SPRAT

THE JOURNAL OF THE G QRP CLUB

DEVOTED TO LOW POWER COMMUNICATION

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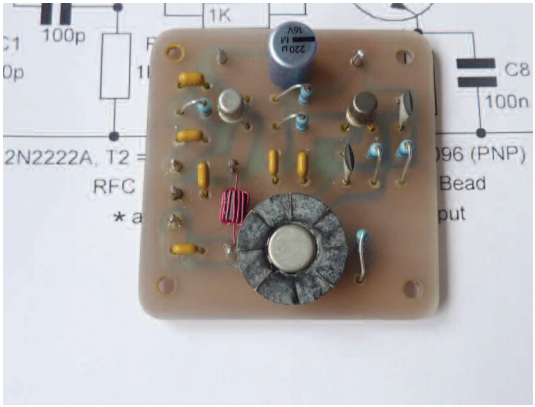

The OXO Returns!

M0DGQ 20m CW Transceiver

In This Issue:

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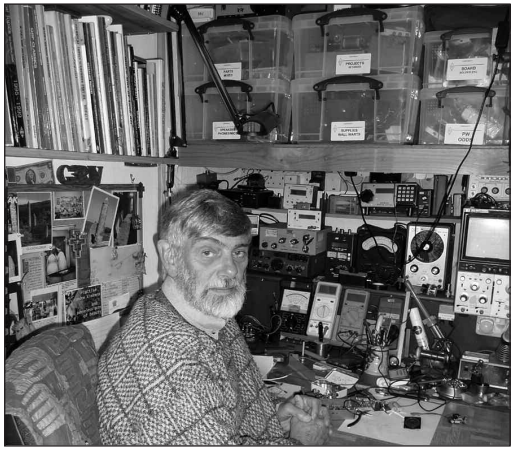
JOURNAL OF THE G QRP CLUB



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May I thank all those who helped to make the Rishworth QRP Convention such a success in October. We had an increased attendance, plenty of traders and excellent speakers. The Constructors Evening on the Friday exceeded our expectations with 17 people making the Z-Match tuner at the buildathon and others showing off their QRP projects. We hope to run the Constructors Evening again next year.

Please read the centre pages on subscription renewal. Also note that the centre spread pages not only contain the renewal material but I have also had to include two large diagrams in landscape format.

May I wish all members a happy and fruitful year in 2012 and remember that SPRAT relies upon what members send to me.

72/3

G3RJV

The W1FB Memorial Award 2011/2012

The theme is "SPRAT Article Feedback". Many members build projects in SPRAT, many with improvements and modifications. So – I invite members to send their versions of previous SPRAT projects: Mods, improvements and pictures of their completed projects with notes. In fact, any useful addition information on what we have published before. Please submit before the end of April 2012.

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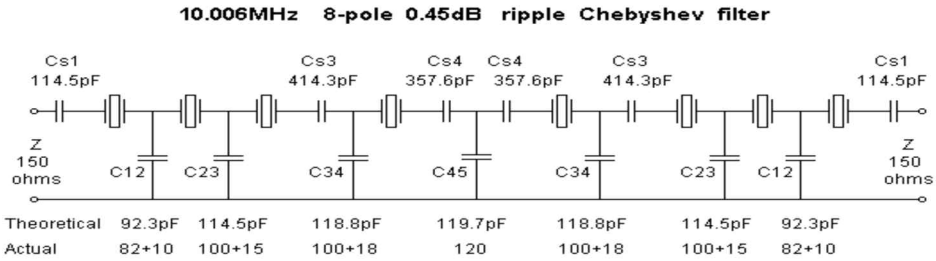
The GQRP Club 10 MHz 8 - Pole SSB Filter

Jack Hardcastle G3JIR 8 Norwood Grove, Rainford, St Helens, WA11 8AT

Since completing the 4-pole filter published in the Summer 2011 edition of Sprat I have purchased a batch of 20 crystals from Club Sales and my measurements of the properties of this much larger sample have caused me to revise my figure for their motional capacitance. For this filter I have used a figure of 17.983fF , this being the average for those crystals which were actually used in its assembly. If you are unable to measure crystal parameters yourself I would suggest the adoption of 18fF as a good ball-park figure for these crystals. Even if your own crystals are a little removed from this figure be reassured that ladder crystal filters are very tolerant of departures from the theoretical ideal. The worst that can happen is that the bandwidth and centre frequency will depart a little from their design value. In any case because of the finite Q of all crystals you will need to allow for some 'shrinkage' of the pass bandwidth. For example, in my own filter the measured 3db bandwidth was 2317hz rather than the specified 2480hz. This is typical of what you may expect and may be used as a guide if you intend to 'roll your own'. Also for your guidance my input to the 'Dishal' design program was as follows:

Cm=17.983fF Fs=10001.992kHz Cp=4.7pF BW=2.48kHz Ripple=0.45dB

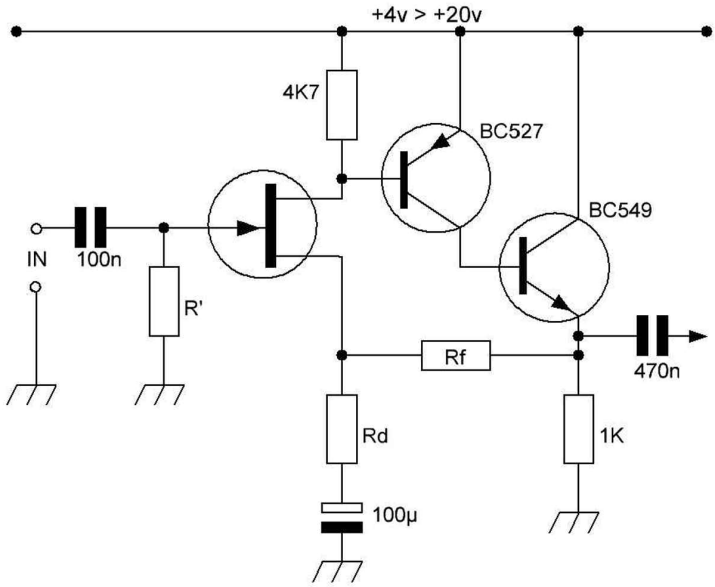


This is the circuit of the 8-pole filter showing calculated values for the capacitors. Also shown are the nearest standard values which were actually used for the coupling capacitors. These were selected from stock using a capacitance bridge. It was found to be easy to select pairs of capacitors within 1-2pF of the desired value.

More details of this latest design are on the Club web site.

Novel DC Receiver Audio Pre-Amp

Peter Thornton, G6NGR Peter.Thornton@millersvanguard.co.uk



Here's a circuit to lift uV input signals for audio amps to work with. I don't claim originality, its Terry Ritter's design, (www.ciphersbyritter.com) I've used it plenty and it's a cracker. Single rail, 4v and up, a real plus for /M or /P operators.

The input impedance is set by the value of R', the gate leak resistor. This means that if it follows an SBL-1 mixer, R' can be 47R for a bang on match. I needed 1M 'Z in' for 800Hz signals, so R' = 1M. The FET is ANY you have to hand; 2N3819? I have used a wire ended neon bulb gate leak, and achieved input impedances of 50Gohm with this circuit! Output Z is < 1K.

The gain is set by Rf / Rd. I experimented with various values of Rf and Rd to get the response I wanted, (table below). The 100uF source capacitor and I/O capacitors can be tailored to fit your bandwidth. You won't get "op-amp" gains, 200 is about the limit. No doubt whizz-bang transistors would lift it some, but I'm of the "do I have to spend a WHOLE pound?!?" philosophy!

Value of Rd / Rf	Gain	Comments
27R/5K6	125	Clean, no distortion
27R/10K	175	Clean, no distortion
18R/10K	200	Clean, no distortion
12R/10K	225	Distortion present
12R/18K	230	Considerable distortion

I eventually settled on 18R/ 10K to give me a lovely clean output signal spot on for my amplifier.

On Terry's web page (www.ciphersbyritter.com) he comments that it is, among other virtues, relatively "RF proof"; however, it looks like the J-FET would be a cracking "infinite impedance" detector.
…….Experimentation required!!

One feature I haven't explored is the HF response; in theory, this could be a very "controllable" vfo buffer or RF amp, the transistors selected for HF service. The limit is probably the "Darlington" configuration, which is inherently slow, but I reckon it should be good to at least 50MHz without trying too hard.

G-QRP-DL-Treffen 2012

Das traditionelle G-QRP-DL-Treffen fuer Mitglieder des G-QRP-Clubs findet auch 2012 wieder am **letzten Wochenende im April (27/28/29) statt – in Waldsassen,** in der Nähe von Cheb/OK – unsere QRP-Freunde aus OK sind herzlich willkommen.
Weitere Infos gibt es von
DJ3KK, POB 801, D-25697 Meldorf (bitte SASE) - oder auf der Homepage:
http://www.g-qrp-dl.de
Zu Vortragsthemen und Beiträgen usw. bitte Bernd via DK3WX@DARC.DE kontaktieren – vy 72 es awds
Fred,DJ3KK - Bernd,DK3WX - Oliver,DF6MS - Manuela,DL2MGP

The traditional G-QRP-DL-meeting for members of the G-QRP-Club will be held at the last weekend of April 2012 (27/28/29) in **Waldsassen near Cheb/OK** – our QRP-friends from OK are welcome.
Further infos via DJ3KK, POB 801 , D-25697 Meldorf (pse SASE) and on our homepage: **http://www.g-qrp-dl.de**
For submitting lectures and articles please contact Bernd via DK3WX@DARC.DE
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MEMBERS ADS - MEMBERS ADS - MEMBERS ADS - MEMBERS ADS - MEMBERS ADS

WANTED: Icom IC240. pref.in wkg order with pwr lead and mic. contact johnina@hotmail.co.uk. John G4VPU (member 10181)

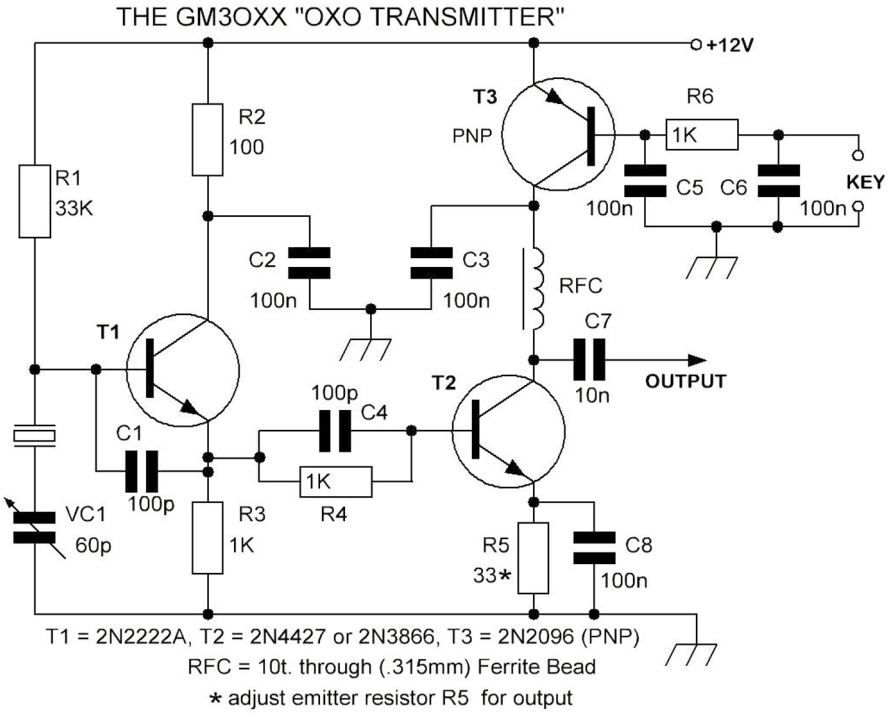
WANTED: Crystal assembly for a Class D Wavemeter (100kHz and 1MHz xtal must be working OK). Receiver type BC342 or BC312, also Eddystone 640 or Eddystone 750 receiver, an 840 would be considered. Tel: 01793-762970, or write to G4GDR, Rev A. Heath, 227 Windrush, Highworth, Swindon, Wilts SN6 7EB.

CLUBS SALES: G3MFJ reports that the nylon standoffs, mentioned in the last issue, are now all sold.

The Return of the OXO

George Burt GM3OXX, Clunie Lodge, Netherdale By Turriff, AB53 4GN

The OXO transmitter first appeared in Sprat 28 (Autumn 1981) thirty years ago! Recently I received a nice letter from a club member asking if by any chance I had any oxo pcb's left. The simple answer was sorry to say no, but thought I would make one for him. The Sprat CD gave me the original article, and when I started to make the pcb, I realized that I could make a much neater board. So out came the graph paper for a new board. Several boards were made and after making two OXOs, I decided to make the board look a wee bit more symmetrical and another few more boards were done, again

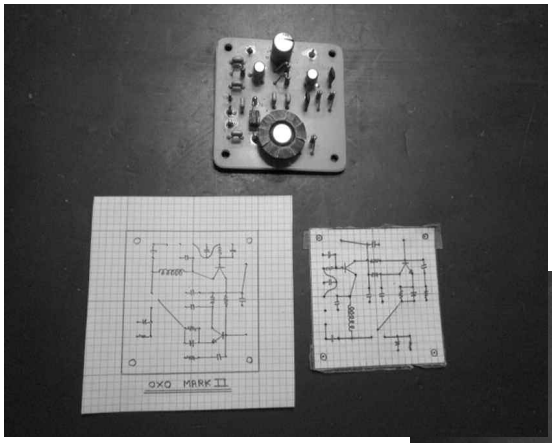


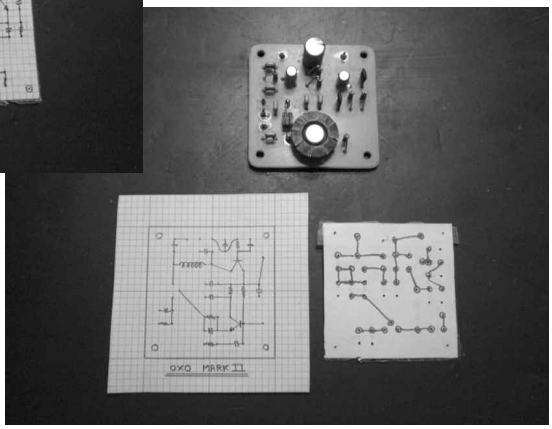
two more OXOs were built …much nicer.

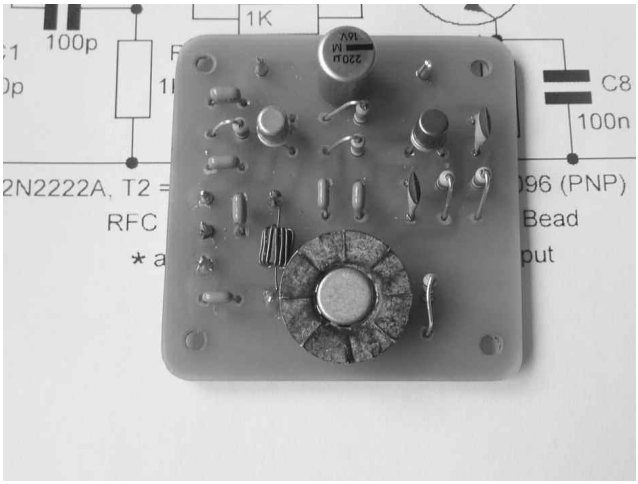
One of oscillators was lazy in starting. I had no BC108's left but had hundreds of BC109's I used the BC109for the oscillator. Since I had spare boards on the bench I wondered if could improve the oscillator by exchanging the BC109 for 2N2222A. It worked like magic even gave around another 300mW of power output. I had over 1.25W on 80mtr and 40mtr and it even gave a very useful 700mW on 28MHz using fundamental xtals on all bands.

It is very easy to get one watt out of the tx on 80mtr and 40mtr by adjusting the emitter resistor in the PA transistor (33R is a good starting value). I must point out that at one watt out the 2N4427 is quite happy but don't try to get more. Normally the first thing

people try to do is get more output power …… if you want a QRO rig, build one or buy one Hi.. The photograph shows my graph paper system for making the board. The graph paper is 1 inch spacing with 0.1 inch divisions…. very handy for IC's.







Finished Board

RF Test Oscillator with AM modulation

Mark Dunning, VK6WV, PO Box, 1192 Canning Vale, DC 6970. Australia

About 35 years ago I constructed a crystal test oscillator based upon an emitter follower style Colpitts oscillator with another emitter follower acting as a buffer for feeding a counter. It had several types of crystal sockets in parallel and was a very useful piece of gear, especially for surplus crystals, allowing me to quickly determine whether a crystal was working and its fundamental oscillating frequency.

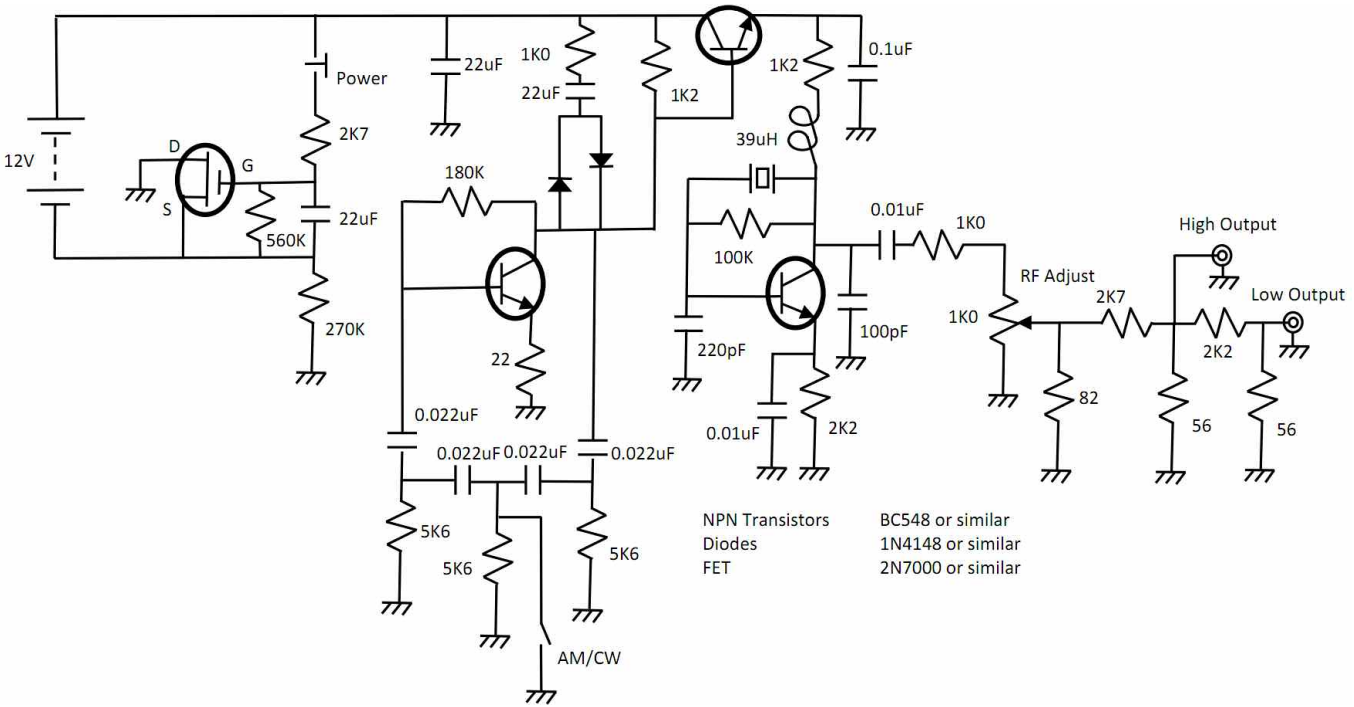
When I tried to use this test oscillator as a signal source for receiver and filter testing I quickly found out that it worked as a mini transmitter as well and although I could receive a signal, it could and probably was coming from many different routes into my receiver, most of which acted against me using the crystal checker as a signal source. In those days I had access to professional signal generators so it did not matter.

Recently I have become interested in building receivers again and alas no longer have the test equipment access I once had. This little oscillator was designed to provide spot frequencies for testing with the option of AM modulation when needed. The crystal oscillator is one which I have found to be a reliable starter. I have an extra stage in the phase shift oscillator which again I have found makes oscillation with this type of circuit reliable.

I have tried the unit with no changes other than crystals between 160 and 40 meters. It may work on other bands also. I have not used a socket to minimise stray signal radiation. Components are all non critical. What is important is shielding. Mine is built into a small die cast aluminium box using a piece of PC board attached to the lid by the output sockets and switches. RF component leads inside the box are kept as short as possible. My (uncalibrated) measurements show that the high level output is about S9+20 with low level about S1. This is just the range that is useful for testing.

Since the die cast box would not have accommodated the 9V battery I would normally have used for this type of project I have used one of those small 12V batteries commonly used in remote control key fobs and similar items. Current drain is about 6 mA. As I am very bad at remembering to switch off equipment, only to find the battery flat when next I want to use it, I have used a FET switch to power the unit for about 30-40 seconds. Without the 560K bleed resistor the unit will stay on for several minutes once the power push button is pressed. How long you get will depend upon the characteristics of your MOSFET and the leakage of your capacitor.

About half the components were salvaged from old Video recorders or TV's (a rich source of small RF chokes and other useful components).


12V
Power
2K7
22uF
560K
270K
D
G
S
22uF
1K0
22uF
1K2
180K
22
0.022uF
0.022uF
0.022uF
0.022uF
5K6
5K6
5K6
AM/CW
1K2
0.1uF
39uH
100K
0.01uF
1K0
220pF
100pF
0.01uF
2K2
RF Adjust
1K0
2K7
82
High Output
2K2
56
Low Output
56
NPN Transistors
Diodes
FET
BC548 or similar
1N4148 or similar
2N7000 or similar

Membership News (see centre pages)

Tony G4WIF

First a very big thank you to all our overseas representatives, Bill, Dieter, Niels, Jos, Johann, Richard, Ole, Phil, Norm, Fabio & Jon. You do a fabulous job. Please refer elsewhere in this issue for the list of these DX representatives to whom you can pay in your local currency. For the remainder of the world without PayPal access you can pay by international banker's draft (in pounds sterling). Cash in UK Pounds, Euro or U.S. Dollars will be accepted but don't send non UK coins – our banks will not accept them. Please be warned, each year many of these cash payments never arrive and you send them at your own risk.

Some of our European members will have received only three Sprats this year and missed out on the summer issue because they underpaid. As announced this time last year we reluctantly raised EU and DX subscriptions due to increased postal costs. See elsewhere in this Sprat for the current subscription rates for your country. In order to ensure continuity of delivery, please always check the label on your Sprat in case of a message from me even if it is only to appraise you of your subscription expiry date.

UK members with existing standing order arrangement with their banks need do nothing until your Spring Sprat arrives. If your expiry date hasn't incremented by then, assume something has gone wrong and please contact me. Important - the standing order mandate must quote your membership number or we won't know who has paid.

For UK members who want to switch to paying by standing order, there is a new UK bank standing order form in this Sprat to send to your bank (and not me) in time for your payment which must be timed for the 15th January 2012. We also offer online payment via PayPal. Please only use the special form on the club website which will add a little to cover PayPal administration charges which are designed to be the equivalent of what it would have otherwise cost you to buy a stamp and post your subscription.

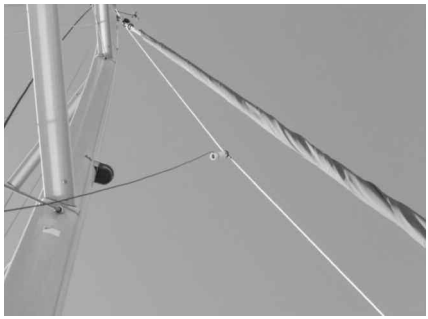
Please contact me for membership/sprat distribution matters. Not Graham in Club Sales or George the Club Secretary as it causes them extra work. If you write by post please always include a stamp if you expect a reply.

As always *please* no staples in your letters. Cheques never get lost in the envelope if you don't staple - but they do stick in my fingers while removing them. Also quote your club number as well as your name and callsign. All cheque payments should be to "GQRP club" and not in the name of any club officer.

SV8/MM – Maritime Mobile from Greece

Kim G3YGA, Peter G4HSO and Tim G4YBU

SV8/MM – Maritime Mobile from Greece Kim G3YGA, Peter G4HSO and Tim G4YBU operated Maritime Mobile QRP from Greece, in the Saronic Gulf (Aegina, Poros, Hydra) and then the Northern Cycledes (Kithnos, Kea) from 15th to 21st October signing SV8/Gxxxx/MM. The sailboat was a Beneteau 43ft. **Peter, SV8/G4HSO/MM QRP** (what a call!) is seen here operating from the cockpit with an FT-817, 2 watts using a code cube mini paddle key into a Miracle Whip or a mini fishing rod antenna strapped to the rear guard rails which gave excellent results with at times a 360° low angle take off.



10 and 12 metres were outstanding with many DX QSO's. **SV8/G4YBU/MM** operated from the main cabin with an FT-857 limited to 10 watts (to avoid any RF problems with the chart plotter / navigation equipment) into Kim's ingenious & easily erected vertical doublet rope antenna. The antenna is designed for ease of use on a chartered bareboat with safety and ability to use under full sail as primary considerations. See photo - the antenna is the centre fed piece of yellow rope between the jib and the mast - raised by the spinnaker halyard. The wire elements are inside the rope. When the jib was used the antenna was secured to the windward guard rail with no noticeable detuning evident even when the upper parts of the antenna were close to the spars on the mast. Mini pile ups were a treat with best dx being 5N7M and Asiatic Russia worked and ZS and JA that got away without copying our callsign fully!
Amateur radio, sailing, sunshine and 10 metres wide open – what more could you ask for!
YouTube video of Peter SV8/G4HSO/MM at
http://www.youtube.com/watch?v=OzUq3cSAAR8&feature=channel_video_title
More info contact Tim, G4YBU or Peter, G4HSO QTHR

Correction – SPRAT 148:

Hiss reduction in the LM386 SPRAT 148 page 19. There appears to be a discrepancy between the circuit diagram and the layout diagram. The circuit shows L1&C1 in series between pins 1 and 8 on the IC. While the layout shows them connected to the same pad?
Geoff Spencer GW4DRR /GW8FOL GQRP No 12920
G3RJV Comments - It was a straight scan from QST sent in by a member. It certainly does look wrong. It refers specifically to the NW8020 pcb in which case the dotted ellipse is confusing as it suggests a single pad.

Tuna Tin as High Impedance Headphone

Daniel Savel F5ITU, 20 Rue du Professeur Patel, 69009, Lyon, France
13471648@wanadoo.fr

This is this type of headphone which is necessary with minimal receivers, crystal receivers and any rig which doesn't have BF amplifier.
I thought that it would be interesting to build this kind of headphone...maybe in memory of my fifteen year, when I looked desperately for it, for the crystal receiver I wanted to build.

I had already tried to build one but the main difficult was obviously the building of the coil which must be wound with a lot of turns of thin wire. I never succeeded. Fifty years later, I won the challenge. My idea was to use a coil of a relay as the motor of the headphone and the bottom of a tuna tin as the membrane. Plenty of araldite helped me to assemble these elements.

I used the coil of a 24V relay that I picked up in a dustbin and which was used before in an automatic door command card. The coil measures about 2900 Ohms; this is exactly the value I wanted.. I extracted the coil from the relay with a lot of precaution because the wire is very thin like a hair.

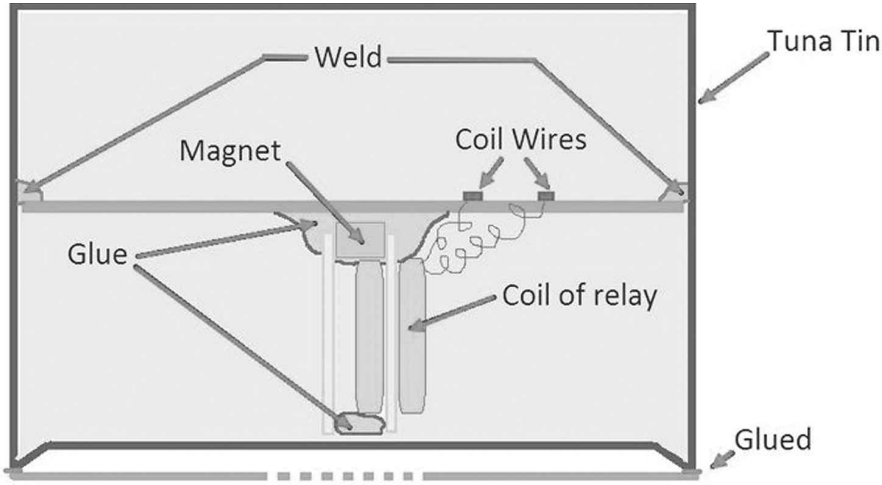
On another relay, I took two iron cores because those of the original relay had a bad form. Any other piece of iron that can fill the coil could be OK.
From the laser carriage of an obsolete CD drive, I took a little magnet (about 5mm x 5mm x 2mm). This magnet, glued between the two rods, is used to make the polarisation of the system.

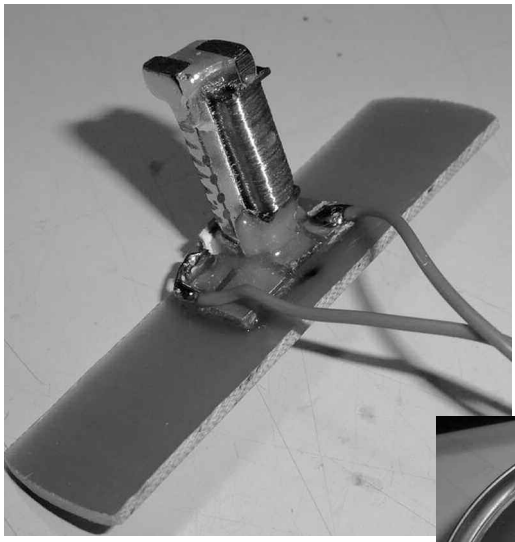
Now, to finish, I asked Dulcinée to make some rice and tuna for our lunch... The bottom of the tin becomes the membrane of the headphone and the coil, its core and magnet will be installed near that membrane. I used a lot of araldite glue to maintain the pieces in good place. A picture is better than a lot of blabla ; so look at the photos below.

Before welding the coil assembly inside the tin, I inserted a piece of cardboard between the membrane and the coil in order to keep a gap between them. Then I removed the cardboard. Thus the space between the coil and the bottom of the box (membrane) is equal to the thickness of cardboard. Fortunately, there is a little ledge on the back of the tin. I used it to glue a card with a hole in order to put the ear without muffling the sound.

Test :
A leg of my center-fed on a wire of the headphone, a connexion on the radiator on the other wire and a AA119 diode on the coil ; I can hear loudly the radio station, 20Km away from my home.
A comparative test with a German headphone Hagenuk 2x 2000 Ohms doesn't show any real difference. I hope that this idea could help some young man 15 years old, who is looking desperately for a headphone for his crystal receiver...

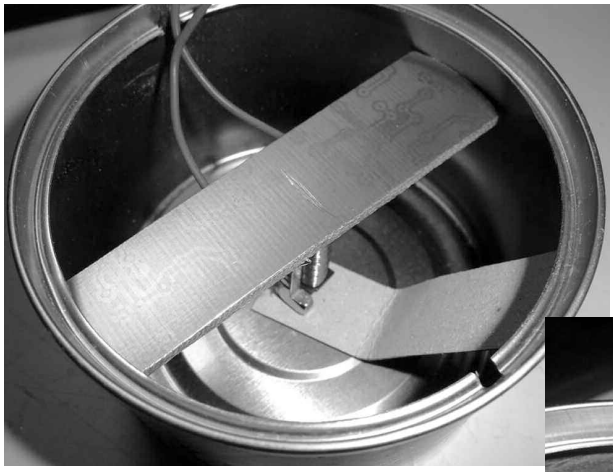
STEP BY STEP PICTURES





Relay coil and magnet on PCB base

Coil assembly and tuna tin



Coil assembly mounting with cardboard spacer

Coil assembly secured to side of tin

Cover on bottom of tin to prevent muffling

A Tip from Mike M6MAJ

Old CD drive cases from PC's make great enclosures for projects. All you need to do is make a small front panel from a sheet of ali or pcb material …or something.

Transformer Tip from David M3CCQ

A cheap source of mains 12v 20w transformers is from the 12v Halogen reading lamps....the type with two telescopic arms.....they are available from bootsales for 20p to 50p.....nobody wants them when the bulb has blown.

Some QRP Events

5th Bath Buildathon

The full day workshop event will be taking place 09:00 to 17:00 on Saturday 7 January in the centre of the beautiful Roman city of Bath (where else?). The project will be a 20m Superhet Receiver from Walford Electronics. Cost will be £60 for the full day including the kit and full support from the Bath Buildathon Crew.

Tools and test equipment will be provided, or bring your own. If you would like to book a place contact Steve, G0FUW. E-mail G0FUW AT tiscali.co.uk.

Photo from last year's event showing a number of superhet builders hard at work.

QRP in the Country 2012

Tim Walford G3PCJ is pleased to announce that, following the much increased attendance and very successful QRPiC 2011 this year, next year's event will be held on Sunday July 15 2012. As before, it will be held at Upton Bridge Farm, Long Sutton, Somerset. The theme remains low power radio operation and home construction, in a country setting! If the weather allows, it will be outside; otherwise, it will be in the barns like this year – see attached photo. Tim is particularly keen to increase the attendance by West Country Clubs and individuals with interesting things to show off. If you wish to reserve an early place or can suggest a novel feature; just drop him a line at walfor@globalnet.co.uk

GQRP CLUB WINTER SPORTS

EVERYDAY – DECEMBER 26th to JANUARY 1st

Call "CQ QRP" on the International QRP Frequencies

The Winter Sports is not a contest, although it is usual for operators to exchange their G QRP Club membership number. Those taking part are invited to submit logs and comments to the G QRP Club Communications Manager, Peter Barville G3XJS, Felucca, Pinesfield Lane, Trottiscliffe, West Malling, Kent ME19 5EN. email g3xjs@gqrp.co.uk. The G4DQP Trophy is awarded to the station making the best overall contribution.

20m CW Transceiver

Barry Zaruki M0DGQ, 26 Heathfield Rd, BIRMINGHAM. B14 7DB

Described here is a " bare bones " QRP CW transceiver for the twenty meter band using common cheap components, most of the components used came from the junk box. Four watts output is produced along with QSK. Although a fairly simple transceiver, it performs very well indeed. The only controls on the set are; Tuning, RIT and Gain.

The receiver section is a single conversion superhet and consists of a two pole antenna bandpass filter followed by a dual gate mosfet RF preamplifier with gain control. The purpose of this stage is to make up for the insertion loss of the SBL-1 DBM and to provide minimal loading on the bandpass filter thus maintaining a reasonable Q. A mosfet was chosen due to its good strong signal performance. The source of the mosfet is held at approximately 2.5 volts by D1,D2 and R3, thus its G2 voltage can go negative with respect to the source giving a much greater gain range.

The receiver mixer is a double balanced diode ring (SBL-1), again this was chosen for its excellent strong signal performance and low IMD3 products, low side LO injection is used with this mixer. IF from the mixer is then fed into a post mixer preamplifier consisting of Q2, this transistor is heavily biased ensuring good signal performance.

The output from Q2 is fed into a four pole crystal ladder filter using 8MHz cpu crystals (I calculated the capacitor values using a "filter calculator" found on the internet). Measured response of the filter is very close to the predicted values, approximately 700Hz -3dB bandwidth and the Fo = 7.9987 MHz. The crystals were matched to within plus or minus 30Hz of each other. I bought a bag of one hundred 8MHz crystals for £2.50 (inc. pp) from Ebay, and I found plenty of matched crystals amongst them. A cascode IF preamplifier using a CA3028A follows the crystal filter, this is a old chip now but I had a few of them in the junk box. The "bottom" transistor of the cascode pair (see manufactures data sheet) is used for gain control. If you do not have one of these , it is a simple task to make a discrete cascode preamplifier using a couple of IF type transistors (BF173's etc.).Being as AGC is a mere operating convenience, none is used in this bare bones set. Amplified IF is then fed into a product detector using a NE602. Balanced audio is taken from pins 4 and 5 of the NE602 and fed to LM386 audio power amplifier. In use the receiver is useable down to signals in the region of 1 - 2 uV at the antenna socket.

VFO

The VFO consists of a series tuned colpits oscillator (Jfet Q1) followed by a Jfet buffer and two bipolar transistor buffers. Q3 buffer produces 5 milliwatts output which is fine for driving the SBL-1 local oscillator input. Approximately 2 milliwatts is produced by Q4 stage which drives the TX circuit and frequency display. The main tuning inductor L1 is wound on a spent ceramic cartridge fuse and covered with a thin film of Araldite. A planetary reduction drive is used with the VFO tuning capacitor. With the values shown, VFO coverage will be approximately 5.990MHz to 6.120MHz (giving a 20M coverage of 13.990 MHZ to 14.120 MHz i.e. all of the CW section of the band). Greater coverage can be had by

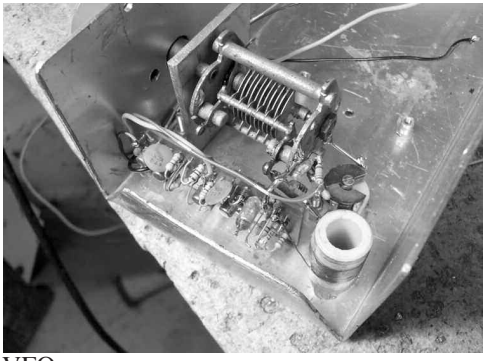
experimenting with the coil turns and tuning capacitor value. Stability and drift is excellent, after an initial warm up period of 15 minutes, drift is no more than 30Hz in one hour, though no doubt this will vary from builder to builder and components used.

Transmitter

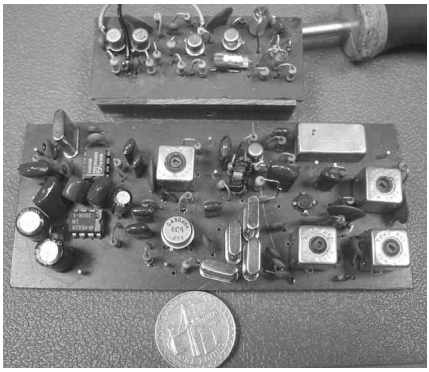
The transmitter comprises of a NE602 configured as a double balanced transmit mixer and oscillator, keying is achieved by switching the HT to this chip. A 2 pole bandpass filter precedes a three stage PA. Q1 is biased in class A, Q2 and Q3 are biased in class C making a very efficient power amplifier, for 4 watts out the current drain is approximately 0.7A. A simple pie network is used to transform the output impedance of Q3 output to 50 ohms. For Q3 I used the PA output transistor from an old europa VHF pmr set but any CB type transistor will work OK here. A diode switch (D1,D2 and D3) is used to isolate the receiver during transmit periods and providing full QSK. The PA stage is followed by a 2 pole low pass antenna filter. The note produced by the transmitter is pleasant, no chirp or key clicks. No side tone oscillator is necessary here as you will hear your actual transmission from the receiver, the side tone is a little "clicky", if this bothers you then a separate side tone osc may be employed.

Frequency display

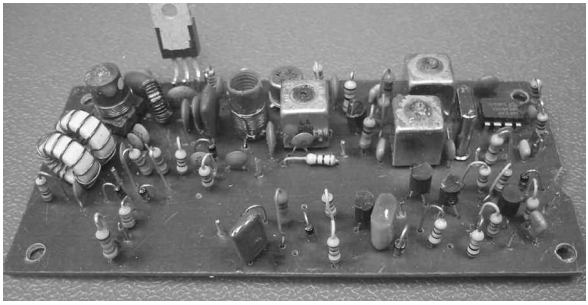
For the frequency display VK3BHR pic counter was utilized – a excellent project using a PIC and a LCD display. All of the source code and asm files are freely available on his website to enable you to blow hex code into the PIC.



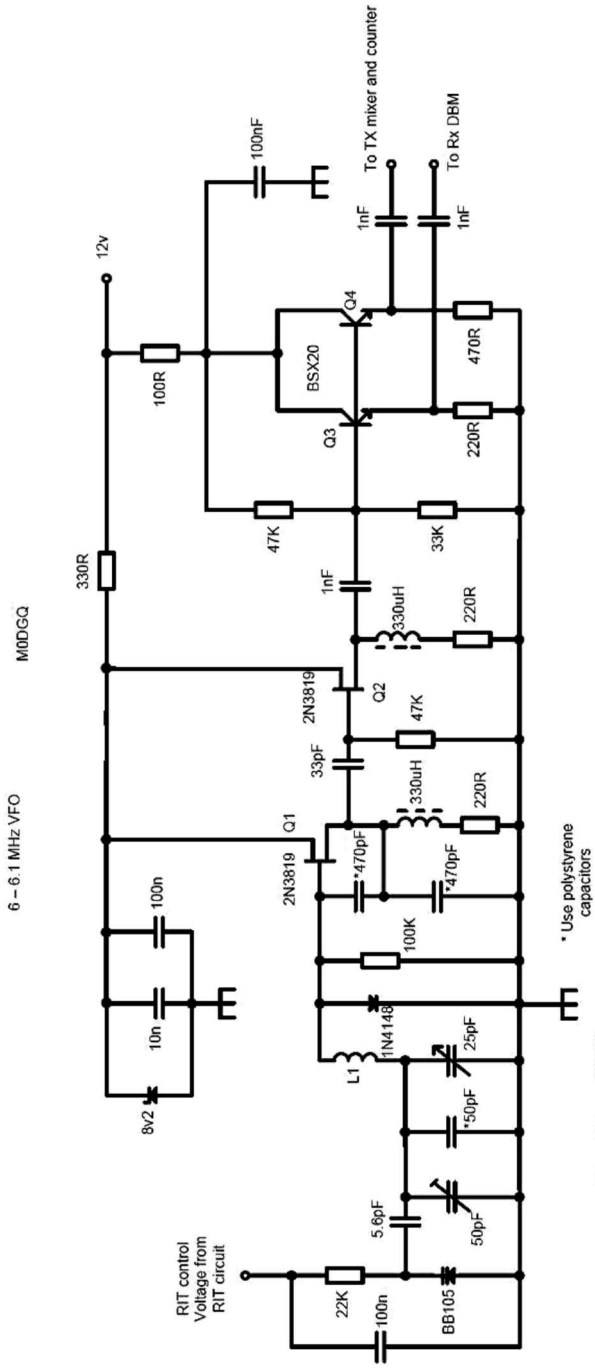
VFO

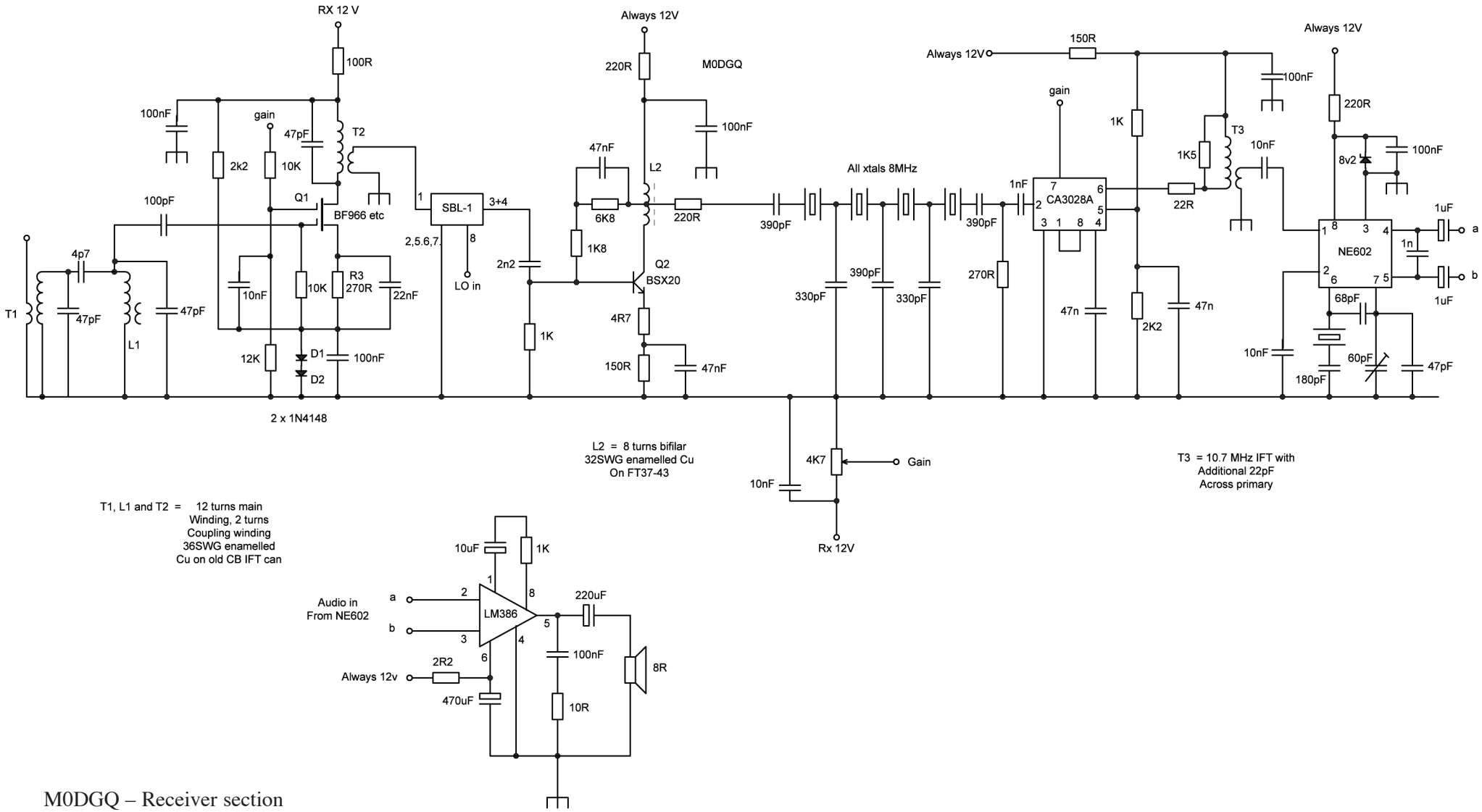


RX



TX


6 – 6.1 MHz VFO
M0DGQ
12v
330R
100R
100nF
To TX mixer and counter
To Rx DBM
1nF
1nF
Q4
BSX20
Q3
470R
220R
47K
33K
1nF
330uH
220R
2N3819
Q2
47K
33pF
330uH
220R
Q1
2N3819
*470pF
*470pF
100K
1N4148
L1
25pF
*50pF
50pF
5.6pF
22K
100n
BB105
8v2
10n
100n
RIT control
Voltage from
RIT circuit
* Use polystyrene
capacitors
L1 = 34 turns 28SWG
Enamelled Cu
On 16mm ceramic former
- I used an old cartridge
Fuse



M0DGQ – Receiver section

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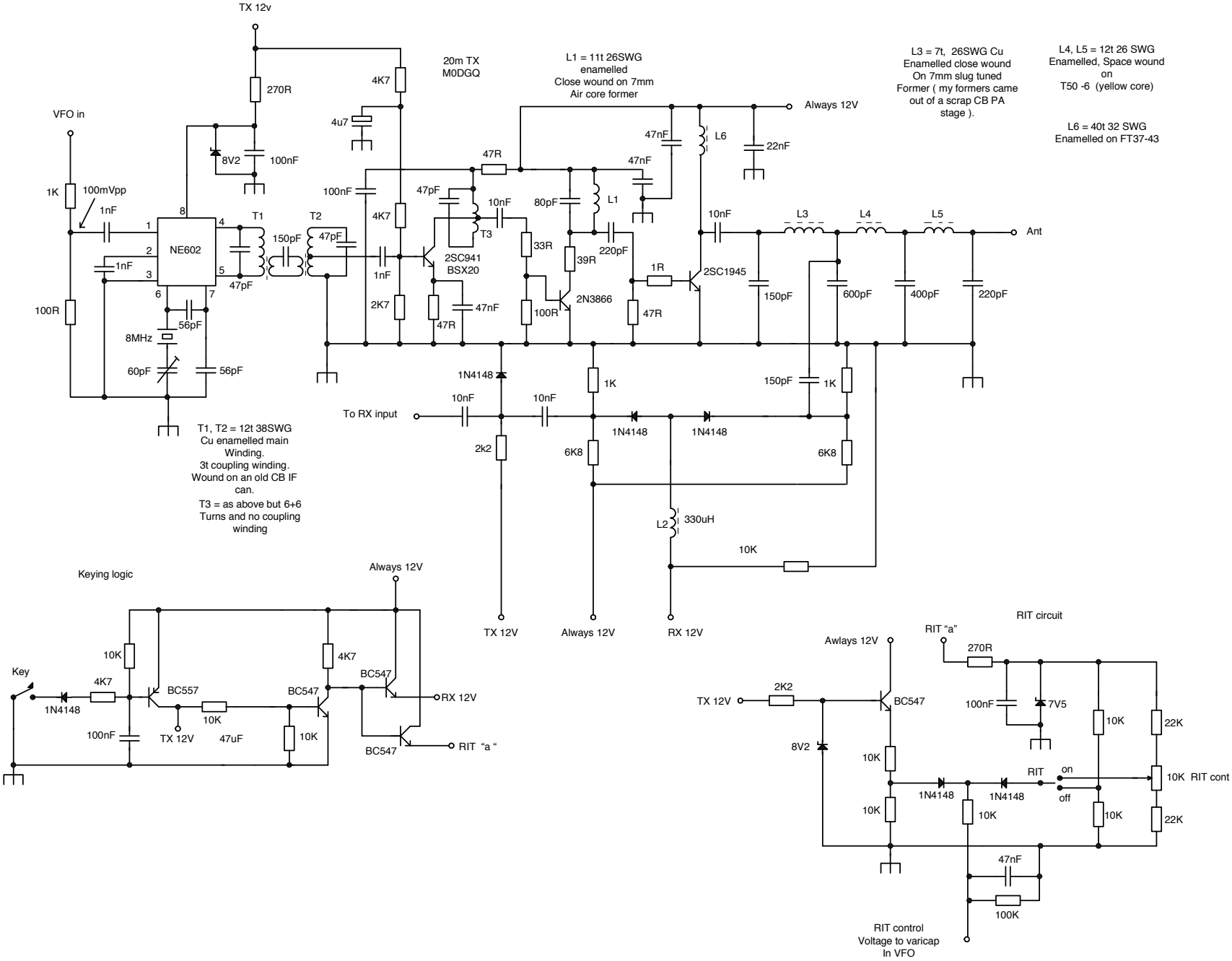
Any other overseas to Tony Fishpool G4WIF, GQRP Club, PO Box 298, Dartford, Kent. DA1 9DQ [Europe: £10 GBP / DX: £12 GBP]



M0DGQ – Transmitter Section

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Standing Order Mandate

_____ **(2)** Branch

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		Beneficiary's name	
For the credit of	GQRP CLUB NUMBER 1 ACCOUNT		0 4 1 0 9 5 4 6
	Amount in figures	Amount in words	
The sum of	£6.00	SIX POUNDS	

	Date and amount of first payment			Due Date and Frequency
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	Date and amount of last payment			
*until	----------	--------	Until you receive further notice from me/us in writing	
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	GQRP #			

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(6) Date

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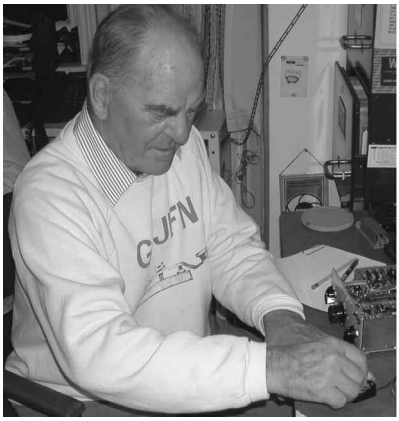


Robert Hudson, G4JFN.

We regret to announce the death of Bob Hudson, G4JFN, on November 25th. Bob ran the Club QSL Bureau for many years handling hundreds of cards with great efficiency. Many members spoke of the personal and kindly way in which he ran the bureau. Bob was an avid QRP CW operator always ready to help and encourage newcomers on the bands. He held the Milliwatt DXCC QRPp Trophy number 65, awarded in 1984. We offer our condolences to his widow Anne who supported Bob in his amateur radio and was often to be seen by his side at radio events.

We will all miss the cheerful, encouraging, support of Bob.

Two New Club Awards

Following the loss of G4JFN and Gus, G8PG, earlier this year, the club is to introduce two new awards.

The G4JFN Trophy
will be a plaque awarded to the member thought to have contributed most to the G QRP Club annual "Summer Sizzler" activity event. Following Bob's love of encouraging QRP operation on the air, the award will be for the best overall contribution rather than the most stations worked. Peter Barville, G3XJS, our Communications Manager, will judge the winner.

The G8PG Trophy
will be a plaque awarded for the best Antenna article or idea that appears in SPRAT each year. Gus acted as the club antenna adviser and wrote the "Antennas, Anecdotes and Awards" column for many years. The current writer of the "AAA" column, Colin Turner, G3VTT, will judge the award at the end of each year.

Antennas Anecdotes and Awards

Colin Turner G3VTT
30 Marsh Crescent High Halstow Rochester Kent ME3 8TJ
G3vtt@aol.com

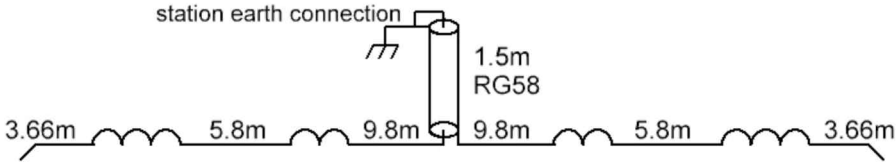
'The Importance of Being Earthed and the Motor Cycle Diaries'

Many folks here in North Kent have received a house call from our local 'radio antenna doctor 'in Peter G3ORP. Peter, also a keen motorcyclist, has developed many new antennas over the years, mostly designed from basic principles on the back of as cigarette packet in the local avionics factory canteen, and has made himself something of a motorcycling missionary as he speeds around in goggles and helmet with side cutters in his pocket and a scarf flapping in the breeze. His latest patient is 2EoWAK. I'll let Peter ORP continue from his own 'motorcycle diary'!

'Attempts by Peter Holton 2E0WAK ('Wacko') to work greater than 8km on Top Band phone from his postage stamp backyard of 9.75m were not very successful as his antenna suffered from screening by his terraced housing plus a nearby metal industrial building and the paving slab and wooden decking "garden" meant that his ERP was very low. This was mainly due to excessive local ground losses so I was asked for ideas to improve the situation and then design an efficient multiband antenna to fit his mall plot. No problem I thought! ***Peter G3ORP emphasizes the importance of a good ground system.***……

As a start ten Screwfix earthrods (or similar) were driven in at intervals on 3 sides of the garden and all connected together with 6mm earth cable. One end was also connected to an outside water tap fed from the copper house plumbing. Half way round the bus bar system was designated as the Master Earth and a ground was positioned exactly underneath the proposed new vertical antenna system at the extreme end of the plot. This was also chosen as the termination point for a roll of chicken wire across the garden and the stealth "Gull Wing" LF bands elevated radial system which was installed in the alleyway behind the 2EoWAK QTH. This system plus other HF radials were installed with the new antenna. The 'alley cat' Gull Wing elevated radial system can be checked for resonance on 160/80/40 and 15mtrs by connecting the short length of RG58 to an SWR analyzer. The dimensions given favour the CW bands and can be adjusted to suit the preferred section of the bands used. (***Note the radials are connected to the coax inner and the inner and outer at one end and the other end of the coax has the inner and outer joined and connected to the Master Earth and then to the earth stud on the rig*****).** The radial ends can lay on the ground surface. Kindly note this is not a MW broadcast station radial system but it has enabled solid 200km QSOs using modest power on Top Band. The mini Maplin chokes could be replaced with massive super coils but the stealth feature would be lost'. ***Hopefully those coils will not burn out but with low or moderate power they should survive. It would make an interesting project to wind coils to the values given. Peter is to be congratulated in putting well engineered radio ideas into practice and spending his time helping others. Just what do you do to encourage others in our hobby?***

38.5 MTR LF BAND ELEVATED NOSEEUM RADIAL SYSTEM (G3ORP)



L1 & L2: MAPLIN WH39N (47uH)
L3 & L4: MAPLIN WH41U (100uH)

With PA3CVV on Lundy

During the summer I had some great contacts in the evenings with Miles PA3CVV on 80m who was operating from Lundy Island portable with his KX1. He had no electricity in his holiday accommodation and ran the Elecraft from dry batteries. We had a number of QSO's from his storm lashed western outpost and I've asked him to give details of the antenna set up.

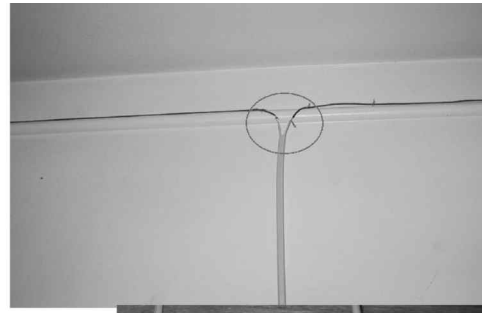
'It was my pleasure to make those QSO's and was exactly what I had hoped for! Exploring the island during the day and then having chats with my friends during the evening while staring into the sunset over the Atlantic. That is why I concentrated on 80 and 40m. I didn't fancy standard QSOs with so-called DX stations. I didn't have the full details at hand about my groundless wonder antenna. So here you go: I used a 41 m end-fed wire, otherwise known as a Fuchs antenna, with the matching unit supplied (in kit form) by QRP Project, **http://www.qrpproject.de/UK/multifuchs.htm** The wire was attached to a spider pole as an inverted vee. One leg was about 35m, the other 5m. Due to the high winds I did not extend the pole to its full length and the apex of the wire was at about 9m. I opted for this configuration because there was plenty of space and it meant I did not have to mess about with counterpoise wires. As Lundy consists of pure granite you might wonder if 'grounding' would have been a success in any case. The batteries were standard alkaline AA cells. As you know there is no electricity in Tibbetts, our holiday home, and using rechargeable cells would have meant a couple of trips to the one and only pub on the island.

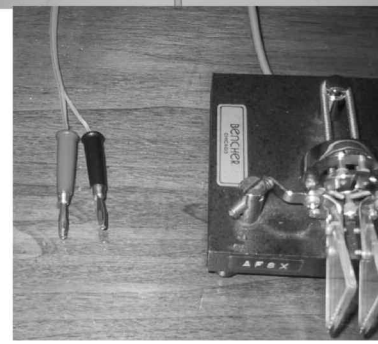
(I think I would have managed it……..) Note how the system uses a short counterpoise. The web site gives details of the arrangement and a kit is available.

Below is a picture of the old maestro himself with the KX1 on the table and the Fuchs matching unit on the window sill. So there you have it, solid reliable communication with a 35m end fed wire and a 5m counterpoise.

Take a look at the website http://www.qrpproject.de/UK/multifuchs.htm ***for more details.***
Thanks Miles and see you from Lundy next year no doubt.

Nursing Home Antenna
Dick Arnold, AF8X, 22901 Schafer St. Clinton Twp., Mi. 48035. USA





This summer I installed a Carolina Windom across my yard with the vertical part of the feed line dropping near the edge of my roof and about midway along the back of my deck. My XYL objected to that “ugly wire” hanging over her head and so, to keep peace in the family, I spent $1100.00 on an awning to cover the deck and hide that “ugly wire” from view. I

also opted to take down my other wire antennas and my vertical to gain even more favour from the XYL, thinking the Windom would cover everything I needed. Well the Windom is a fine antenna, but I have three radios and switching the antenna from one to the other got to be too much fuss, besides I sometimes like to have two radios on at the same time on different bands, also it needed to be grounded when not in use in case of electrical storms. My solution was an indoor antenna. I first thought of the attic, however my house is a ranch style with very little room above the ceiling, so after some thought I came up with what my ham friends like to call (because of my age I suppose) the Nursing Home Antenna. It consists of a length of wire stapled on top of the trim moulding on the walls just a couple inches down from the ceiling. It's not too noticeable and when I find some paint the same colour of the walls, it will be completely invisible.

My shack is a small ten-foot square room, so the total wire length was forty feet. The loop is fed at the centre of one wall; *see circled area in photo # 2,* with 300-ohm TV wire.

It is terminated at the K1 by connection to a BNC/dual post connector *see photo # 3*. The K1 loads perfectly on all four bands (15, 20, 30, 40m) with the internal tuner and without a balun.
I was doubtful about the performance of such a small antenna especially being inside of a room; however my very first contacts on 15 meters were Italy, and England! I have since worked: Ireland, Germany, France, and a couple more Italian stations, besides making a number of stateside contacts, all on 5 watts. I was also pleasantly surprised at the reduced QRN on 40 meters using this antenna. My friends were only teasing when they named this the Nursing Home Antenna, but it would be an option for someone in a situation where erecting an outdoor antenna was prohibited. Not necessarily a Nursing Home, but could be an alternative for Condos, apartments, etc. I think all hams like to experiment with antennas, I know I have had many a bright idea crash and burn, but this one is a definite winner. *Thanks Dick for your thoughts!*

Valve QRP By the time you read this we will have completed another Valve QRP Day. If you have a report, a circuit or a photograph please get it them to me at g3vtt@aol.com as soon you can. I hope to plan some more of these events later in the year. The turn out of operators for the November 20th event was excellent with plenty of new calls being heard. I counted at least three Parasets on air and a few single valve crystal oscillator circuits. My best DX with a Paraset was S52MZ and at one point I had a run of four stations calling me. After the success of the **'Summer Sizzler'** activity period it's the famous GQRP Club **'Winter Sports'** which is my favourite operating period in the year. Hopefully the bands will have been buzzing and once again QRP operators can lead the way to reliable communication across the HF bands with low power. Finally may I take this opportunity to wish you all a happy, healthy and successful New Year with plenty of contacts and my thanks to you all for supporting this column. Keep the ideas rolling in during 2012 if you please.

COMMUNICATIONS AND CONTESTS

Peter Barville G3XJS, Felucca, Pinesfield Lane, Trottiscliffe, West Malling, Kent ME19 5EN. E-mail g3xjs@gqrp.co.uk

Wow – have HF conditions improved, or what? There can be no complaints about poor conditions now! I was QRV as TA4/G3XJS/MM and SV5/G3XJS/MM at the end of the summer and enjoyed plenty of fun with 5W of CW from my FT-817 and 6m vertical on the back of the boat. I use a telescopic GRP fishing pole with a wire up the middle. Highlights included working into the USA on 10m, and a 2-way QRP 15m CW QSO with Chris G4BUE as my last log entry for the holiday.

**** SUMMER SIZZLER ****

Considering this was the first time the Club has run this event, I was very encouraged by the response and support. The following 17 logs were gratefully received from Adam **2M0CGO,** Ray (G4BEE) **9H3BR,** Dieter **DM4EA,** Baltasar **EA8BVP,** Snip **G0KQK,** Eric **G0OTE,** George **G3ICO**, Colin **G3VTT,** Dave **G4AKC,** Ryan **G5CL,** Chris **G6XDI,** Jim **GM0NTR,** Charles **GW0LVH,** Aage **LA1ENA,** Sergei **RD9CX**, Victor **UA1CEX**, and Pete **ZL4TE**.

I was not as active as I had hoped to be, but claim boasting rights for one of the 3 contacts I made with QRP CW (all on 20m). To my delight and amazement, KH6MB QRP (5W) came back to my CQ DX QRP call on 14060 at 0750z on 30th August. After our QSO I left him the frequency and despite his numerous CQ calls did not hear him work any other station. I even hurriedly put a note on the G-QRP Reflector, but to no avail. I was running my homebrew Picastar tcvr with 3W to my inverted vee doublet.

Fitting for the time of year, **G3ICO, G3VTT, GW0LVH** and **LA1ENA** all submitted /P logs. **G3ICO** operated a club station at the local village fete. George also made 26 QSOs from home, including one with PY on 10m.**G5CL** had a 2-way QRP CW QSO with JA4NBA/P on 17m. **G4AKC** has been making (literally) dozens of pedestrian and bicycle mobile QSOs into the Pacific from a beach close to his home. Over a period of months Dave has been working dozens of VK/ZL/KH6 etc stations via the long path but, by his own admission, the SSB contacts he made during the period of SS were made initially at 100W, before reducing power to (in some cases) milliwatts. These QSOs have been truly remarkable and would, had they have been established at QRP levels, undoubtedly have secured Dave the winner‘s spot. His one ‘qualifying’ QSO was with VK6JJ – a distance of 15,463 miles with 1.5 watts SSB, solar powered, using a loaded vertical. Fantastic!

2M0CGO used a homebrew 1m loop antenna in a city centre flat to make QRP PSK31 30m QSOs. **EA8BVPB** was testing his new homebrew vertical 17m dipole and made plenty of DX QSOs. **G3VTT** summed up his approach to /P QRP thus: “For me QRP and camping go together - no QRN, fun with antennas, late at night in the sleeping bag with phones on and a Palm key logging by torch light - its real radio magic”. **9H3BR** (who is

really G4BEE in disguise) used an FT-817 and Buddistick on the roof (20m above ground, 90m above sea level) and battery power to make his QSOs, including one into ZL.

All the logs were interesting, and valuable in their own right. It is hard to pick one as 'top of the pile' but, on balance, I think Aage **LA1ENA** wins our first ever Summer Sizzler. He made 24 contacts during a SOTA activation and a further 40 from home. He used an FT-817, 30/40m dipole and mini palm paddle during the SOTA operation, and a basic K2, W3DZZ and Kent paddle from home. All contacts were made using 5W CW. Many congratulations Aage!

Snip **G0KQK** reported on the discussion his club members had about Summer Sizzler. Opinions differed with regard to the timing of the event, and the prevailing band conditions. On balance, I think we are right to have a summer event and suspect, by choosing late summer, the event's timing is more likely to avoid the potential doldrums of mid summer conditions. I propose, therefore, that we hold another week of Summer Sizzler at the same time of year in 2012. Prepare your diaries!

CZEBRIS 2012

This event was very poorly supported last year, and I have to wonder whether it is worth pursuing. The OK/OM boys manage quite a few entries, so why can't we in the UK (and other countries) do the same? Without your support it is a waste of time for the Club to run the event, so please do your best. Submit your log, and there is every chance you will win!

1600z Friday 24th February to 2359z Sunday 26th February, around the usual QRP cw frequencies: 3560, 7030, 14060, 21060, 28060kHz, +VHF/UHF if conditions permit.

Your Location	**QSO With Station In**			
	UK	OK/OM	Eu	Non-Eu
UK	2	4	2	3
OK/OM	4	2	2	3
Eu	4	4	1	2
Non-Eu	4	4	2	1

No multipliers. Your final score is the total number of points scored. Separate logs for each band showing (for each QSO) date, time, callsign, exchange sent/received, and a summary sheet showing your name, callsign, claimed score for each band, and brief details of your station should be sent by the end of April to G3XJS (UK entries). Non-UK entries go to OK1AIJ (Karel Behounek, Na sancich 1181, 633705 Chrudim IV, Czech Republic). We are both happy to receive logs by email: "g3xjs@gqrp.co.uk" and "karel.line@seznam.cz".

DL QRP CONVENTION and FUN RUN

Our DL colleagues have their annual convention in Waldsassen in April 2012, and are running a corresponding Waldsassen 'FunRun'. Here are the details they have sent me:

Preparing our annual G-QRP-DL meeting 2012 in Waldsassen we would like to invite all hams to take part in a QRP radio activity which follows the idea of The Yeovil ARC QRP Fun Run. This way we will also try to keep this wonderful traditional idea alive. Thanks to the Yeovil ARC, Derek M0WOB and his ham friends, giving permission to use "FR".

When	Monday 26th March to Friday 31st March, 18:00 to 20:00 UTC
Frequencies	3560 kHz and 7030 kHz +/- 10 kHz
Contacts	All stations may be worked once each evening on each band. Bonus-Stations will operate randomly each evening for one hour on each band.
Call	CQ FR (Fun Run)
Scoring	Each QSO with another QRP station scores 10 points Each QSO with a Bonus station scores 25 points Each QSO with a QR0 station scores 3 points
Bonus Station	Club Call - DL0VLP - every evening from a different part of DL operated by another OP, Please, listen for his name. Another Bonus Stations might be one of the GQRP club. See info on GQRP Reflector. **Any volunteers to run MX0VLP?**
Exchange	RST/ Serial Number / output power / Name e.g. 559/234/4/Derek
Serial Number	The three figure number must start at any random number of your choice not less than 100 and must be increased by one for each QSO throughout the whole contest. The Bonus Station will commence at 001 each evening, with all leading zeros being sent.

Please send logs only via E-Mail in txt format or other readable formats to
Bernd dk3wx@darc.de or Klaus k-d.schreiber@t-online.de
(Date Time Band Call sent RST received RST Remarks Score)
Separate log sheets for each day. Please all logs by 08.04.2012.
Participants will be awarded for the highest score for each evening and also for the highest overall total score for three evenings. Certificates will be presented at the G-QRP-DL Convention, April 2012 and on the G-QRP-DL Website.

All listeners' (SWL) reports will be appreciated and the best certificated.

Pse don't hesitate to use QRS. A little chat is always welcome.

Queries to Dieter dl2bqd@swschwedt.de or Bernd dk3wx@darc.de

WINTER SPORTS

As ever at this time of year (mid November as I write this) I don't know whether you will see this before, during, or after WS (26th Dec to 1st Jan inclusive), but I hope you all participate and have plenty of QRP Fun.

MX0VLP
We are still seeking a volunteer to be QSL manager for the Club's new callsign. He/she might like to help with the design and printing of the cards, as well as handling the day to day QSL requests. Any takers? Alternatively (or in addition!) you might like to use the callsign during the DL QRP Fun Run (see above). Please drop me a line if you would like to become involved.

CHELMSLEY TROPHY
Now is the time to compile your entry, which should be with me by 10th February. So, there's plenty to keep your QRP diary busy, and to give you QRP Fun over the coming weeks! The deadline for inclusion in the next issue is the beginning of February.
72 de QRPeter

QRP CALENDAR 2012

1st Jan	Last day of **Winter Sports**
1st Jan 0000z-2359z	**FOC Pump Handle Party**
7th Jan 2000z-2300z, 8th Jan 0400z-0700z	**EUCW 160m Contest**
1st Feb	Last Day for **Winter Sports logs** to G3XJS
10th Feb	Last Day for **Chelmsley 2009 logs** to G3XJS
24th Feb 1600z to 26th Feb 2359z	**CZEBRIS**
10th Mar	**AGCW QRP Contest**
9th Apr 1400z-2000z (Every Easter Monday)	**Slovak Low Power Sprint**
23rd Apr to 27th Apr	**EUCW / FISTS QRS Party**
30th Apr	Last Day for **CZEBRIS logs** to G3XJS and OK1AIJ
17th May 1900-2300z	(Each Ascension Day) **QRP-Minimal Art-Session**
17th Jun	**IARU Region 1 International QRP Day Contest**
16th Jul	Last Day for **International QRP Day Contest logs** to G3XJS
17th July	**RSGB Low Power Contest** (See RSGB Contest Website)
8th Sept	**HTC QRP Sprint** (2nd Sat Sept)
October TBA	**Rishworth QRP Convention**
18th Nov 1300-1700z	QRP Contest Community **HOT PARTY** (3rd Sun in Nov)
26th Dec - 1st Jan 2013	**G-QRP Winter Sports**

(Please advise G3XJS of any errors, or omissions.)

MEMBERS' NEWS

by Chris Page, N4CJ (G4BUE)

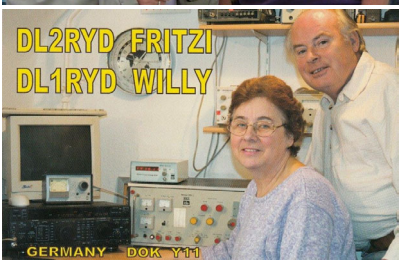
312 Quail Avenue, Sebring, FL 33870, USA
E-mail: chris@g4bue.com

What a difference a few sunspots can make on the bands, especially to 10 and 12m. This column is dominated by on-air reports as members have been taken advantage of the improved conditions and using their keys and mics instead of their soldering irons. **G3YGA**, **G4HSO** and **G4YBU** were QRV 15/21 October using QRP from the Greek Islands in the Saronic Gulf (Aegina, Poros and Hydra) and then from the Northern Cycledes (Kithnos and Kea) aboard a 43 feet Beneteau sailboat. **G4YBU**, who sent the report, says the picture left "Shows Peter QRV as **SV8/G4HSO/MM QRP** (what a call!) operating from the cockpit with an FT-817, 2W using a code cube mini-paddle key into a Miracle Whip, or a mini fishing rod antenna strapped to the rear guard rails which gave excellent results with at times a 360° low angle take-off. Tim says 10 and 12m were outstanding with many DX QSOs made. He operated as **SV8/G4YBU/MM** from the main cabin with an FT-857 limited to 10W (to avoid any RF problems with the chart plotter/navigation equipment) into **G3YGA's** ingenious and easily erected vertical doublet rope antenna. The antenna (pictured below left) is designed for ease of use on a chartered bareboat with safety and ability to use under full sail as primary considerations. The antenna is the centre-fed piece of (yellow) rope between the jib and the mast – raised by the spinnaker halyard, and the wire elements are inside the rope. When the jib was used the antenna was secured to the windward guard rail with no noticeable detuning evident, even when the upper parts of the antenna were close to the spars on the mast. Chris says, "Mini pile-ups were a treat, best DX being **5N7M** and UA9 worked, and ZS and JA 'got-aways' without copying our callsign fully! Amateur radio, sailing, sunshine and 10m wide open – what more could you ask for!". See a *YouTube* video of **SV8/G4HSO/MM** at <http://www.youtube.com/watch?v=OzUq3cSAAR8&feature=channel_video_title>.

The 6th Viadrina took place in Frankfurt on 10/11 September at the river Oder and **DL2BQD** says it is, "One remarkable meeting of radio amateurs and it now opens the door to the east being held at the very border to Poland. It is not only QRP related but offers contacts to all amateurs". Dieter sends the picture below of himself with the 'Father' of the meeting Peter, **DL2FI**, wearing his Elecraft shirt.

Dieter also sent the QSL below of Willy, **DL1RYD**, the 'father' of the legendary Teltow valve transmitter, built and widely used at club stations in the former GDR, and his wife Fritzi, **DL2RYD**. The transmitter can be seen in the background with an additional counter on top. Dieter says many of our G-QRP members know the rig as they were trained on it.

On 27 October **GØKOK** in Dover tried out his first and almost completed one valve (PCL82) TX putting 6W into his doublet. His first QSO on 7015.20kHz (XTL) was with **GM3HBT** in Glasgow and Peter says he is now ready for Valve Days. New member **SM5MEK** (also SJ5E) QSO'd **PJ5/SP6IXF** on 10m using his 5W and then **VK7ZX** on 20m to complete his QRP WAC. Jan is using a TS-2000 and three element beam on a 60ft tower at his local club **SK5DB**. Spare a thought for **GØEBQ** and his "Frustrating Autumn". Both his SSB rigs failed and so he started work on a 20, 17 and 15m version of the BITX using just the PCB. Nigel had almost finished the main board and had nearly finished a similar 12m version , but then his soldering iron packed up! **N2CQR** (ex-**MØHBR** and **CU2JL**) is refurbishing the homebrew 17m phone rigs he built and used in the Azores during the last peak in the solar cycle. Bill is using the JBOT (Just a Bunch of Transistors) 5W linear RF amplifier circuit designed by **VU2ESE**.



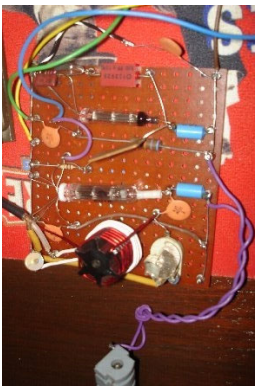
In May the Four State QRP Group offered a new kit, the **K8IQY** designed SS-40 40M superhet receiver, SS stands for 'Stable and Sensitive'. More information at <http://www.wa0itp.com/ss40.html>.

G4FBC says he is another member 'bitten' by the Paraset bug! Ron's newly completed Paraset is shown right and he has posted video clips at <http://www.youtube.com/watch?v= Vp7E5eRScGE&feature=related>. He has also built a complete 40m QRP portable rig (right), with a regenerative receiver, JBS 5W CW TX, Z match ATU and 'paper clip' paddle TIC4 keyer. He thanks **GM3OXX** for help with the JBS TX and says, "The whole lot fits snugly into a YL's metal cosmetics case obtained in a Superdrug sale, (complete with lipstick et al!). I bought two for £5, and received rather peculiar looks from the YL at the checkout!". **G3XBM** had fun on 10m with a simple (14 parts) home-brew full QSK transceiver called the 'Chirpy' (cos it chirps!) which puts out around 100mW on 28060kHz. Best DX was two-way QRP with **IT9QAU**. Roger says sensitivity seems to be between -85dBm to -100dBm. See <http://sites.google.com/site/g3xbmqrp/Home/xbm10_2> for details of this work in progress. He is still experimenting on VLF where the 9kHz NoV has been extended for another 12 months (article in October *RadCom* about this work) and his next challenge is probably on the 481THz band ie optical comms with red LEDs using the same 'just how simple can you do it' approach, which he says is his trademark.

My apologies to **G3ICO** for stating in my last column that he was at 150 DXCC this year. George tells me 'my birdie' got his facts wrong because he was only at 135 DXCC! "However", he says, "The principle still holds good that you don't need a kilowatt to get out". **G7DIE** was QRV as **SV9/G7DIE/P** in October with his FT-817 and ATX walkabout antenna and arranged a sked with **G4AKC**. They made a good QSO with Stephen holding his radio above his head at arms length, "Maybe not the most practical way to operate, but it lifted my signal out of the noise and was good for a 57 report from Dave". Some damage to the ATX antenna caused Stephen to change to a Miracle Whip antenna and, operating from the beach like **G4AKC** does back home, he made 31 contest QSOs including **K5KC** at 6268 miles, and **HZ1PS**. **G4AKC** says, "I have been having daily QSOs with **SV9/G7DIE/P** in Crete with his signals regularly 59+ into my mobile on 10m SSB. I am stunned by what he has been able to work using QRP into the 'Miracle Whip' antenna".

VK5GI, who is the Australian Rep for G-QRP, visited the UK this summer and caught up with **G3RJV** and **G3MFJ**. Norm says, "We had a great lunch at a pub somewhere in the north of England and the picture left shows us back at George's QTH" (l to r – Norm, George and Graham). At home Norm lives on two-thirds of an acre about 30 miles south of Adelaide, so there is plenty of room for his G5RV antenna and 6m, 2m and 70cms antennas. He says when he isn't in the QRP mood he runs a venerable FT-200 on the Ex-G, Boatanchor and Bottleshop nets on 80m. Naturally, homebrewing takes up a lot of his time now he is retired and he usually tackle kits because of the difficulty in getting parts locally.

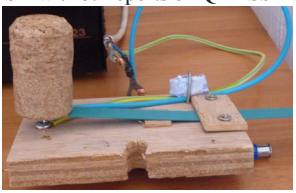
On 28 September **G6ALB**, **G4UNA** and **G3XBM** got together to finish building the Sputnik TX for 15m based on old Russian valves of the same type used in the first 1957 Sputnik satellite, kindly given to them by **AA1TJ**. Andrew did all the building work and Roger was the 'air tester'. He says, "We fired up the 400mW output transmitter into Andrew's inverted-L antenna and had almost immediate success with a solid QSO with **K1GDH** near Cambridge, MA who was running 5W and gave us 539. A second Sputnik rig was being built for Sputnik Day on 4 October". **G3TYB** has also built a Sputnik and welcomes reports on 21060kHz, and **R3DAU** and **RN3AUS** have built a 'replica' of the Sputnik using original valves, thanks to **AA1TJ**.



On 4 October **G3VTT** used his 700mW Sputnik TX (right) to make QSOs on 15m (21060kHz crystal supplied by **AA1TJ**) with **UA1ASB**, **RK1NA**, **SM4EVC** who gave a report and then sank into the noise, **RA3AL**, **G3TYB** up the road and **W9RGB**. Colin says the last QSO was a 'real' one with 'intelligence' passed as Vic told him he had last heard the Sputnik signal whilst at college in 1957. Colin was using a 40m wire and says he could have done better with a beam but his wire was better than the four original whip antennas on the Sputnik and had a distinct height advantage! Colin's Sputnik uses Russian 'rod' valves with 1.5V filaments at powers of 400mW and 700mW with 80V and 110V respectively, although he says the keying was better at the lower voltage and the oscillator started up more reliable. His circuit used link coupling tuned with a 60pf trimmer to the antenna and HT keying of the PA. Also on 4 October, **ON6WJ** made QSOs with several UA stations with his Sputnik clone with 700mW on 21060kHz and a three element yagi at 40ft.

On 4 September **MØZAI** QSO'd **GM4JYB** using his 800mW Rockmite on 40m followed by **PA3CVV** and **GØXCF**, and on 7 November Matt QSO'd **K1GCD** with 4W using an MFJ-9020 on 20m. On 13 September **ZL4TE** made a two-way QRP QSO with **IKØIXI**, the best DX QRP QSO for both Pete and

Fabio. Pete also made QSOs with **9A/UZ4UEZ** (10W SSB) and two-way QRP QSOs with **CT/G3KJX** and **IK5SRD** with his Cushcraft AV3 vertical. **MØCGH** was operating **GB6VMR**, a vintage machinery rally station, at the end of September and used his standard Rockmite 20 (250mW) and an elevated four-band vertical to make a QSO with **N1WPU**. Colin says, "Wow, what a contact! I was using a memory keyer chip to do the CQing and couldn't believe my ears when Ted came back with a 539 report! I reckon I was well into the 11,000 'Miles per Watt' territory". **G3XBM** described conditions as "simply amazing" on 26 September. Following a report of Roger's QRP WSPR signal from **VK6BN**, a report from VK4 suggested just 50mW would have been enough to get his reports from Australia. The band was 'wide' open to all continents and sounded (almost) as good as he ever remembered it. Roger QSO'd several USA with 59 reports on QRP SSB.



On a recent trip to Menorca, **GØVXG** remembered all his radio gear except his CW key, and as he had arranged some skeds he needed to do something quickly. A visit to a local skip/recycling centre gave Richard all he needed - hacksaw blade, plywood base, mains flex, Champagne cork and a few screws, and the picture right shows the result. His pals said his CW sounded the same as normal and so he's not sure if that's a compliment or not! **F6CBU** mentions the free download of his 2100 page amateur handbook containing 225 articles, including some on QRP and covering 160m to 10GHz at <http://communaute.onlineradio.fr/files/file/162-hand-book-de-la-ligne-bleue/>. **RV3GM** says the new monthly magazine *72 News and Low Power Report* by Club 72 will be issued in January 2012. Description and subscription details are at <www.club72.su/72news.html>.

When **GM3OXX** received his **JQ8NQJ** QSL (left), he was pleasantly surprised to see it was for Minami Torishima, a new one for him. On 6 October George's pal **GM4YLN** telephoned him to say he had just QSO'd **T32C** on 15m and they were 599 in Edinburgh. Chris played their signal over the telephone and George says they were really loud. George quickly QSY'd his rig to 15m but alas, could only just hear them in the noise. On the good side, two days later he worked them on 17m for a 'new one'. **T32C** provided a 'new one' for several other members, including **GM4XQJ** on 40, 15 and 17m, **G3YMC** on 15m and 17m, **G3TZA** on 17m, **G3ROO** on 15, 17 and 20m and your scribe (as both **G4BUE** and **N4CJ**!) on 12, 15, 17m. **G3YMC** also made QSOs with **7P8CC** on 15m and **TU2T** on 10, 12 and 17m.

Congratulations to **G5CL** on making a 'new CW QRP personal best' QSO with **ZL4RUGBY** on 20m on 31 October. Ryan says in 26 years of radio he had never worked ZL. He used 5W from his K1 to his 66ft end-fed long-wire 30ft high. Just prior to the QSO, he had QSO'd **RUØZM** on the Kamchatka Peninsula. On 4 October Ryan answered **E21AOY's** CQ and when Wara sent him 72 (instead of 73) at the end of the QSO, he checked *QRZ.com* and found he runs 4W. A QSO with **TU2T** on 4 November gave Ryan his 154 DXCC. **GM3OXX** also QSO'd **ZL4RUGBY** on 22 September, and on 29 August **G3XJS** made two-way QRP QSOs with **RD9CX** and **KH6MB** after calling 'CQ QRP DX' on 14060kHz. Peter was running 3W. On 4 October **G3XBM** made two-way QRP QSOs with **8P6BX** and **W3PO** on 10m. On 16 October **GØMOU** switched on his IC-735, the dial read 28058kHz and after about 10 seconds he heard 'QRL?' and then **Z21BB** called CQ. Dick went straight back with his 5W and indoor roof dipole and received a 569 from Harare. He says, "Now that's QRP magic with a little luck thrown in". **M1KTA** was QRV from the Farne Islands (EU-109) at the end of August and made SSB QSOs with the USA east and west coasts, VE7 and JA with his FT-817 (2.5W) and **W3EDP** or 20m dipole using a 33ft fishing pole support. While **GW3BV** was sat on Aberystwyth seafront watching his kids on the beach, he had his FT-817 (5W) and 15m mobile whip with him and heard **KF4UGA** calling CQ. Quentin answered and received a 3/4 report for the just under 4000 miles path. He found later he had forgotten to charge the FT-817 batteries, the voltage was reading 9.1V and the battery icon flashing urgently, so probably giving less than 5W! **GM4XQJ** QSO'd **JT1RF** on 17m on 18 October.

GM4JTJ has been an avid homebrewer for years and has built transverters for every band up to 10GHz but despite sitting the RAE when the syllabus included valves, had never tackled a valve based project. Jon says **G3VTT**'s article for a stable regenerative receiver project fired his enthusiasm to have a go and the picture right is the result so far. Jon says it worked first time although he did have to 'cobble together' an alternative to the anode audio choke where he used the primary of a small transformer in series with a 15k resistor, all appropriately decoupled with 0.1uF capacitors. The rig is powered by 20 PP3 batteries in series and Jon says it works well and covers all of 80m. He finds there is very little effect of hand capacitance pulling the frequency but it does help to keep one hand on the chassis while tuning! He now intends building a single stage 6V6 TX to hopefully use in the November 'Valve Day'. "Finally", says Jon, "None of this would have been possible without the offer of help in the supply of valves made so generously by **GØJRM** in the Autumn *SPRAT*".

If you want to know how far your signal reaches when you call CQ with QRP, **DL2BQD** suggests using the Reverse Beacon Network (RBN) at <http://www.reversebeacon.net/main.php>. On 7 October **G4EFE** "Went back to basics and 'cobbled' together a single transistor TX (2N3904) and called CQ on 30m with no takers. So I logged into RBN for the first time and discovered I was being heard in GW (Anglesey). As a bonus (if one was needed) I happened to have my first RockMite QSO on 40m, also this morning (with **ON5AG**). RBN spotted me from EI. A great resource. Thanks for the tip".

G4AKC doesn't need the RBN because when he operates 'Pedestrian Mobile' from the beach on Blackpool Seafront, the DX answers his CQs. Dave has made some remarkable SSB QSOs operating right

next to the sea, including **VK3MO** at 59+40dB both ways, and **KH6YY** and **VK6JJ** at 59+10db both ways on 20m on 1 September. **GW4JUN**, who was in VK2 with his K1 and 30ft end-fed antenna just 4ft high, heard Dave QSOing **KH6YY**. Vic thinks with a 'proper' antenna, Dave would have been very loud. Dave worked **ZL4TE** on 20m SSB on 14 October and on 16 October QSO'd CX, FO3, VE1-7, W1-7, PY, CE, UAØ, ZS, JA, VU, and HSØ on 10m and described conditions as, "Absolutely stunning". He was able to turn his power down to a few mW and still make QSOs. On 26 October Dave made more DX QSOs from the beach including a 57 report from a VK7 after reducing his power to just a few mW. He said he, "I worked nearly 100 Pacific area stations in the three hour period from Blackpool at 'high tide'. I was also called by a Guadeloupe station using a wire in a coconut tree and a station in Antigua running QRP". Another early morning 20m session on 12 November resulted in QSOs with 35 VKs, 7 ZLs, V2 and 8P, including **VK3YE/P** running a FT-817 into a fishing pole antenna and who went down to 500mW when Dave still had good copy of him! He then went to 17m and had a long QSO with **EA8/G4CAZ/P** on top of a mountain in Lanzarote who was 59+30dB throughout the QSO. The following day more VK and ZL stations were worked on 20m, plus JA, HL, CX, FO and FM. A QSO with **VK3MO** was continued even after Dave reduced power to just 10mW!

G4EFE writes, "Before I was licenced (when I was a lad) I would occasionally retrace my earliest experiments in radio and build a crystal set, just to ascertain for myself, again, that this magical device actually worked. It never failed to please and 40 years on this year I went back to my QRP roots and built a one transistor transmitter, the Pen Transmitter in *SPRAT* 71, using a 2N3904 and very little else – seven components in all. I'm unable to measure the output power but it's drawing 13mA from a 12 volt battery pack. Inspired by **G3XBM's** posting on the G-QRP Reflector about the RBN, I left the transmitter calling 'CQ test' continuously about 15WPM on 30m and a later check showed my signals had been logged by **GW8IZR** in Anglesey. This spurred me to leave it on every day for four weeks on various bands from 80 to 10m using a random 164ft wire going to the end of the garden and with the earth being the radiator pipe in the shack, and no matching between the TX and the wire. Amazingly, this single-transistor transmitter has been spotted by 20 different stations in 16 countries on 80 to 15 metres (no reports on 10m). Best was **K3MM** on 15m in MD at 3630 miles. For one day only, I powered the transmitter from a rechargeable PP3 which was delivering around 8.4V at best and **W3LPL** in MD reported back on 20m. The transmitter is the size of a sugar cube – about half inch square – so I'm tempted to rename mine 'The Metric Oner'!".

GM4VKI reports, "The G-QRP stall went on safari to the rugged country of the Gala boys on 23 October, the Sunday after Rishworth. It was well worth it with 33 members signing in. Also we had 12 new members and three renewals. I was also stripped of most of my components with toroids and chips (no fish!) flying out the door. So we now have very happy members with well stocked winter project boxes". Roy says a big thanks to all our members who joined them at Gala. The next outing in Scotland will be the Magnum Rally at Irvine in 2012. If there is anything special you would like Roy to take there, e-mail him at <rkavampsev@aol.com>.

G3XIZ has still not received word from OfCom regarding his VLF NoV extension despite writing and e-mailing. Chris says **G3XBM** seems to have had more luck so he will try once more and then give up! Chris has built another **ZL2BMI** DSB transmitter with a few minor modifications. He removed the audio amplifier and now has an untuned PA which uses a BFY52 transistor. He feeds the new unit from a stable VFO and from his PC sound card, and takes the RF output to his end-fed antenna via the shack's ATU. With appropriate software, Chris says this simple unit permits the generation of WSPR, RTTY and PSK31 signals. The power output is low: in the order of 200mW on the 'desirable' sideband, but he has had good reports on 160 and 80m WSPR, and even a couple of reports on 30m. He also had a WSPR 'spot' from **HB9TPL** at midday on 160m and has also been picked up in the USA overnight, all on 160m – "quite remarkable for QRPp!", he says. Chris has also had several PSK31 QSOs on 160m and says although DSB is not ideal for WSPR and other digital modes, the low output power of the unwanted sideband is unlikely to cause any serious problems.

GW4JUN will be QRV January/March 2012 as **W4/GW4JUN** QRP SSB and will be looking for QRP stations on 10-20m. He will also try QRP SSB on 5403.5kHz at 2200z regularly looking for UK stations. Vic hopes to be QRV 3/4 March in the ARRL SSB DX Contest from Bahamas (probably not QRP) but will try QRP SSB before the contest, using a dipole mounted high up on a commercial tower at a waterfront location. New member **9H5IT** is QRV on 500kHz until 31 December. **G3JFS** made 92 QSOs with 62 DXCC in the CQWW SSB Contest despite rarely using SSB, with 10W PEP to an end-fed wire. Peter's log included **AA4V/VP9**, **A73A**, **C5A**, **P33W**, **P4ØA**, **PW7T** and several of the less common EUs like HBØ, OJØ and T7Ø. He made 140 QSOs with 42 DXCC in the German WAE RTTY contest running 5W to the end-fed wire, including **CV5K**, **FM5CD**, **TR8CA**, **ZD8F** and **7Z1SJ**. This brings his DXX for 2011 up to 86.

MØCGH finished his QRPme Super Tuna Plus, giving 2W on 40m, and a MKARS 80 LSB TCVR. Colin took part in the Rishworth Buildathon and just about finished the Z match tuner before the final whistle blew! His work in progress is finishing a homebrew RockMite 30 style rig, built to take part in **LA1KHA**'s PP3 (9V) Challenge, and a ONER TCVR from Kanga. Colin repots just one QSO of note – in September a contact with **N1WPU** in ME while running his RockMite 20 about 265mW on 14058kHz (about 11,300 'Miles per Watt'). On 15 November **GØSDT** wrote, "Just worked a station who was running 1kW and a three element beam. The buzz for me was his response of "Wow" when I told him I was running 4W into a dipole. CW QRP is great. The 'wow' reaction is the cherry on top".

That's it, sorry about the small pictures once again but space has beaten me once more. Please let me know how your winter goes, by 20 February 2012, for the Spring edition of *SPRAT*. Happy Christmas.

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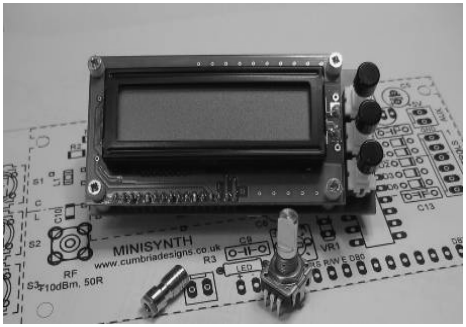

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Look at 'www.celticpilgrim.com' for Amateur Radio in a Lovely Place

G3RJV has a Wooden Lodge situated in the Dyfi Valley in central Wales close to the Irish Sea and in the Snowdonia National Park. It has been completely refurbished with a large living area, conservatory, double bedroom, twin bedroom and a double bed sofa in the living area. Naturally there is a small amateur radio station with a QRP HF transceiver and a 2m multimode. An easy to use station in a quiet location.

Look on the webpage above or for leaflet write to G3RJV or email g3rjv@gqrp.co.uk

GQRP Club Sales

Graham Firth, G3MFJ, 13 Wynmore Drive, Bramhope, LEEDS. LS16 9DQ

Antenna Handbook – 2nd edition – **members £6.00, non-members £10.00 plus post** } **£1.50 (UK); or £3.60 EU**
Radio Projects volumes 2, 3 & 4 – **by Drew Diamond – members £5, non-members £10** } **or £5.80 DX per book**

6 pole 9MHz SSB crystal filter 2.2kHz @ 6 dB, 500ohm in/out **£12 plus post** } £1.50 (UK); £1.60 EU
Polyvaricon capacitors – 2 gang (A = 8 to 140pF, O = 6 to 60pF) c/w shaft ext & mtg screws - **£1.20 each** } £2.20p (DX)

Pair LSB/USB carrier crystals HC18U wires - [9MHz ± 1.5kHz] **£4 pair** } **All components**
HC49U (wire) crystals for all **CW** calling freqs – 1.836, 3,560*, 7.015, } plus **postage**
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24,906, & 28,060 all are **£2.00 each** (* = also available in low profile) } £1 (UK),
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4.433, 5.00, 6.00, 7.6. 8.0, 10.0, 12.00, 13.50, 20.00, 24.00, 25.00, 27.00, 28.00, 32.0MHz } If
35.50, 43.00MHz – **all 35p each** (Some of these are low profile types) } ordered
Ceramic resonators – 455kHz, 2.0MHz, 3.58MHz, 3.68MHz & 14.30MHz **– 50p each** } with
Schottky signal diode – 1N5711 low fwd volts for up to vhf/uhf **20p each** } } toroids,
General Purpose silicon diode - 1N4148 10 for 10p }
Varicap diodes – **MVAM109** – 40pF @ 9v, 500pF @ 1v. **50p each** } max of 2 of } binders,
– **MV209** – 5pF @ 12V, 40pF @ 1V **35p each** } each per member } or
SA602AN - £1.50 **(note – I may supply NE or SA, 602 or 612 as available. All are fully interchangeable.** } filters,
MC1350 - £2.00 These are getting in short supply now so max of 2 per member } use
PICAXE-08M – 8pin - £2 each; CA741 op-amps 8pin DIL **– 5 for £1** } that
LM386N-1 - 4 to 15v, 300mW, 8pin **DIL - £0.40 each** } postage
LM386M-1 - 4 to 15v, 300mW, 8pin **SMD** [0.2" (4mm) x 0.25" (5mm)]**- £0.35 ea** } If
TDA7052A - 4.5 to 18v, 1W 8pin **DIL** low noise & DC vol control – **£0.60 each** } ordered
TA-7642 Radio IC – direct equivalent of **MK484** (& ZN414) – **75p each** } with books
2SC536 transistors (npn) fT - 100MHz, hFE-320, VCBO +40V **- 5 for 50p** } or CDs
MPSH10 transistors (npn) fT - 650MHz, hFE 60, VCEO 25V **- 7p each** } add this
2N3904 transistors (npn) fT - 300MHz, hFE-150, VCBO +40V **- 10 for 50p** } postage
2N3906 transistors (pnp) fT - 250MHz, hFE-150, VCBO -40V **- 10 for 50p** } as they do
2N3819 N channel JFET – 12p each; 2N7000 N channel MOSFETs - 10p each } do not travel
IRF510 FETs – 50p each } well together
10K 10mm coils – 1u2H, 1u7L, 5u3L, 11u0L, 45u0L, 90u0L – all 75p each (2u6LC out of stock) }
Magnet Wire – 20, 22 SWG – 3 metres for 60p; 24, 25, 27SWG – 4 metres for 40p; } postage
30, 33, 35SWG – 5 metres for 30p. This is solderable enamel insulated }
max of 3 sizes per member (I have to measure and wind this!) } as
QRP heatsinks - TO92 – 30p; TO39/TO5 – 40p; TO18/TO72 – 60p (pics in Sprat 148) }
Axial lead inductors (they look like fat ¼W resistors) these are low current – a few hundred mA }
4.7uH, 6.8uH, 10uH, 15uH, 18uH, 22uH, 33uH, 39uH, 47uH and 100uH - all 15p each. } components

Toroid Cores – **priced per pack of 5 – max of 2 packs of each per member**
T25-2 – 50p, T25-6 – 60p, T30-2 – 60p; T30-6 – 70p ; T37-2 – 75p; T37-6 – 80p; T50-1 - £1.00; T50-2 – 90p; T50-6 – £1.10; T50-7 - £1.20; T50-10 - £1.20 ; T68-2 - £1.80 ; T68-6 - £2.20; T130-2**- £1.50ea ; T130-6** - £2.00ea. FT37-43 – 80p ; FT50-43 - £1.20 ; FT37-61 - £1.20 ; FT50-61 - £1.20; FT140-43** - £2.50 ea ; FT140-61** - £2.50; BN43-2402 - £1.20; BN43-202 - £2.00; BN43-302 - £2.00; BN61-202 - £2.00.
Ferrite beads – FB73-101 (3.5mm dia x 3.2mm long, 1.2mm dia hole) – 40p for 5
All toroids are plus postage – up to 5 packs = £1.00UK), £1.60 (EU), £2.20 (DX). Each additional 5 packs, please add 50%
**** Except ** items** – they are heavy and each counts as 2 packs

Limerick Sudden kits RX (80 through 20m); TX (40m only) **£34.00 each plus post** UK - £2.50, Eu - £3.50, DX - £5.00
Sprat-on-DVD – 1 to 148. Only £4 each to members plus postage, UK - £1, EU - £1.60, DX - £2.20
Sprat Binders – nylon string type – Black with club logo on spine -16 issues per binder – **new stock** - £4.50 each plus postage (one: UK - £1.40, EU – 2.20, DX - £3.00. More - add £1, £1.20, £2.00 each)

Please note - I only have stock of the above items – I do not sell anything else. Anything in previous advertisements and not shown above is out of stock – if it becomes available again – it will be in the next magazine. The PDF on the sales page of the club website is usually up-to-date (check the date at the bottom!)

Cheques (UK) and payable to G-QRP Club. Sorry, but cheques in other currencies are uneconomical to us due to bank exchange charges!

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