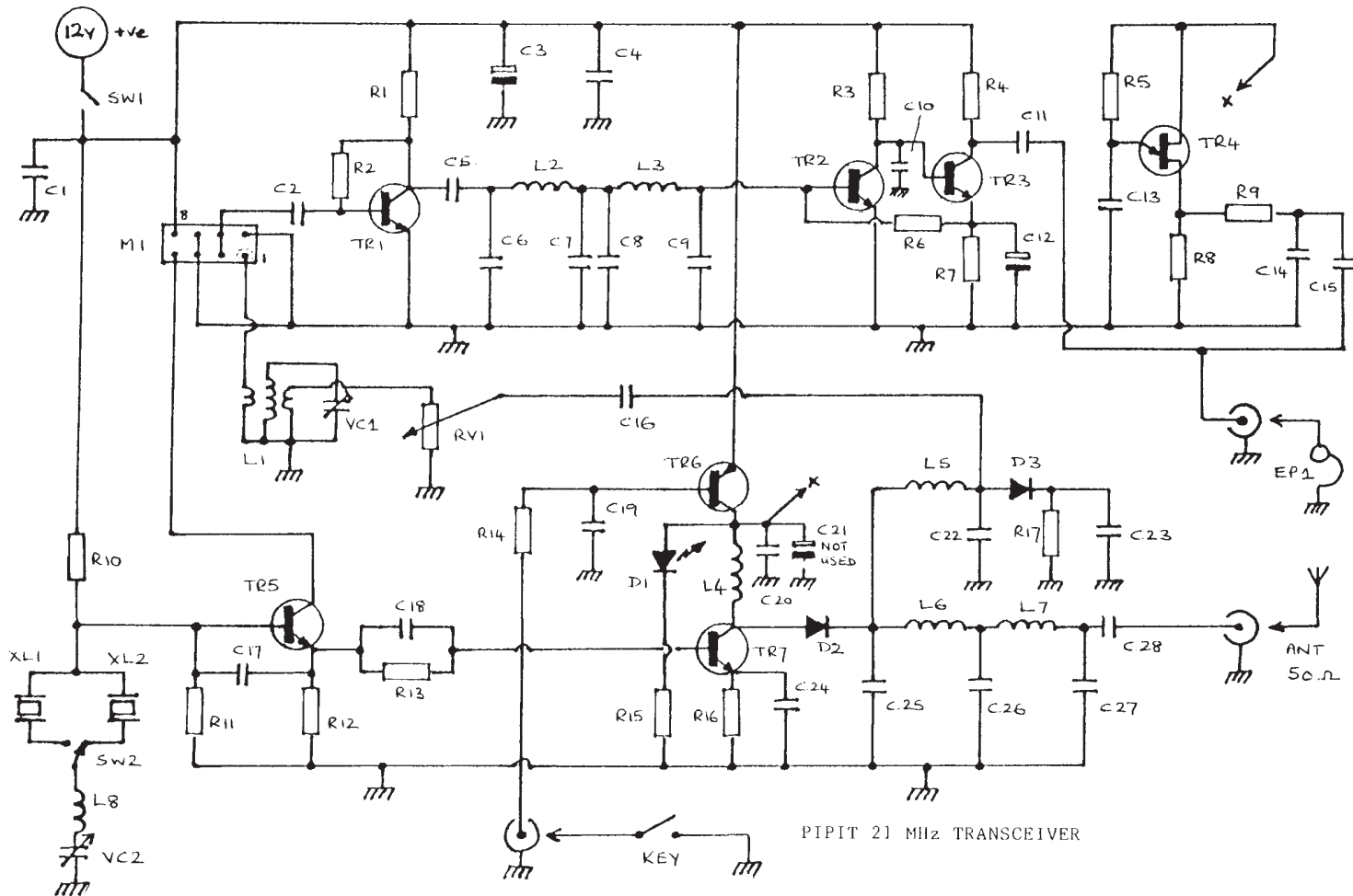
The whole rig is built into a 4" x 4" x 2" metal box using 'ugly' construction on a 3" x 2" copper laminate board for most of the components.

The rig has been in use for about two years and has allowed contacts with 6 USA states and all over Europe using just a wire dipole at a maximum height of 25'. With improving HF conditions 21MHz will be an excellent band over the next few years. The Pipit is easily adaptable to other bands up to 28MHz.

Isn't HF QRP just wonderful!

Roger Lapthorn  
G3XBM

L1	20t primary, 1t output, 1t input on 0.25" diam. Neosid 'pink' toroid.
L2,3	82mH TOKO inductor, part number 181LY-823 (Ambit)
L4	20t on 0.25" diam. Neosid 'turquoise' toroid.
L5	4t on 0.25" diam. Neosid 'turquoise' toroid.
L6,7	3t on 0.25" diam. Neosid 'turquoise' toroid.
L8	8t on 0.25" diam. Neosid 'pink' toroid.



Component List - Pipit

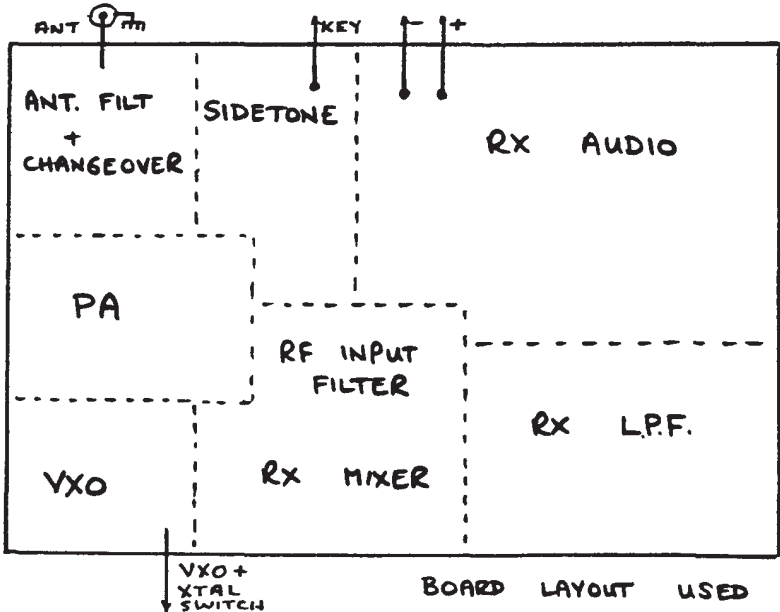
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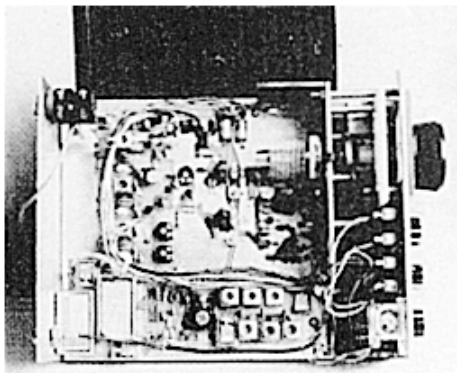
R1	6.8k	TR1,2,3,5	ZTX108, BC108 etc. NPN
R2	470k	TR4	TIS43 or similar
R3,10	10k	TR6	ZTX212,213 etc. PNP
R4	1.2k	TR7	2N4427, 2N3866 etc.
R5	100k		
R6,9	47k	D1	LED (red).
R7,12,17	470	D2,3	PIN diode e.g. UM9401
R8	5.6k		(see text).
R11	4.7k		
R13,14,15	1k		
R16	15 (10-39 select on test for 0.8W RF)		

RV1                    1k lin.                    M1                    SBL1 Double Balanced Mixer

C1,2,5,11, 15,16,19, 20,24	0.1uF	XL1	21.050 MHz fundamental
C3	47uF	XL2	21.060 MHz fundamental
C4	1n	VC1	60p variable
C6,7,8,9	0.47uF	EP1	High Impedance Earpiece
C10,23,28	2.2n	SW1	On-off switch
C12	6.8uF	SW2	Single pole - two way
C13	0.068uF		
C14	4.7n		
C17	100p		
C18	27p		
C21	-		
C22	150p		
C25,27	180p		
C26	270p		

Enclosure 4" x 4" x 2" metal





THE CHERITON TWO BAND RECEIVER (FRONT AND INSIDE)

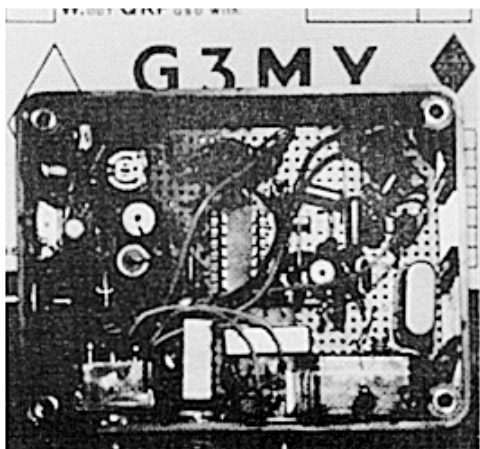
The Dual Band (80/20m) Receiver built by G3RJV and G3ROO and sold in kit form by Kanga (see back page)

This is the receiver promised at the time the club offered cheap 9MHz SSB Filters. This version uses one such filter and also uses the option allowed for a 500Hz CW Filter. The design has a front end using noiseless feedback with a noise figure better than 4dB and an input intercept point of 22dBm.

It is an impressive receiver in use, offering a better performance than most receivers available on the amateur market.

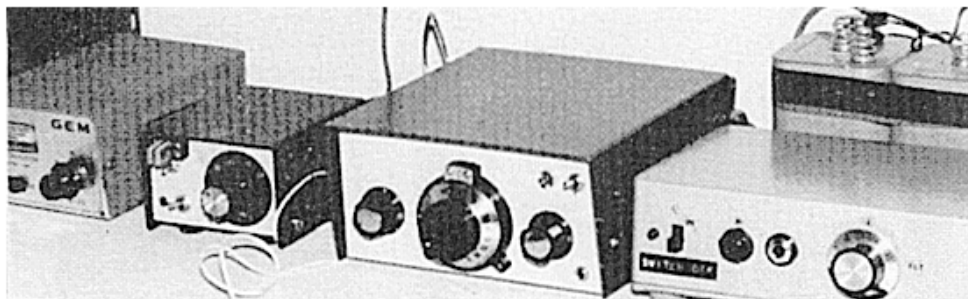
Ideal as an application for the club filters, although any suitable 9MHz crystal filters may be used.

Below right is a 20 metre CW Transceiver, built by G3RJV, again using one of the cheap filters, this time in the Kanga Single Band Receiver board. This provides the receiver section. An additional Mixer Board, and Change-over Board and the Howes 20m transmitter board complete the transceiver.



20m CW TRANSCEIVER (G3RJV)

THE UNICHIP TRANSCEIVER (G3MY) See this issue for circuitry shown against his club QSL card.



HOME STATION OF G3JNB

See Victor's article in this issue on his visit to Alderney.

The station above is from left to right:

12 volt power supply  
 ONER for 80/40/20 metres  
 Direct Conversion Receiver  
 and Audio Filter.



THE G QRP CLUB AT THE  
 SCOTTISH NATIONAL CONVENTION  
 IRVINE IN SEPTEMBER 1987.

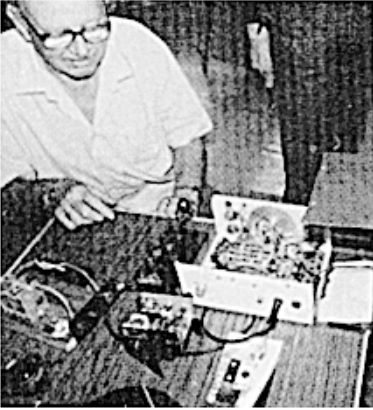
Angus Taylor returns to his  
 Scottish Roots!

A group of members led by Gus,  
 G8PG, staged a successful  
 stand for the club at the  
 Scottish Convention.

The picture above shows the  
 MacSPRAT Team who manned the  
 club stand.

To the left, we have the fine  
 display of homebuilt equipment  
 and club information offered  
 to visitors at the stand.





QRP BESIDE  
THE SEASIDE  
GREAT YARMOUTH SEPTEMBER 1987

Following the inspiration of David, G3OEP, the first QRP By The Sea meeting took place in Great Yarmouth in September.

TOP LEFT: G4CQC examines the first prize in the equipment competition. A Transceiver with ATU and Key built by G4UVA.

TOP RIGHT: G0GGE inspecting a 14MHz mini transmitter built by G0BXC who won the prize for the longest distance travelled to the event.

A Group gathers for a discussion. G0ACM second left and G0DVQ is on the extreme right.



#### GORLESTON QRP CLUB

A group of members who meet in Norfolk.  
SWL Ray with back to camera  
G4CQC painting a P.C.B.  
G0EIL giving advice  
G0GGE ready for action



**One Alderney QRP Dx-pedition - as ordered**

by Victor Brand G3JNB/3432

The summer edition of 'SPRAT' was waiting in the pile of mail when we arrived back from our somewhat eventful holiday on Alderney in the Channel Islands. Our Rev. Editor was calling for support for remote locations activity and, yes, there it was on page 26 "QRP Dx-peditions to GJ/GU would be very welcome". So, with an immediate upgrade to Dx status, the G3JNB/A holiday operation seemed worthy of a few notes to encourage fellow members to pack a portable rig in their holiday baggage.

Always attracted by the spirit of the QRP mode, my earlier enjoyment of our holiday was much influenced by the enthusiasm of the first QRP Society that was run by John Whitehead in the 1950's. (John was 80 this August and is now comfortably retired in Shanklin where he indulges his other hobby as a painter.) The intervening years saw slow progress from home brew 6V6s up to a rather posh Drake TR7 and the low power aspect had rather dwindled to reading George's columns with some nostalgia.

Enter our Hon. Sec. Chris Page! Armed with his little 'ONER' demonstration TX and a nice line in lectures to the Thames Valley ARTS, Chris touched the spot. Before long the Drake was doing duty only as a receiver and the odd watt or two was radiated from the trusty G5RV hung from the tall pine trees that surround the home QTH. The CW improved and it was great to be back.

So that was last year but it wasn't really quite right. The Tx was neat but the RX was too big. A Howes DC80 kit soon appeared on the bench. Now we were getting somewhere and a plan emerged to build another ONER and the Howes into a nice box for true QRP 80m transceive operation, complete with a touch of VXO and all the switchery. With business commitments it took ages but when complete, and supplemented by the station's Technical Associates audio filter, it worked like a dream.

Now, over the years, I have managed to tote a Barlow Wadley receiver on holiday to listen to the bands at odd moments. But listening is not working and I hankered after an opportunity to work from a remote location, especially if the call classified the station as DX! And so it came about that the gear was to come with us for that desperately needed 'quiet' couple of weeks away from it all on the island of Alderney. A little house overlooking the harbour had been located and flight reservations were made with Aurigny.

The Rig, batteries, tools, log, absorption wavemeter, W3EDP antenna and tuner (specially junked together from George's recent article in Amateur Radio) were all packed in a sportsbag. "That lot is going to give the security and baggage search people a heart attack" I thought. But, no, the official didn't bat an eyelid at my bagful of dials and batteries.

Once settled at our holiday home and having admired the view, installation was commenced. Hang up W3EDP. Plug in battery. Plug in antenna and key. Switch on. Faint whispers - nothing like the torrent of cw that poured out of the speaker back in Surrey. The antenna loaded like a dream (thanks George) but no reply on 3560KHZ. Try the other channels and then switch VXO frequencies. Call CQ - no reply. Call the odd signal that did pop up. Zilch!

Clearly the low antenna was not producing the volts or the site was too screened or the conditions were quite different on this island. All these were true and some radical action was called for if the activity was not to be restricted to reading "The Joy of QRP" for the umpteenth time.

I've always wanted to do it! Strip open some twin - that is, just like they say in those American wire antenna articles. A visit to the television shop provided some light flat twin and a coil of surprisingly low loss coax. Apparently, before they had a local relay station, the TV signal was so poor that only the best coax would suffice. Back to the site and said twin was stripped apart to a 132 feet dipole fed with the coax via a small choc block - yes, I had thought to pop one into the box of 'useful' bits.

Up onto the roof, via the tiles of the small boiler house, and out with the two arms of the antenna to handy bushes to produce quite a respectable sloper.

On with a nice new coax plug - thank goodness the soldering iron had also decided to travel, and ready for a test. A bit better - but only just. Still no replies and gloom descends. So how do these guys operate from the middle of a desert with a bit of wet string hung on a tent pole? Admittedly they are QRO but still - where is the challenge?

A day later and salvation is at hand! The QTH was on the side of a hill and, naturally, there were desirable residences above and below us. Bill, a retired IBM man and much involved with the niceties of FMing from his yacht, observed the girating bushes adjoining his property and had been monitoring the personal audio traffic emanating therefrom. "Would you like to tie your aerial to my house?" he tentatively enquired. Would I? Warmly shaking this heaven sent benefactor by the hand, I produced lengths of string and away we went.

Ten minutes later a beautiful dipole soared high into the sky and stretched itself out just waiting for the RF, sniffing for those signals. A glorious sight for sore eyes!

Back to the rig and down to serious business. Bingo! Signals romping in loud and clear. In fact, too loud and too clear!

In the middle of a summer evening the local fishfore was dead on 3560KHZ and the heavy mob were pounding in all over the dial. Still, the antenna loaded well and things were looking up. Let's try tomorrow morning when it will be quieter.

First call at 0806GMT brought G8FW back with a 589 from Southampton just across the water. Honour was satisfied. In the local alternative venacular "Vive le QRP".

And so it was that GU3JNB/A was at last on the air and happy with his lot. Propagation was quite unlike the mainland and it soon emerged that, generally speaking, activity was best confined to the breakfast hour and a tea time slot. Late morning and afternoons the band tended to be dead (no propagation) and mid-evenings deafening with QRM, not surprising considering the coast guard station, the lighthouse and the harbour master's antennae were all visible from the balcony!

An early QRP/QRP with G3MY in North Derbyshire running his two watts opened the distance worked up to respectable figures, with QSOs to come with GOAAO near Pontefract, GWODYT in Caernarvon, G4WZV of Scunthorpe, plus DF5KN, PA3AWV and ON7OE to vary the fare, and with just one watt up the spout.

The real thrill was really down to those of you in the Club who came back on ONERS, OXONERS and a Micron or two. The operating sessions were brief and, in fact, I only clocked up some 85 actual QSOs during the stay - hardly the thousands expected of a rare one! However, many of these contacts were real rag-chews and, what's more, were mostly people's first time contacts with that particular island in the GU listing. The provision of QSL cards was going to be mandatory. Am I glad that there were actually so few as it must be murder filing them by the thousands.

My best 'gotaway' was GM3TMK who was crashing in one night when I was lonely and up and about in the wee small hours. After a long wait for his QSO to finish, my quick call was not fast enough to catch his attention as he pulled the switch. We could have worked - the path was wide open and it felt solid.

So what was I doing up at that hour anyway, you will be asking yourself? He is obviously not a Dx fanatic and he was on vacation with the specific purpose of building up the sleep action. Regrettably, at the beginning of week two, Audrey, the wife, had a nasty bike accident and was carried off to the island hospital for 48 hours.

She was in bad shape suffering from concussion, cuts and hairline fractures to the head and multiple abrasions. Not at all what she had in mind for the week. The medics were fantastic and the initial shock situation was brought under control - for all parties.

So that is how I came to miss the GM. Now, of course, we were into a different ball game. No way was my better half going to be fit to travel home by the weekend and urgent adjustments to standing orders were necessary.

The local property agency was asked to fix us up with another house so that the patient could stay on, in the peace, quiet and warm sun (yes, I did say warm sun). Guess what - the only suitable home on the books and available for the number of days thought necessary - was next next door! What is more, if anything, it was more comfortable and actually enabled the antenna wire to be swung into an even more advantageous elevation. Somebody's looking after us up there - thank you.

Now we were into the emergency mode. Not only was it imperative to readjust a crowded business schedule, cancel the arrangements for the Thames Valley garden party scheduled for our home QTH, to communicate news and reassurance to family and friends but also to a standing army of "admirers" whose 88s flowed onto the log with increased fervour, among them were the regulars from TVARTS, the Sunday morning Nine O'Clock Net plus some new ones to me!

Naturally the land lines figured in the principal communications but when I reveal that house number two had no telephone, you will understand it was either the coinbox in the library (twenty minutes walk away) or the trusty QRP rig.

Daily, the familiar calls came on channel. Brian G3MBN was always there, G2BLA Morris coped manfully with a high noise level and Ken GJ3PKW in Jersey did his best to work us via the solid hill that was just metres behind the antenna.

It was particularly pleasant to work with my old friend Charles, G3GTX and Albert G4CQK, our local club's QRP expert. Thank you all for your generous support and warm concern from both Audrey and myself.

So there we were, sort of incarcerated but peacefully soaking up the ultra violets, taking in a bit of Wimbledon on the tube and actually able to communicate with the great outside using a couple of lamp batteries, a tin box with knobs on and a bit of wire hanging out the window. Was it not the right hobby to have on holiday for just this once?

So it was quite an adventure. Our friends are sold on the effectiveness of low power. My CW has improved. Audrey is feeling much better and able to handle her daily stint at our salt mine ... and we both have a lot of new friends.

#### REMOTE LOCATIONS WEEK

A lot of activity (yes there is life north of Aberdeen), a lot of new members worked, but a dearth of logs; only EI4DZ has reported so far. If more logs are received, more info in our next issue. Most remote was LA/G3DOT working G on 3.5 in daylight!

73s

Gus G8PG.

## ARGOSY MODIFICATIONS

by Bill Wright G0FAH

### 1. QSK

I found that when working during periods of high QRM or QRN that the noise between the morse elements was very distracting. I also found that there was "thumping" noticeable particularly when I was using my headphones.

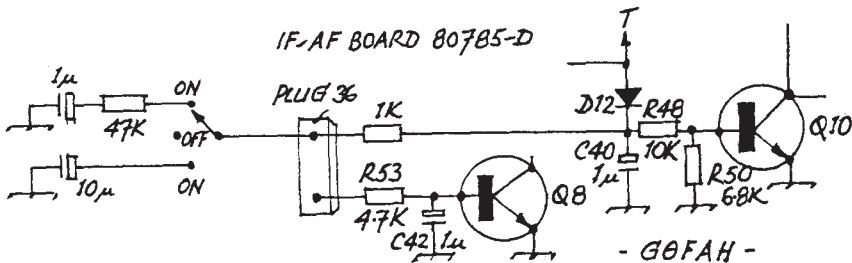
This modification provides three types of break-in delay.

1. Slightly extended break-in to reduce the "thumping".
2. Normal full break-in.
3. Semi break-in as used on the Corsair.

The break-in delay is determined by C40 in the AF-IF board. This is a 1uF electrolytic capacitor. Also on this board is plug 36 which has a spare unused pin.

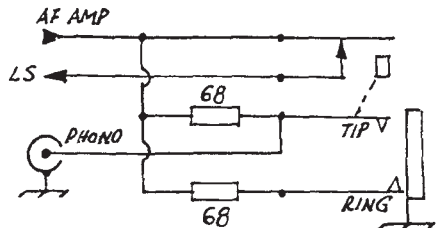
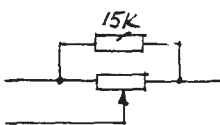
To carry out the modification first cut the PCB track between the two pins of plug 36. Solder a 1kohm resistor from the positive end of c40 to the unused pin of plug 36. This resistor should be on the underside of the board. Drill a 1/4" hole on the rear panel next to the HI/LO power switch. A small toggle switch of the ON-OFF-ON type is required. (From Tandy or RS etc.) This is wired as shown in the diagram. I used a large solder tag around the switch mounting shaft for the ground connections. Using a length of hook up wire join the wiper of the switch to the 1Kohm resistor VIA plug 36.

I use position 1 of the switch most of the time with most beneficial results. It also saves my ears!



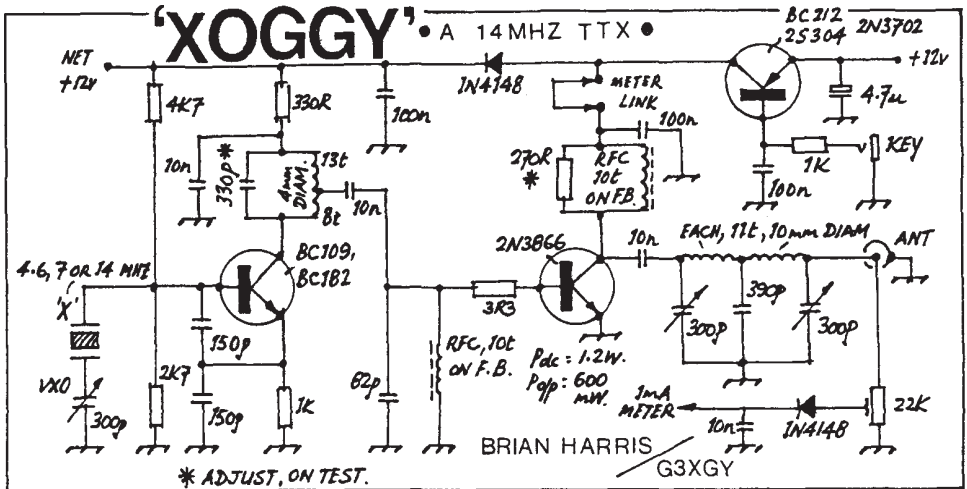
### 2. Offset

I found the range of the offset too great as only a small adjustment of the control would put a signal right outside of the filter passband. This was found to be +3.9 to -4.7 khz on my Argosy. A 15k resistor across the offset control reduced this to +2.9 to -3.2 khz. If you want to work spot frequency more than this you would be better off buying a Corsair with the external VFO, Hi!



### 3. Headphone socket.

I fitted a stereo socket wired as shown to incorporate an attenuator to reduce signals to the headphones as recommended by Ten Tec. Wired as shown allows use of stereo or mono phones. There is also an isolated feed to one of the spare phone sockets on the rear for a tape recorder etc. This should be taken from the TIP of the jack socket. I use my phones wired out of phase with one the earpiece connections reversed. Try it !



This little transmitter was built to use some 4.6, 7 and 14MHz crystals which I had in stock. The variable capacitors are from defunct AM radios. The initial problem of parasitic oscillation in the PA was tamed using a 3.3 ohm resistor in the PA base and a 270 ohm resistor across the PA choke. It was built on Veroboard. The TX fits into a tobacco tin and I hope to build a version for 3.5MHz.

CAVEAT EMPTOR

WANTED : Loan/Hire of circuit for SE Labs EM102 Scope with EM515 Plug in. Ian Keyser, G3R00, Rosemount, Church Whitfield, Dover. 0304-821588

FOR SALE: "Secret of Ham Radio DXing" f4. HOWES ASL OUTBOARD CW FILTER 300Hz (-60dB) and sharp SSB dual bandwidth Filter, Wkg Module f16.

ALSO WANTED: Pye Cambridge or Westminster wkg on 2 metres. Dick, G4ICP. TEL: 0376 84478.

FOR SALE: "Transmission Line Transformers" New ARRL Book by W2FMI f9.00 inc postage. TEL: 045 36 3994

HELP...CAN THE MEMBER WHO BORROWED MY HW7 MANUAL PLEASE RETURN IT : G3RJV.

FOR SALE: Yaesu FT202R 2m Handheld(S17/19/20

WANTED: SPRATS nos.1-43 (ex 42) Dave Bracken G1LCX,3 Crabtree Ct. Clays Lane Stratford,London.E15 2UG. 01 634 7065 (day) 01 534 6110 (evenings).

FOR SALE: Yaesu FT757GX (SMC tested to spec) Drar 24A PSU plus BK100 (Modded. One careful owner : f650 buyer colelcts or pays postage. Roger Jones. Apt 11, 26-28 Aberdeen Walk, Scarborough.North Yorks.

WANTED : Back issues of SPRAT: 12/28/39/43/44/46 loan or purchase Also DIGITAL FREQUENCY METER or circuit, 1-30MHz with Red LED readout 82 Grassholme,Stoneydelph,Wilnecote,Tamworth.B77 4BZ. (0827)898024 GØHTR.

MISSING QSLs...G3FCK (020) thanks those who sent dup cards and would like to hear from 188, 2037, 2431, 2550, 2873, 3515, 3646 and 3914.

COPIES OF SPRAT 32-51 in good condx f10 inc post or offer from R.Key, 23 Whinbush Av. Allenton. Derby. DE2 9DQ.

WANTED : HW8 in good working order. Gordon, GØEWN Sheffield 421781

FOR SALE : FT7 Transceiver - f220. Brian G3N1J. QTHR.

## THE BIG COMPLAINT...

### Where are all the QSLs ?

The single biggest complain I receive from members is that

OTHER CLUB MEMBERS DO NOT QSL QRP CONTACTS

Sadly one very keen QRP club member tells me that has has given up 80m because his QSL returns have been so poor.

PLEASE DO QSL CONTACTS WITH OTHER MEMBERS. If you do not have QSL cards, our Awards Manager, G8PG, will accepted cards returned with a signed endorsement from the recipient station to confirm the contact.

Cards can be handled by the internal club QSL Buro (see below) If you want to use our distinctive club QSL card, G4WZV will send details.

#### QSL VIA SPRAT

When I volunteered to manage the club QSL buro I little realised what I had let myself in for. There is plenty of activity on the bands to judge from the number of cards that appear in every post. (Thanks Chris for the 200 or so I just got).

GM30XX/A has been busy as usual. I had an interesting letter from NF0R (2588) who worked George on "a bent G5RV in the loft of my flat at 2318 on 14MHz. Other contacts by George include ZC4DR on 28MHz and KZ1L.

There have been plenty of cards for Rene ON5KAR who has been busy on 80m.

Quite a few members have worked Vit, UP2BFE on 14MHz, he is No:3978 and I will certainly be looking out for him.

Eric G2DAN and Mike G3MY among others have been very busy and I am sure they will be shooting up the ladder of worked QRP members at a fair rate of knots. Mike's quad loop on 80M sounds great here but I'm not exactly DX.

Another card I spotted for a QSO beteen members PA3CLQ (313) and I0KWK (3768) on 14MHz.

So please remember that it doesnt all happen on 80M. Try the other QRP frequencies, you will be suprised who is about. Please send cards to members you work as many members are trying to keep Gus busy with award applications. When you work DX QRP check your members list to see if they are members of G-QRP Club. I keep my list next to the rig as a crib and often suprise members by remembering their names...

Thanks for keeping my Post Lady busy (I'll see that she gets a tip at Christmas) as well as making my mail so interesting. Please keep up the good work and keep the cards coming. Thanks also for the kind letters which often accompany the cards but dont forget to send your news to Chris, not me.

Finally a plea, could you please put the number of receiving member on the TOP RIGHT HAND CORNER (either side) of each card and put them in numerical order in the envelope as this will drastically cut down the time it takes me and Ida G4ZGJ (3607) to sort ou the cards. This will give us more time to come on and work a few more of you on the bands.

73s

Dave

G4WZU, 36 King Street, Winterton, Scunthorpe, South Humberside. DN15 9TP

#### US QRPERS NEAR PHOENIX

The Rev Phyl Fanning G6UFI/6YS, hopes to be in Phoenix in May and would like to hear from any local QRPers. His address is PO Box 9, Port Morant Post Office, St: Thomas, Jamaica.

#### CORRECTION SPRAT 52

Universal TX circuit: Link between top of L1 and 12 volt rail should not be present (it shorts out the 220R resistor) The PC board is correct.

SSB NEWS - AN ERROR MEANS THAT THE SSB COLUMN IS NOT IN THIS ISSUE,  
BUT PLEASE WRITE TO IAN, G3ROO, ROSEMOUNT, CHURCH WHITFIELD, DOVER, KENT;

S.W.L.

Philip Le-Brun, GOHNN, 22 Russet Rd Cheltenham, Glos; GL51 7LW  
Tel 0242 571279

Firstly my apologies for the printing errors in the last column and for missing the last SPRAY deadline.

To clarify the QRP heard table - the table will consist of the number of DX countries heard running QRP plus the number of counties heard, also running QRP. An entry can be mad for each band (VHF or HF) and for the meanwhile, only stations heard since the 1st of January 1987 will count. A list of any DX heard on QRP will also be appreciated.

To listen for the normally weak QRP signals your station must be in first class condition. Any area in which the SWL's must be good in is that of sensitivity and selectivity. The latter can be improved by the addition of high quality, but expensive, crystal filters. The two other options are to use an ATU/preselector or an audio filter. The former must be the simplest - an ATU can be built cheaply using small polycon cariable capacitors often found in cheap broadcast receivers, and a tapped inductor which could be wound on a ferrite rod to reduce its size. Such a design can be found in the G-QRP Club Handbook, which is worth purchasing for design notes and tips.

I use an army 'accepter unit'; this is a HF preselector in a green 19" chassis, the only controls being a band select switch and a variable capacitor fitted with a slow motion drive. These can be purchased for under a tenner if you are lucky at a rally and certainly makes a difference to your receiver. It can also be used up to 50W.

Propagation of low powered signals on the 20M band can be checked by listening to the NCDXF on 14.100MHz. Each beacon transmits for one minute every ten minutes. The format of each transmission is shown below - note the decreasing power levels used:

"QST de (callsign) beacon (100W) 9S dash (10W) 9S dash (1W) 9S dash (0.1W) 9S dash (100W) SK (callsign)"

The beacons are listed below. The number in brackets indicates when the beacon transmitts. For example W6WX/B transmitts at 0001, 0011, 0021 GMT and so on.

4U1UN/B(00) in New York, W6WX/B(01) California, KH6O/B(02) Honolulu, JA1IGY(03) Tokyo, 4X6TU/B(04), OH2B(05) Espoo, CT3B(06) Maderia and ZS6DN/B(07).

The stations use single element quad loops and are a good guide to band conditions.

For those interested in listening to 2M FM, J. Birkett now sell a monitor kit for £15.95 + £1 p&p. This consists of a tuner head, a 10MHz IF module, AF amplifier, aerial and speaker. This kit offers a cheap alternative to the commercial VHF monitors and covers 120 to 150 MHz.

Thats all for now - please send any tips, topics scores or queries to me so as to make this column worthwhile.

#### VHF MANAGERS REPORT

By John Beech G8SEQ

As I write, Bonfire night and the November fogs are upon us, bringing with them enhanced tropo conditions. I've only monitored 2M from the car, but I would expect better conditions on 432MHz. Sadly the band is likely to get neglected over the next few years in favour of 50 and 70 MHz.

Most of my incoming mail concerns the latter two bands with the majority of interest in 50MHz. This promises to be the VHF band of the future with its DX possibilities at QRP levels.

Most people seem to take the transverter route to 50MHz, with separate CW Tx & Rx converter coming a close second. The crystal controlled Tx published in "Solid State Design" seems to be the favourite for this band.

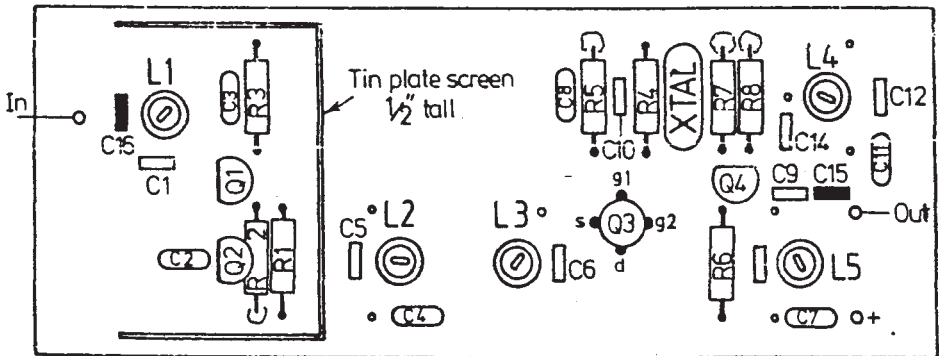
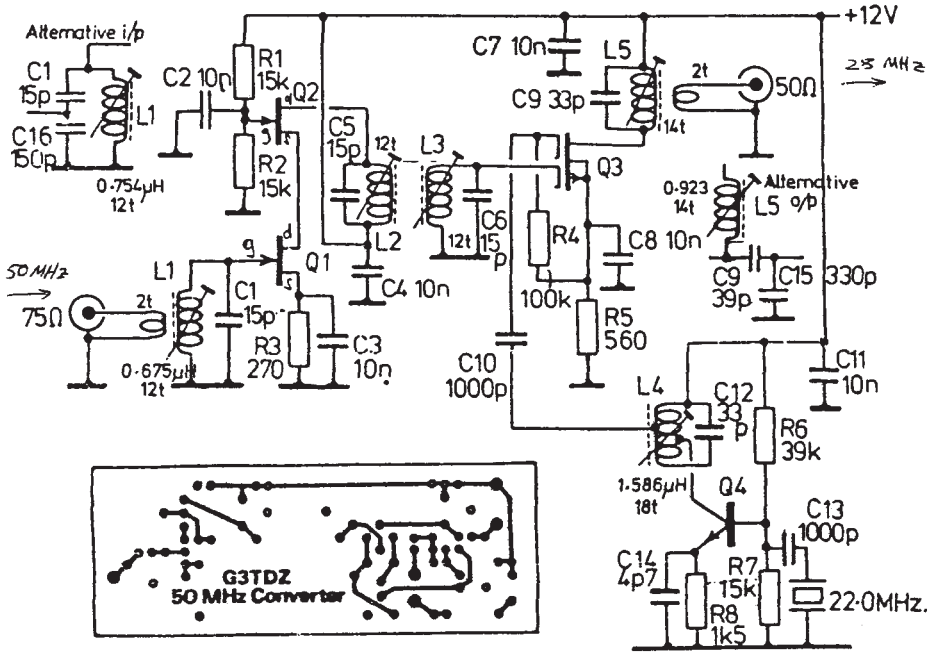
Personally, I haven't managed much in the way of costruction except for the major building works involved in converting the attic into a suitable shack at the new QTH. Hopefully all will be ready for the winter evenings when nothing can be done in the garden.

Printed circuits for the White Rose Rx converter are 59p + SAE from:

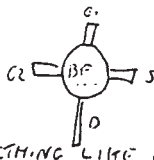
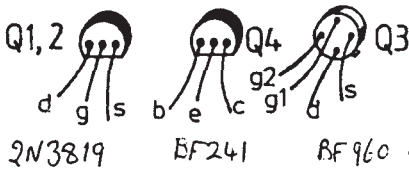
G8SEQ, 124 BELGRAVE RD, WYKEN, COVENTRY, CV2 5BH; (0203 - 617367



# WHITE ROSE 50MHz. (6m) CONVERTER PROJECT



Component layout plan.



ALL COIL FORMERS 3/16 OD

## QRP COMMUNICATION FORUM- A NEW FEATURE

Antennas, Awards, Operating Events, Operating Procedures, Propagation

By Gus Taylor G5PG, 37 Pickerill Rd, Greasby, Merseyside L49 3ND

The Most Used Operating Signal the end of work signal VA or SK is one of the most definitive operating signals, but also, as far as amateurs are concerned, the one most misused. It is layed down internationally that this signal means "I have concluded all communication with the station I have currently been working". One would think that such a definition is so firm that it could not be misunderstood, but time and time again one hears amateurs sending "SK K" or "SK KN". This is a contradiction in terms - how can you ask a station you have concluded communication with to go ahead?? Even plain SK is often misused because the operator sending it knows that the chap he is working has still got a final to come. He then gets very annoyed when someone else calls him! having read the above you now have no excuse- only use SK when you are not expecting to send or receive anything further from a particular station, and are prepared to accept other calls. If you are going QRT and do not want further calls send CL "I am closing down my station" after SK.

### SARCON 1987 - A GREAT SCOTISH EVENT

The date 13th September, the place Magnum Leisure Centre, Irvine, (The largest of its type in Europe), and the event The Scottish Amateur Radio Convention. With 18 feet of stand frontage and magnificent support from Scottish members we were able to show the flag in no uncertain fashion. The home brew gear brought by members for display was of a very high standard, and also the only home brew equipment on any stand; it attracted a good deal of attention. A number of new members were enrolled, and sales went well; there should soon be a lot more Oners on the air with GM calls. Anyone who has met the hard-core Scottish QRP gang (The MacSprats) will know what fun it is to work with them, and this show was no exception. There was Tom, GM3MXN, conning a dealer out of a mint HW7 for £30 (they are now a collectors item), and the constant flow of "in" QRP jokes, and the moment a well known GM QRO operator arrived at the stand and was offered a 500 watt transmitting valve with the suggestion it might be suitable for driving his linear! On the more serious side, members on the stand were able to offer many visitors technical information and advice, and to explain to them what QRP was all about. This should stand us in good stead for the future. The stand was manned by GM4JJG, GM4HBJ, GMSKRO, GM3MXN, GM4OSS, GM4XQJ also the official Club photographer) and GM4YLN.

Our sincere thanks must go to Bob Low, GM0ECU and his stewards for the excellent organisation of the event. To arrive at a strange hall and find Stewards with trolleys waiting to unload your car is a new experience for those of us from south of the Border! Detailed and painstakingly prepared logs have been received from EA3FHC (Barcelona), GM4XQJ (Falkirk), G3BFR (Stroud, with assistance from RS1066), GW4KUS (Swansea) G3BOK (Ipswich), G8QM (Newcastle) and G4XYX (Poole). These cover the whole summer, which was excellent for Es, but full analysis will take time. A rough analysis for June has been completed, however, and produces some interesting results. The most outstanding of these is the difference between England and Scotland. GM4XQJ only experienced about 50% of the openings enjoyed by G stations, despite the wide geographical spread of the latter. It is felt that the reasons for this are twofold, namely (a) Es skip from stations in southern Europe not long enough to reach central Scotland, and (b) Scandinavian signals having an Es skip length short enough to reach England but too long to produce signals in GM. This, if true, is obviously very significant. Down in Spain EA3FC had openings on 15 of the 16 days which were monitored, but he reports the UK path much down on last year. On the other hand he worked various Scandinavian and EA stations were audible at the same time on Merseyside.

There was also a surprising amount of non-Es DX about, with USA/VE openings on 17,18,19, and 20 June, plus Africa, South America and Asia at various times during the month. At the time of writing (late October) there have been numerous F layer DX openings, so the sunspot numbers must be climbing. It is hoped to give a final summing up when more time has been spent on the logs. Meanwhile thanks to team members - they did a great job. If you want to have fun next year see our next item below.

#### THE 10/10 EVENT 1988

WHEN. 25th May to the 5th of July 1988. BAND - 28MHz. POWER - CW section, 3W RF max. Phone section, 3W max. carrier am/fm, 10W pep ssb. No mixed mode contacts, but you can enter both phone and cw sections if you wish.

SCORING. Pick your best 10 days of results during the period. Multiply the number of contacts made in these 10 days by the number of DXCC countries worked during the 10 days; the answer is your score. Entries to show number of QSOs, prefixes of countries worked, claimed score and brief equipment details. To G8PG by the 5th of August 1988. Certificates for leaders.

#### WINTER SPORTS 1987

26th December to the 1st of January. All QRP frequencies. Our great annual get-together. Renew old friendships and make new ones. Awards for best logs. Have fun!. Dont forget!

#### AWARD NEWS

QRP Master Tom GM3MXN has been admitted. Many congratulations.

Worked G QRP Club. First 600 to GM30XX; well done George!

220 G4CQK; 160 G4UGC; 140 ON4KAR; 120 G4SXE; 100 G4PUU G3LBT G4WZV; 20 G0EWM G4VPV G4CFS G3TDW G4ZGI G4UIQ.

QRP Countries 100 G3XGS; 75 GM3MXN; 25 G3FCK.

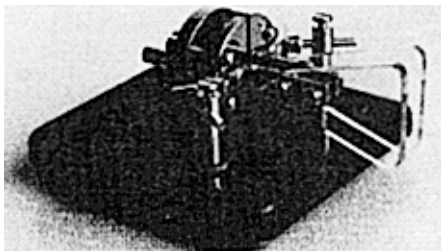
Two way QRP 10 G4WZV ON4KAR

QRP WAC G4SXE

PW QRP Contest Congratulations to GM4HBG, highest GM score.

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TWIN PADDLE (Brass) STD:£47, DELUXE:£49.50,P/P £3  
TWIN PADDLE (Nickel) STD:£52, DELUXE:£54.50,P/P £3  
IAMBIC KEYS, Keying to 100v,100mA,Pos. £40 P/P £2  
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## Members News



Chris Page G4BUE

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

The night of the 15/16 October 1987 will be remembered for a very long time in the south of England. The storm caused more damage than anything since World War II and it is estimated that 20% of the trees here in Sussex have been destroyed. As you can imagine radio amateur antennas were high on the casualty list of storm damage and the installation here was no exception. The photograph shows the morning after. The four element tri-band beam was a write off and one of the elements was recovered over 100 yards away in the field at the back of the house! I was pleased the tower was undamaged and I think the reason was due to the guys I fitted after my last mishap. The other bonus was my Butternut vertical which came through unscathed. All the other LF antennas were a write off. I have not had any information from other members who may have suffered damage so I imagine they are either OK or too busy replacing antennas to write and let me know!

Out of every disaster comes something good, at least that is what I am telling myself. I have built a new tri-band yagi, this time on a 30 feet boom, and after spending the last few week-ends playing with it used my Argonaut at milliwatt levels to test it in the OK CW contest. I made QSOs with USA and UA9 with 100mW on both 15 and 10m and around Europe with levels down to 1mW, so I guess it has got some gain. The power levels quoted are output levels, I think I told you about the Welz RP-120 output power meter I bought back from the USA last year. It has been designed for the QRP'er and has three scales of 20w, 2w and 200mW full scale reading. Unfortunately no dealer has plans to import it into the UK so it is only available in the USA.

While recommending products from the USA let me mention the Butternut vertical antenna which is now available in the UK. I put one up in the Summer and have been using it on all bands, testing it against my existing antennas. I have worked a W8 with it on 15m at 100mW and a UA9 on 80m at 1.5w. It will fit into a small garden and gives you all bands from 10 to 80m including 30m. It is very well constructed (survived the storm unscathed), and I mention it as a suggestion for those of you trying to get all band capability from a small garden. Like all good verticals attention must be paid to radials and by putting down as many as you can, even bending them around the garden to get them in, your efforts will be rewarded. You will have read in the last SPRAT my reason for giving up some of my Club responsibilities is that I am now working away from home most of the time. I will be buying a small house in Hastings for the week and the garden is about 30 feet square. I am looking forward to seeing what can be done from a small garden and intend starting with the Butternut. If you hear a weak G4BUE/A signal you will know where it is coming from.

A couple of days ago I received a package from Ade Weiss, WORSP containing a copy of his latest book, "History of QRP in the U.S. 1924 - 1960" It has been printed in the same format as his "Joy of QRP" and its 200 pages are essential reading for every QRP'er. I was unable to put it down once I started browsing through it. Ade has done a considerable amount of research for the book and no aspect or part of the history has been ignored. The book is available from Ade at Milliwatt Books, 833 Duke St. 83, Vermillion, SD, 57069, USA for \$9.95 in the US and \$12.95 foreign.

Looking to next Spring the date of the 1988 Yeovil QRP Convention is 8 May. Put the date in your diary now so that the G-QRP-Club can be well represented. The Yeovil Club have a lovely venue and from one who attended the 1987 convention I can tell you the facilities and hospitality is just great. One of the aspects of QRP which is not often recognised is the help and assistance given to newly licensed amateurs making their first CW QSOs. It has been particularly pleasing to receive several letters recently complimenting club members on their patience and encouragement to the newly licensed amateur. Typical of those letters is one from Tom, G0HIN who since starting with his Class A licence at the end of April has made over 400 CW QSOs, including 5 out of 6 for WAC and 94 members. Tom says he has had nothing but help and loads of fun and satisfaction. G0HTR found the first few months of his Class A licence a difficult time all round. Larry says he would have given up many times had it not been for

help from G-QRP-C members so often at hand. He is interested in replica equipment and would like to hear from members who may have surplus vintage components which would be useful to him. He is trying to find a source for the four pin Raymont/Bddystone brown bakelite plug in coil formers - anyone help him?

Dave, G4WZV our new Club QSL Manager, was in QSO with Nor GM3RKO the other week when the phone rang. Dave's wife Ida (G4ZGJ 3607) pranced into the shack about a foot off the ground to tell him she had just passed her exams in floral art. Dave told Nor and a couple of days later he received a letter from GM4GNB enclosing a brooch he had made as a present for Ida for being such "a clever girl" and passing her exams. Chas had been listening to the QSO and needless to say Ida was delighted.

G3OEP mentions the QRP meeting beside the seaside at Yarmouth at the beginning of September. If you are organising a QRP party, meeting, get-together etc. let me know about it and how it went afterwards. Talking of that I shall be in the USA at the end of April for Dayton and the FOC Dinner in CT the following week-end. My exact plans have not been finalised and Colin G3VIT is not sure if he will be joining me this time. My mention in the last column of Norman, G4LQF qualifying for his USA Extra licence prompted GM4ZMU to write. Tony passed his exams at the end of March and is WB7C. He spent the Summer in Connecticut at a Childrens Camp. G3YCC has also been across the "pond". Frank took his 290R to VE3 land and had some FM QSOs. He recommends the Howes transverter for 20m for local repeater work. G0GOF is moving to Co. Antrim and will be QRV on 40 and 80m with Howes kits most evenings from 2100 and week-ends from 0600-0900 for members wanting two-way QRP contacts with GI. Those who need Greece should check 14060 from 2000z during the Winter Sports. SV1UY will be QRV to add to recent QSOs with G8PG and G3RJV. Demetre is very QRV with SSTV and has worked ZS with 5w. Another member who will be active in the Winter Sports is UA9CDC from Sverdlovsk. I had a 40 minute (QRO) QSO with Igor on 3504 a couple of evenings ago. He was operating from his club station UZ9CWW and we did some tests reducing power. With him at 10w and me at 5w copy was 579 both ways. I then dropped to 1w and 559 - not bad amongst the DXers at the bottom end of 80. Igor will be QRV on 40 and 80m during the Winter Sports from UZ9CWW where they have three elements on 40m at 75 feet! He asked me to send greetings from the USSR to Club members and to say the temperature was minus 30 C in the shack during our QSO!!

The ARRL Jubilee DXCC certificate is popular with members. G4JFN qualified for his using 3w. One of the countries Bob worked was BY5RA through a big pile-up. G3LGH has also qualified and amongst his 100 countries were BY, FK, V44, VP8, ZD8, 3C, ZL and ZS. Nice going for wire antennas Jim. G3XJS also qualified for the Jubilee DXCC and in fact has worked 128 countries in 1987. Peter says he must spend some off-air time in the shack to service the rig. He hasn't really finished building it yet!

GOBQI has built a Howes TX for 80m but has not made any QSOs outside England yet and G4OKN has two more rigs under construction. G0FKX has made an electronic keyer and David is now trying to master the mysteries of the twin paddles. KH6CP is in the middle of a constructional project for 2304MHz - sounds interesting Zack. G0IFK is QRV on 10m with a converted CB rig and says the band is beginning to liven up now. G0HTR says the One Valve TX circuit of G3SYC works fine. Larry is using an all home brew station and would welcome the formation of an SSB QRP Club net on 3690. He says SSB makes a welcome break from the key, (his opinion not mine, hi hi), and asks anyone interested to contact him on 0827.898024. He also asks if we can give the call signs of new members in SPRAT to welcome them and enable members to keep their Membership Lists up to date. We used to do that until it started taking over three pages of Sprat, and now we have even more members join between each issue. On the question of the Membership List I intend producing a new one in the Spring but I can only get it up to date if you tell me your call sign change and christian name. Please let me have any new names etc. with your news for the next column. Going back to SSB, G2CYN would like to contact members with an interest in less than one watt SSB on 80m.

It was with great satisfaction that G4JFN worked the recent Mt Athos DXpedition for his hundredth country on milliwatts. You can imagine how Bob felt when he heard the operation maybe disallowed because of their QSLing policy, but he is back on cloud nine as he worked VS6 a few days later. PA3EUS is G0FBG and Godfrey is QRV on VHF and UHF at present, but soon hope to be QRV with a DC80-40-30P. G0HHP has just got his A licence and hopes to get on 80m. Dave works away from home and is intending to do a few mods to his antenna so he can work /A from hotel locations. VE3MMQ skeds WILCP in New Mexico on 15m and George usually manages with QRP. He is also active on RTTY, Amtor and Packet with a VIC20 and KAM. FE6PZL is trying to find a replacement antenna for his old GPA30. John needs one so the radials will fit onto his apartment roof which is congested with air-conditioning gear etc. K7YHA

has moved from VA to PA and Rich has started to write the QRP column in the USA Worldradio Magazine taking over from Fred W5QJM. WB8BHU has worked several G and DL stations with his 509 Argonaut and 150ft long wire. Bob is up to 106/104 DXCC. GU4YBW is on 80m with a Oner. Paul is very pleased with the results.

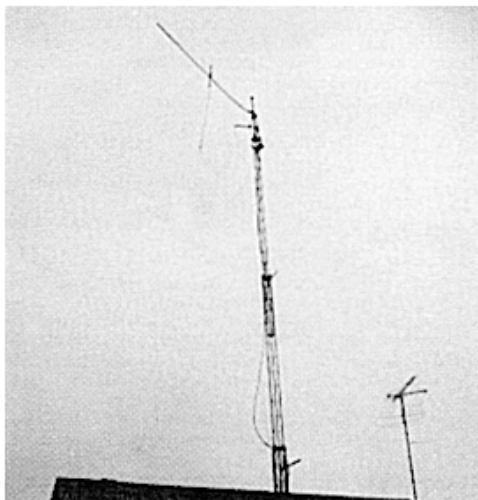
G4OUT mentions the best ever conditions he has experienced on 2m at the begining of November. Ian worked PA, F, ON, DL, GM, HB9, Y, GU and OK1FM at 865Kms who was using just 3w. Ian was using 20w and mentions many G0 stations using CW on the band for their Novice Award. G0HGA also mentions 2m and suggest we do not adopt 144060 as the QRP calling frequency. Angie says it is too close to the international CW channel of 144050 and suggests 144085. Angie mentions the FISTS CW Club, a newly formed club to encourage the use of CW and help newcomers. It is not a high speed club and anyone interested in CW can join. Details from E. Logden (Geo) G3ZQS, 119 Cemetery Rd, Darwen, Lancs, BB3 2LZ.

Finally a member's wife wants to meet Gus G8PG. The member in question passed the Club morse tapes onto his wife, a G1 so she could also get her A licence. She said she "would like to meet the gentleman with the extremely nice voice someday" - you old smoothy Gus!!

Just space to wish you all a very happy Christmas and a terrific 1988. Let's hope the worst of 1988 is better than the best of 1987. Let me know how your winter goes, by 20th February please.

73

Chris



G4BUE BEAM....  
AFTER THE STORM

## DAYTON



QRP cult figure, the Rev. George Dobbs, G3RJV, came all the way from England to conduct a seminar. The above picture was taken of the guru as he was asked why anyone would want to run over 5 watts.

(WORLD RADIO)

QUOTE...

"I suggest that you set a US rate payable at Dayton. If your team plans to participate again, which I sincerely hope will happen. They were a breath of fresh air in what would have otherwise been a largely commercial event"

NB3Q



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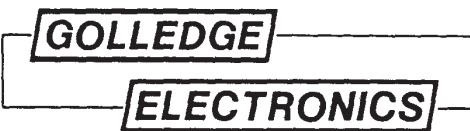
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