



## 23cm VLNA re-housed in a new weather-resistant housing

by Martin Hall GM8IEM



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# UK Microwave Group Contact Information

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## Editor's corner

The AGM is over for another year and please welcome your new Chairman - Bob Price G8DTF.

UKµG membership subscription remains at the bargain price of £6/year. No change either (apart from the exchange rate) for worldwide members US\$12.00 and €10.00.

73 de Martin G8BHC

## Subscription Information

The following subscription rates apply.

UK £6.00      US \$12.00      Europe €10.00

This basic sum is for **UKuG membership**. For this you receive Scatterpoint for **FREE** by electronic means (now internet only) via the [Yahoo group](#).

Please make sure that you pay the stated amounts when you renew your subs next time. If the amount is not correct your subs will be allocated on a pro-rata basis and you could miss out on a newsletter or two!

You will have to make a quick check with the membership secretary if you have forgotten the renewal date. Please try to renew in good time so that continuity of newsletter issues is maintained.

Put a **renewal date reminder** somewhere prominent in your shack.

Please also note the payment methods and be meticulous with PayPal and cheque details.

### PLEASE QUOTE YOUR CALLSIGN!

Payment can be made by: PayPal to

[ukug@microwavers.org](mailto:ukug@microwavers.org)

or a cheque (drawn on a UK bank) payable to 'UK Microwave Group' and sent to the membership secretary (or, as a last resort, by cash sent to the Treasurer!)

## Articles for Scatterpoint

News, views and articles for this newsletter are always welcome.

Please send them to

[editor@microwavers.org](mailto:editor@microwavers.org)

**The CLOSING date is  
the FIRST day of the month**

if you want your material to be published in the next issue.

Please submit your articles in any of the following formats:-

**Text:** txt, rtf, rtf, doc, docx, odt,

**Pages**

**Spreadsheets:** Excel, OpenOffice,  
**Numbers**

**Images:** tiff, png, jpg

**Schematics:** sch (Eagle preferred)

I can extract text and pictures from pdf files but tables can be a bit of a problem so please send these as separate files in one of the above formats.

Thank you for your co-operation.

**Martin G8BHC**

## Reproducing articles from Scatterpoint

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# UKμG Chip Bank – A free service for members

The catalogue is now on the UKμG web site at [www.microwavers.org/?chipbank.htm](http://www.microwavers.org/?chipbank.htm) *Latest Stock Update was May 2015 – so do take a look!*

Non members can join the UKμG by following the non-members link on the same page and members will be able to email Mike with requests for components. All will be subject to availability, and a listing of a component on the site will not be a guarantee of availability of that component. The service is run as a free benefit to all members and the UK Microwave Group will pick up the cost of packaging and postage.

*Minimum quantity of small components supplied is 10.* Some people have ordered a single smd resistor!

The service may be withdrawn at the discretion of the committee if abuse such as reselling of components is suspected.

There is an order form on the website with an address label which will slightly reduce what I have to do in dealing with orders so please could you use it. Also, as many of the components are from unknown sources, if you have the facility to check the value, particularly unmarked items such as capacitors, do so, and let me know if any items have been miss-labelled. G4HUP's [Inductance/capacitance meter](#) with SM probes is ideal for this (Unsolicited testimonial!!)

Don't forget it is completely free, you don't even have to pay postage!

***The Chip Bank will be at the “RAL” RT.***

**Mike G3LYP**

## UKμG Project support

The UK Microwave Group is pleased to encourage and support microwave projects such as Beacons, Synthesiser development, etc. Collectively UKμG has a considerable pool of knowledge and experience available, and now we can financially support worthy projects to a modest degree.

Note that this is essentially a small scale grant scheme, based on 'cash-on-results'. We are unable to provide ongoing financial support for running costs - it is important that such issues are understood at the early stages along with site clearances/licensing etc.

The application form has a number of guidance tips on it - or just ask us if in doubt!. In summary:-

- Please apply in advance of your project
- We effectively reimburse costs - cash on results (eg Beacon on air)
- We regret we are unable to support/running costs

Application forms below should be submitted to the UKμG Secretary, after which they are reviewed/agreed by the committee: <http://www.microwavers.org/project-support.htm>

## UKμG Technical support

One of the great things about our hobby is the idea that we give our time freely to help and encourage others, and within the UKμG there are a number of people who are prepared to (within sensible limits!) share their knowledge and, more importantly, test equipment. Our friends in America refer to such amateurs as “Elmers” but that term tends to remind me too much of that rather bumbling nemesis of Bugs Bunny, Elmer Fudd, so let's call them Tech Support volunteers.

While this is described as a “service to members” it is not a “right of membership!”

Please understand that you, as a user of this service, must expect to fit in with the timetable and lives of the volunteers. Without a doubt, the best way to make

people withdraw the service is to hassle them and complain if they cannot fit in with YOUR timetable!

Please remember that a service like our support people can provide would cost lots of money per hour professionally and it's costing you nothing and will probably include tea and biscuits!

If anyone would like to step forward and volunteer, especially in the regions where we have no representative, please email [john@g4bao.com](mailto:john@g4bao.com)

The current list is available at

[www.microwavers.org/tech-support.htm](http://www.microwavers.org/tech-support.htm)



# UK Microwave Group AGM Minutes 2015

The AGM of the UK Microwave Group took place on 26 April 2015, at the Martlesham Microwave Round Table.

## Contests & Awards

Some changes have been made for 2015, with the 24GHz events moved away from the 5.7/10GHz dates, further feedback to be sought at the Contest Forum.

Two Squares Certificates have been issued since the last AGM.

A revised Distance Award has been launched in conjunction with the SOTA awards programme.

## Awards



G3BNL: David Anderson GM6BIG and the GM Beacon group for the GB3CSB beacons and GB3TC 10GHz repeater

G3EEZ:

Gordon Curry G16ATZ and the G1 group for the implementation of the G1 beacon network

Fraser Shepherd Award:

Rex Moncur VK7MO for his pioneering work on 24GHz small dish EME

G3KEU Trophy (5.7GHz)

Ian Lamb G8KQW/P

G3JMB Trophy (10GHz)

Nick Pearce G4WLC/P

G3RPE Trophy (10GHz)

Nick Peckett G4KUX

G0RRJ Trophy (24GHz)

Roger Ray G8CUB/P

24GHz Trophy

Keith Winnard GW3TKH/P

47GHz Trophy

Roger Ray G8CUB/P

## Minutes 2014

Minutes 2014 (as published in Scatterpoint May 2014) – no comments received.

## Chairman's Report

In the absence of a Chairman, a short report was introduced by the Secretary, John Quarmby G3XDY

A lot of the focus in the past year had been on responding to Ofcom proposals for 2.3GHz and 3.4GHz. There had been a loss of the middle section of 2.3GHz, but key sections of the band were retained (with some restrictions). A bonus was the addition of the 2300-2302MHz segment on NoV.

Consequent moves of ATV repeater outputs have now been completed.

We did lose the top section of 3.4GHz, but again retained a key section of the band and replanned it to include some ATV repeater outputs moved from 2.3GHz.

UKuG owes a great deal to the hard work of the RSGB Microwave Manager and now overall Spectrum Manager, Murray, G6JYB for this!

## Treasurer's Report – John Worsnop G4BAO

### Highlights

Group funds increased by approx £2100 (13%) for a sub income of £2586

SO we are still looking for projects to fund! ... put forward your ideas to the Treasurer

The group Financially supported 3 UK beacon Groups this year:GB3ZME, GB3IOW, GB3MCB

We supported beaconsport.eu and ON4KST with donations to the teams behind them. Chipbank made a small profit thanks to donations of cash! This again justifies the decision to make it absolutely free. Big Thanks to Mike G3LYP for running it!

Both of the Group's transverters are out on loan: 10GHz to 5 Bells CG, 5.7GHz to GM0USI

No comments were received on the accounts.

### UK Microwave Group Balance sheet

2014

Covering period 01/Jan/2014 to 31/Dec/2014

Item	Income	Expenditure	Balance	Notes
<b>Opening balance 01/Jan/14</b>			<b>16278.27</b>	
Subscriptions	2586.38			
Cash Donations to Chipbank	53.70			
Beacons	0.00			
Sale of 10GHz PA	120.00			
Interest	5.15			
Websites (inc beaconsport)		59.92		
Exhibition materials				
Beacon Support		288.45		
Trophies		84.00		
Donation to ON4KST		41.70		
Loan equipment insurance		99.93		
Loan equipment parts		25.56		
RSGB affiliation		47.00		
Chipbank		27.68		
<b>Sub-totals</b>	<b>2765.23</b>	<b>674.24</b>		
<b>Closing balance 31/Dec/2014</b>			<b>18369.26</b>	

## Membership Secretary – Bryan Harber G8DKK

### 2014/15 Membership Stats

#### 2014:

426 Members

70 New Members (calendar year 2014)

#### Yahoo Scatterpoint

393 members subscribed

34 pending

82% members pay by PayPal

#### 2015:

456 Members (4/2015)

15 New Members (January to April 2015)

#### Yahoo Scatterpoint

451 members subscribed

25 pending

83% members pay by PayPal

## Election of Officers & Committee

Election of Officers - Graham Murchie G4FSG chaired the election.

The following officers were returned unanimously:

Chairman	Bob Price G8DTF	Proposed by: G4BAO	Seconded by: G4DDK
Secretary	John Quarmby G3XDY	Proposed by: G0MJW	Seconded by: G8DTF
Treasurer	John Worsnop G4BAO	Proposed by: G3XDY	Seconded by: G8DKK

The rest of the committee was re-elected en bloc apart from Dave Powis (Trophies Manager) who is retiring. Dave was thanked for his work over several years in this role.

Membership Secretary	Bryan Harber	G8DKK
Beacon Coordinator	Tony Pugh	GW8ASD
Web Master	Murray Niman	G6JYB
Contests/Awards	John Quarmby	G3XDY
24GHz and up	Chris Whitmarsh	G0FDZ
Corresponding members		
USA Liaison	Kent Britain	WA5VJB/G8EMY
Northern Ireland	Gordon Curry	GI6ATZ
Scotland	John Cooke	GM8OTI
Wales	Chris Bartram	GW4DGU
ATV	Noel Matthews	G8GTZ
Beaconspot	Robin Lucas	G8APZ
Scatterpoint Editor	Martin Richmond-Hardy	G8BHC

No nomination was received for Trophies Manager – this will be remitted to the committee to fill.

## Any Other Business

It was proposed that a Trophy be awarded to commemorate John Wood G4EAT

The terms of reference for the Fraser Sheppard Award to be clarified (Eligibility of non-UK nominees)

Encouraging youth membership – please publicise microwave activity on the RSGB Facebook page

## A Message from your new Chairman

First of all, I would like to thank all those present at the AGM in Martlesham for electing me as Chairman. This did come as a complete surprise so I'm still trying to get my head round what our focus for this year should be.

The key points I have identified so far are:

- Encourage activity to ensure documented band activity

We as a group need to encourage activity of all types on the microwave bands and we need to report this activity, to show that these bands are used, not just for DX and propagation studies, but also for the self training of amateurs.

- Beginner Workshops to encourage construction and experimentation

To encourage building simple and more complex solutions for the microwave bands. It is important that the microwave bands are accessible to all pockets and skill levels, so we do need to encourage simple equipment, as well as more complex technologies.

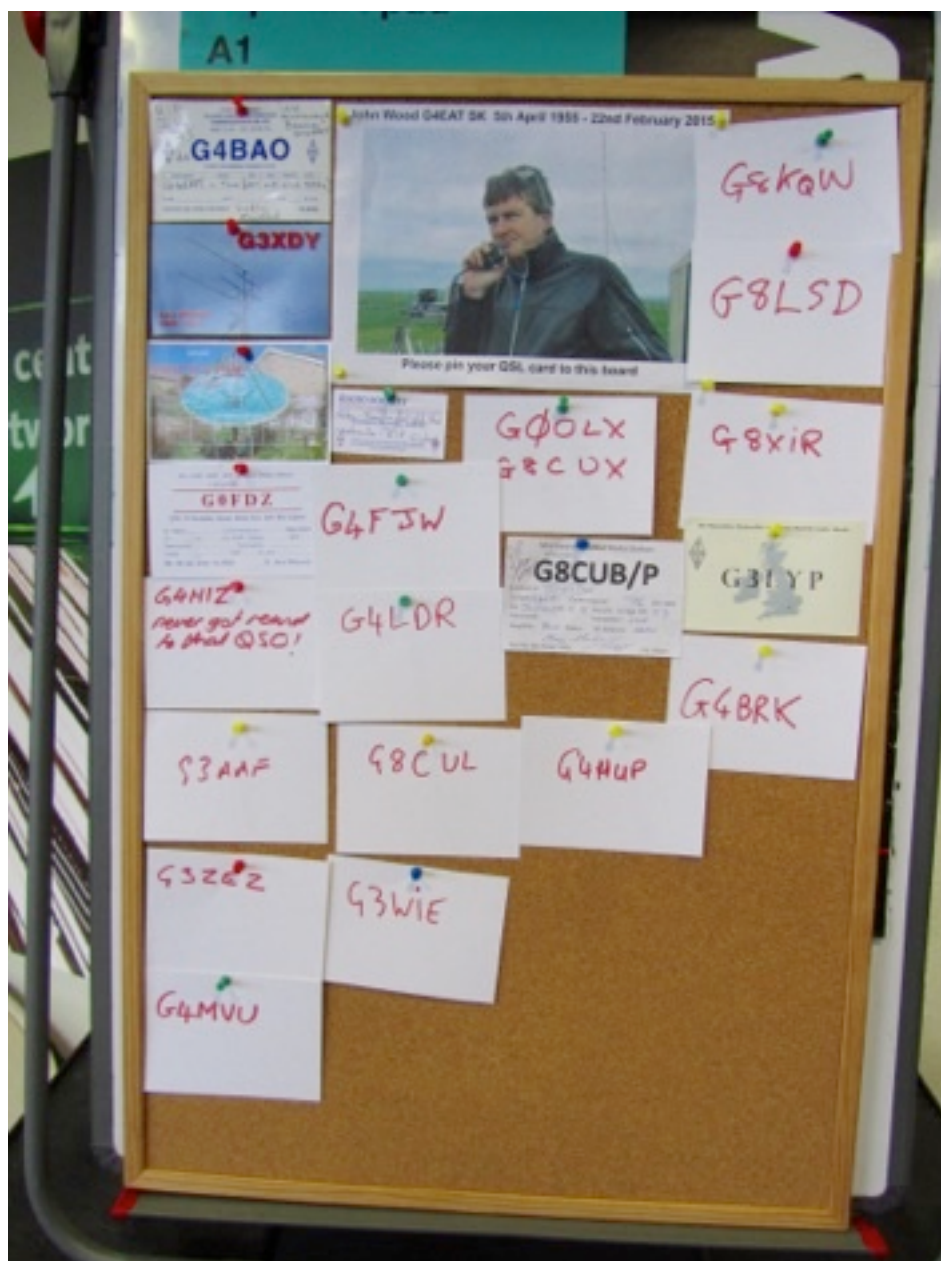
- Maintain and expand the microwave beacon network where possible, investigate collation of propagation data from Beaconsport.

I believe there is great value in our beacon and reverse beacon network, which could be used to provide key propagation data at various microwave frequencies."

73

Bob G8DTF, Chairman UK Microwave Group

## The G4EAT memorial board





# Martlesham Microwave Round Table

## Noise Figure measurements

Noise figure results				
Martlesham Microwave Round Table 2015				
Band	Callsign	System	Gain (dB)	NF (dB)
28MHz	G3AAF	BBA3 wideband preamp	31.2	0.94
50MHz	G3AAF	BBA3 wideband preamp	31.7	0.87
70MHz	G3AAF	BBA3 wideband preamp	31.9	0.87
	G3AAF	70MHz to 432MHz transverter	13.3	1.95
144MHz	G3AAF	BBA3 wideband preamp	32.2	0.86
	G4HSK	G4DDK PGA103+ preamp	19.3	0.80
432MHz	G3AAF	BBA3 wideband preamp	32.9	0.82
1.3GHz	G0MRF	Transverter 1263 to 45MHz	14.2	4.03
	G0DJA	HA transverter	6.2	3.70
	G3LTF	FHX35LG Preamp	35.4	0.28
	G6KWA	Transverter based on Mini-kits	-2.7	13.20
	G3AAF	rfdesignuk preamp	33.2	0.32
	G6TRM	PGA103+ preamp	11.9	0.79
	G3AAF	rfdesignUK SBA1250/1450 preamp	32.4	0.36
	G3AAF	BBA3 wideband preamp	32.6	1.02
	G4FRE	G4DDK ULNA	38.1	0.17
	G4BRK	DJ9BV Preamp	16.3	0.54
1.42GHz	G3AAF	rfdesignUK SBA1250/1450 preamp	31.5	0.38
1.49GHz	G3AAF	BBA3 Preamp	32.5	1.07
2.3GHz	G4FRE	G4DDK 9cm Preamp	29.1	0.56
	G4FRE	G4DDK 13cm preamp	29.1	0.30
	G4BRK	DJ9BV preamp	12.5	0.46
	G3AAF	DB6NT 231B preamp	16.1	0.50
3.4GHz	G4FRE	G4DDK 13cm preamp	17.7	1.22
		G4DDK 9cm preamp	23.4	0.59
10GHz	G0EWN	Transverter	17.2	1.17
		Transverter + Modified LNB	39.3	0.93
		Transverter + Modified LNB	35.3	1.23
		Transverter + Modified LNB	36.8	2.60
	PA4ZP	Transverter DB6NT MKU10G3 Professional inc relays/transitions	25.3	2.17
		Transverter with better WG transition interface	26.4	1.96

## The MMRT Test Lab



John G3XDY with Henning DF9IC



Bryan G8DKK with Vince G8CZP

# Eric Rogers, G3MWN ... Silent Key

I'm very sorry to report that my very good friend Eric Rogers, G3MWN, of Wath on Dearne, South Yorkshire, passed away at the weekend. After complaining of stomach pains he collapsed and died very shortly afterwards in hospital. I believe he was 78 years of age. He leaves behind his wife Kath and a grown up family.

There will be some of you in the UK Microwave Group, who knew either knew Eric personally or will have had 10GHz QSOs with him in the 1970s and 80s, when he was one of a large group of over 20 local amateurs who experimented on 10GHz with wideband FM techniques. Even today there is still a wideband FM 10380MHz beacon on the air from the top of his 60 foot tower! When asked why he never moved on to narrowband microwaves, Eric would always reply that he loved the simplicity of the wideband gear as it was accessible to anyone, regardless of experience. He really enjoyed going out portable with it. In the mid 1980s, he and I made three separate attempts to work the longest LOS path in the UK on 10GHz WBFM ... Cairnsmore of Carsphairn in Galloway to Snowdon in North Wales, some 245km, good microwave DX in those days. While I climbed Carsphairn on foot, carrying 40lb of gear, battery, food and water, he had the luxury of the Snowdon railway to get him to the summit! On the third attempt we managed a wonderful and exciting contact with fully quietening signals even on open waveguide! In later years he suffered from heart and other problems and was not fit enough to climb hills with his portable gear but he never lost interest in microwaves and was indeed planning to get going on nanowaves using a G4HJW system.

He was the Chairperson of the Mexborough Amateur Radio Club for many years and taught hundreds and hundreds of people to pass their Radio Amateurs Examination. Mention his callsign to local amateurs in the area and you'll often get the reply " Oh Eric ... he taught me for my radio exam".

You could not have met a more likeable and friendly person than Eric. He epitomised the radio amateur ... friendly, always very helpful to others, easy to get on with, an avid home constructor and HF operator in addition to being one of the first microwavers in this region. His radio shack was impeccably tidy yet obviously a workplace and full of homemade items.

It was only last September that he and I entertained a mutual friend, Ross ,VK2ER, for a few days. We had a great time visiting other amateurs and the aircraft museum in South Lincolnshire. Eric was a lifetime member of RAFARS, having done his military service in the RAF in the 1950s and had a keen interest in anything to do with aircraft.

For many years Eric kept daily (sometimes twice daily) skeds on 14MHz ssb with friends in Australia, VK2AMD (now SK) VK2JT(also now SK), VK2AEV, VK2ATT and VK2ER. They will really miss hearing his cheery voice.

Losing Eric will leave a large hole in the local radio scene and especially in the life of his best and inseparable friend John, G0OPA who until recently held regular skeds on 10GHz wideband FM!

73 and SK Eric... it my pleasure and privilege to have known you.

**Peter, G3PHO**

Eric's funeral will take place at Wath Parish Church, Church Street, Wath-upon-Deerne, S63 7RD at 1.15pm, Tuesday, 19th May.

# Some pitfalls with DB6NT transverters and MGM / Full carrier modes

**Richard Bown G8JVM**

With the 13, 9, 6 & 3cm DB6NT transverters there is a problem with continuous use of carrier modes, FM, CW & MGM, as they all live switch.

There are two ways of putting the transverters in to transmit, either by pulling the local PTT connection low, or supplying a voltage up the IF coaxial cable.

Both methods will immediately put the +12v Tx output from the transverter on, on all of my DB6NT transverters I can not see any delay between the PTT line going low and the +TxV going high.

If this line is used to control the antenna change over relay, you will have RF on the changeover relay before its fully energised.

At the nominal output level from the transverters, its not much of a problem.

However, if you have a power amplifier, and 10W on 3cm is now there are affordable, by those with deep pockets, the RF voltage present at the unterminated port on the relay will be high. Isolation on relays is quoted with the contacts made. Its not good when it is the process of switching.

On SSB its unlikely that you can start speaking before the typical 15 ms it takes for the relay to close, but on full carrier modes the RF is there the instant the PTT line on the transceiver is activated, some transceivers will have a little delay, and with WSJT there is a built in delay to allow relays to close before RF is passed through, but its not enough to allow for a SSPA to switch.

Hence the wide spread use of sequencing when running a little power.

Sequencing gets forgotten when transverting, especially when the transverter is operated remotely.

If you use the method of supplying a low current limited voltage up the IF coax, the transverter goes in to TX mode immediately and if you are using the transverter +12V line to control the relays you have to rely on not sending RF up the coax to the transverter before the relay contacts are made.

I've found by experience that the time it takes for a relay to change state is not constant, continually switching every 30 seconds over a 24 hour period using the transverter +12vTx output does produce variation. This means that the high RF voltage present as the relay is energised will allow some coupling in to the RX port of the transverter. The first GaAsFET in the Rx stages will die, maybe not immediately but eventually.

Hot switching reduces the life of the relay, and the SSPA as well. Both expensive items.

The solution is very simple, sequencing at the transverter.

If the control of the transverter is up the IF coax, add a bias Tee at the transverter, and connect it the reverse way you would normally, so the DC path to the transverter is blocked and the control voltage you send up the IF coax appears at the Tee.

You can then use this control voltage from the bias Tee to FIRST energise the antenna change over relay, power up the SSPA, and finally with about 30ms delay pull the local PTT line low on the transverter.

Some of you use latching relays, on many of these there are auxiliary contacts, these are ideal for switching the transverter PTT line, as the contacts are made when the relays has changed state.

If you just control the transverter using the local PTT connection, remember to energise the relays before pulling that PTT line low.

Alternately, you can add a delay to the internal switching, but adding a delay here requires good soldering skills as the component density in the corner area is high.

A Bias Tee is easily made for use at the IF frequency of 144 MHz or lower, just two connectors a capacitor in between 1nF and a RF choke from the side nearest the transceiver, and decouple the cold end of the RF choke, typ 4.7 uH, with about 100nF.

I've also discovered there is a finite limit to the amount of time GaAsFETs can be changed on these boards before the track starts to lift.

**Richard Bown G8JVM**



# This month I 'ave mostly been building...

A new column (idea borrowed from the [SBMS Newsletter](#) and with a hat tip to Mark Williams' character [Jesse](#) of the Fast Show) designed for those of you who don't want to write a full technical article – but also those of you who do but only have a snippet to contribute such as a new project or a progress report.

## Martin Hall GM8IEM

The 23cm VLNA has been re-housed in a new weather-resistant housing and is back up on the mast undergoing testing to satisfy myself that it's working properly.



The complete shack re-build is ongoing, and the final item to get me functionally back to where I was last year is the rebuild of the “breadboard” 150W PE1RKI linear/sequencer/control circuits into a 2U enclosure for 19” rack mounting, which is at the stage of planning the layout and purchase of a few components. I hope to be back on 23cm fully operational by the end of May.





As the picture shows, there had to be some compromises to fit everything into the box". The housing was purchased via Alan, G3NYK.



**From Mike, G3LYP**

This is a follow up to a note I sent to the February Scatterpoint regarding my attempts to get the replacement LO for the PLL 10GHz Octagon LNB working ( September '14 S/P ). At the time I was unable to get the low level ( -35dBm ) stabilised 27MHz to take over from the internal crystal reliably. I had hoped that someone else might have had a go at this project, and might have some suggestions, but unfortunately not! I put it aside for a month or so, but in the week before Martlesham I thought I would have another go at it as I knew Bernie was planning to be there and it would be an opportunity to compare notes.

To cut a long story short, I have found that unless the coax feeding the replacement 27MHz is long, the internal crystal still operates and takes over from the external signal. With a 20 metre length of RG58 it works OK, but with a 1 metre length it does not. Presumably a certain amount of cable capacitance is needed to prevent the crystal from oscillating. I have not yet ascertained the minimum length needed for reliable operation.

An alternative approach might be to unsolder one end of the crystal, but the idea was that the LNB could be used in its original way by simply removing the connection to the external LO.

**Footnote from Bernie G4HJW**

I have also occasionally had problems, but had put it down to too much level going up to the LNBs synth chip reference input. My answer had been to put an attenuator in line. Mike's explanation is undoubtedly the correct one though, and all that the attenuator is doing is guaranteeing a low impedance as seen by the synth chip, thus ensuring that its own crystal oscillator is damped out of oscillation no matter what the length of interconnecting cable is.

# Amateur TV Contest - 13/14 June

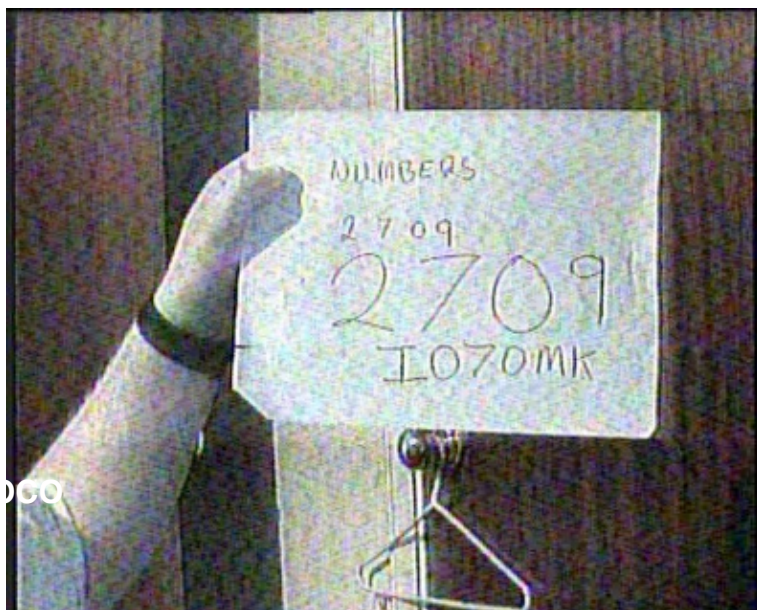
There will be an Amateur TV (ATV) Contest on all bands 146 MHz - 24 GHz running from 1300 UK on Saturday 13 June until 1900 UK on Sunday 14 June. Bands above 432 MHz count towards the concurrent IARU Region 1 ATV Contest. The rules are pretty similar to a phone or CW contest, just that an additional 4-digit code must be exchanged by video (digital or analogue) to make a valid contact.

I hope that the attached pictures (published below) show you that we are serious microwavers, even if our camera skills leave something to be desired!

Full rules and an entry form can be found at [http://www.batc.org.uk/contests/contest\\_news.html](http://www.batc.org.uk/contests/contest_news.html).

On the day, check out <https://www.dxspot.tv/> to see what's going on. Why not try something different with your Microwave gear?

Contact Dave G8GKQ [contests@batc.org.uk](mailto:contests@batc.org.uk) if you have any questions.



# Contest Results

## April 2015 Lowband Contest Results

It is pleasing to report a growth in activity and entry levels for this event. Some thought it was still too long, however.

Conditions seemed reasonable and there were a number of French stations active that helped boost scores. The best DX recorded was between M0HNA/P and GM4CXM, with the G3YJR contact with F6DKW a close second.

Mike G8CUL won 1.3GHz after a close battle with the Combe Gibberlets M0HNA/P. GM4CXM appeared most frequently in the best DX column.

G8CUL also leads on 2.3GHz, but with a much larger margin of victory over M0HNA/P. GM4CXM again provided the best DX on this band.

On 3.4GHz M0HNA/P took the top place, with Martyn G3UKV as runner up.

The overall winner was the Combe Gibberlets group consisting of G3TCU, G4SJH, and G1EHF, who were runners up on 1.3GHz and 2.3GHz, and winners on 3.4GHz. Overall runner up and leading fixed station is Mike G8CUL who was the band winner on both 1.3 and 2.3GHz.

Certificates go to the overall Winner M0HNA/P and Runner-up G8CUL and to the following winners:

1.3GHz	G8CUL, M0HNA/P, G4ZTR (Low Power)
2.3GHz	G8CUL, M0HNA/P, M0WXB/P (Low Power)
3.4GHz	M0HNA/P, G3UKV, 2E0NEY (Low Power)

**John G3XDY UKµG Contest Manager**

## Low Band Championship 2015

After two events, the best three events count towards the total				
Overall				
Pos	Callsign	3/8/15	4/19/15	TOTAL
1	M0HNA/P	1872	2463	4335
2	G8CUL	2000	2000	4000
3	G3UKV	1332	1471	2803
4	G4LDR	1999	0	1999
5	M0WXB/P	625	679	1304
6	G8EOP	797	492	1289
7	G3UVR	638	582	1220
8	G4KIY	1203	0	1203
9	G4BRK	0	1196	1196
10	2E0NEY	0	902	902
11	M0GHZ	0	827	827
12	G4NBS	814	0	814
13	G3VKV	0	531	531
14	M5MUF	165	311	476
15	G4ZTR	0	467	467
16	G3YJR	0	418	418
17	G4CLA	0	341	341
18	G8DTF	0	208	208
19	G1DFL	24	127	151

# Low Band Championships by Band

<b>1.3GHz</b>				
Pos	Callsign	3/8/15	4/19/15	TOTAL
1	G8CUL	1000	1000	2000
2	M0HNA/P	715	984	1699
3	G4NBS	814	0	814
4	G4KIY	747	0	747
5	G3UKV	307	430	737
6	G4BRK	0	720	720
7	G3UVR	223	479	702
8	M0WXB/P	191	420	611
9	G8EOP	271	260	531
10	M5MUF	165	311	476
11	G4ZTR	0	467	467
12	G3YJR	0	418	418
13	G4LDR	386	0	386
14	G4CLA	0	341	341
15	G3VKV	0	275	275
16	2E0NEY	0	258	258
17	G8DTF	0	208	208
18	G1DFL	24	127	151
19	M0GHZ	0	147	147
<b>2.3GHz</b>				
Pos	Callsign	3/8/15	4/19/15	TOTAL
1	G8CUL	1000	1000	2000
2	M0HNA/P	736	479	1215
3	G3UKV	447	479	926
4	G8EOP	526	232	758
5	M0WXB/P	434	259	693
6	G4LDR	613	0	613
7	G3UVR	415	103	518
8	G4KIY	456	0	456
9	2E0NEY	0	321	321
10	G4BRK	0	215	215
11	M0GHZ	0	159	159
12	G3VKV	0	65	65
13				0
<b>3.4GHz</b>				
Pos	Callsign	3/8/15	4/19/15	TOTAL
1	M0HNA/P	421	1000	1421
2	G3UKV	578	562	1140
3	G4LDR	1000	0	1000
4	M0GHZ	0	521	521
5	2E0NEY	0	323	323
6	G4BRK	0	261	261
7	G3VKV	0	191	191



Overall	April Low Band Contest results					
Pos	Callsign	1.3GHz	2.3GHz	3.4GHz	Total	
1	M0HNA/P	984	479	1000	2463	
2	G8CUL	1000	1000		2000	
3	G3UKV	430	479	562	1471	
4	G4BRK	720	215	261	1196	
5	2E0NEY	258	321	323	902	
6	M0GHZ	147	159	521	827	
7	M0WXB/P	420	259		679	
8	G3UVR	479	103		582	
9	G3VKV	275	65	191	531	
10	G8EOP	260	232		492	
11	G4ZTR	467			467	
12	G3YJR	418			418	
13	G4CLA	341			341	
14	M5MUF	311			311	
15	G8DTF	208			208	
16	G1DFL	127			127	
<b>1.3GHz</b>						
Pos	Callsign	Locator	QSOs	Best DX	km	Points
1	G8CUL	IO91JO	32	GM4CXM	525	6193
2	M0HNA/P	IO91RF	30	GM4CXM	582	6092
3	G4BRK	IO91HP	25	GM4CXM	517	4462
4	G3UVR	IO83KH	16	G3XDY	324	2967
5	G4ZTR	JO01KW	16	G3YPQ/P	405	2894
6	G3UKV	IO82RR	17	GM4CXM	377	2662
7	M0WXB/P	IO81XU	19	GM4CXM	480	2604
8	G3YJR	IO93FJ	15	F6DKW	577	2590
9	G4CLA	IO92JL	17	G3YPQ/P	306	2110
10	M5MUF	IO92JP	16	G3YPQ/P	318	1927
11	G3VKV	IO81XV	11	GM4CXM	475	1704
12	G8EOP	IO93EQ	11	GM4CXM	306	1610
13	2E0NEY	IO81VK	9	GM4CXM	521	1598
14	G8DTF	IO83SM	9	M0HNA/P	287	1289
15	M0GHZ	IO81VK	8	G4ZTR	220	912
16	G1DFL	IO91NL	9	G3XDY	158	784
<b>2.3GHz</b>						
Pos	Callsign	Locator	QSOs	Best DX	km	Points
1	G8CUL	IO91JO	15	GM4CXM	525	2824
2	M0HNA/P	IO91RF	10	G8EOP	284	1354
3	G3UKV	IO82RR	9	G3XDY	265	1352
4	2E0NEY	IO81VK	5	GM4CXM	521	906
5	M0WXB/P	IO81XU	9	G3XDY	224	732
6	G8EOP	IO93EQ	4	M0HNA/P	284	656
7	G4BRK	IO91HP	7	G3XDY	184	608
8	M0GHZ	IO81VK	5	G3UKV	146	448
9	G3UVR	IO83KH	3	G8BUN	108	292
10	G3VKV	IO81XV	4	G8CUL	66	183
<b>3.4GHz</b>						
Pos	Callsign	Locator	QSOs	Best DX	km	Points
1	M0HNA/P	IO91RF	6	G3UKV	216	821
2	G3UKV	IO82RR	3	M0HNA/P	216	461
3	M0GHZ	IO81VK	3	G3XDY	246	428
4	2E0NEY	IO81VK	2	G3UKV	146	265
5	G4BRK	IO91HP	3	G8AIM	76	214
6	G3VKV	IO81XV	2	G3UKV	99	157





## Activity News : April 2015

By Bob Price G8DTF

***Please send your activity news to:***

[scatterpoint@microwavers.org](mailto:scatterpoint@microwavers.org)

### Introduction

There seem to be very few reports this month, just a couple from Scotland and my own reports.

I have been looking at the UKAC entries this month and there is a good amount of activity on 5.7GHz and 10GHz WBFM. I have heard people talking about using WBFM in a few areas of the UK, but we still only seem to have one active group in the Northwest. It would be good to get some reports of what other groups are doing.

### Beacons

**From Brian GM8BJF IO86**

Graham Knight GM8FFX is now running a personal beacon on 10,368.450 MHz from IO87WB near Aberdeen.

He has a very clear take-off south over the North Sea. Some of you will know Graham of old from 2m SSB! The antenna is a sectoral horn with a horizontal beam-width of about 45 degrees. He is running about 1.5 watts into the horn and it the beam is centred on 165 degrees to give good coverage of the UK and the North Sea. It is a good signal in N. Berwick east of Edinburgh at about 118 km range. Reports to [beaconspot.eu](http://beaconspot.eu) please.



### 24GHz

**From Alan GM0USI**

I was out yesterday 28th April at North Berwick in East Lothian IO86PS to test the 118Km sea path [though not optical LOS -0.42degrees below horizon]on 24GHz with Brian GM8BJF who was installing the personal beacon at the super QTH of Graham GM8FFX at IO87WB.

The 24GHz kit I was using [see pic] was built by Roy G3FYX quite a few years ago now - based on the 'Grey Cube' with a mmWave 500mW amp..still working well. The antenna was a restored old Andrews 60cm WR42 dish.

Signals were found straight away with some scatter - signals were 42 with 52 being received up near Aberdeen - usual QSB present. CW would have been easy copy. I was never sure how the 24G signals would behave over a

sea path. Weather was dry at my end but very windy - some sleet at Aberdeen with isolated showers over the North Sea on the path.

The GM8FFX beacon on 3cm was S7-8 using a flat panel antenna.



## UKuG Low Band Contest

No reports

### April 23cm UKAC

**From Bob G8DTF IO83**

The mast was not at full height again because of the weather. I worked the following stations in IO83 - G1HSG/P, G8PEF/P, G3TDH, 2E0BMO, 2E0SEY/P, GW8REQ/P, G4NTY, G3UVR, G4HGI, G8XVJ/P, G4JLG, GW4EVX, G1SWH, G8ONK and M0VAA. I also worked others further afield G3VKV(IO81), M0COP/P(IO82), G4BRK(IO91), G3UKV(IO82), M0WXB/P(IO81), M1MHZ(IO92), G3PYE/P(JO02), G8CUL(IO91), G16ATZ(IO74), G4CLA(IO92), M0TWC/P, GM4CXM(IO75), G8EOP(IO93), G4BVE/P(IO82), GD8EXI(IO74), G8OHM(IO92), G3TCU/P(IO91).

Failed with G4BAO(JO02) and G4LDR(IO91) despite hearing them briefly via AS.

### April SHF UKAC

**From Bob G8DTF IO83**

#### 13cm

Again the mast was not a full height because of the windy weather. The picture below shows the antennas used for the 23cm/SHF UKACs. The top antenna is a 44 ele Wimo for 23cm, below that is a 62 ele H/B Yagi for 13cm and finally below that is a 20dBi Panel antenna for 9cm.



In IO83 I worked G4MVU, G3UVR, M0UFC/P, G8PEF/P, G4JLG/P and GW8ASD.

Further afield I worked G3VKV(IO81), G8EOP(IO93), G8BUN(IO93), G8SFI/P(IO93), G8CUL(IO91), GM4CXM(IO75), G4BRK(IO91), G8OHM(IO92), G3UKV(IO82) and G4WLC/P(IO81).

#### 9cm

All stations worked were in IO83. G4JLG/P, G4MVU, G6GVI/P, M0UFC/P, G8PEF/P. It was clear that the portables were struggling with the wind as Dave G4JLG/P has an antenna fall over whilst I was working him, although interestingly I could still copy him.



## Millimetre Bands

**Alan Devlin- VK3XPD**

Myself and a friend David VK5KK are bringing Transverters up to 122 GHz with us to this years Friedrichshafen Hamfest. We also intend participating in the EU wide Contest weekend post the Hamfest.

## Contest news

**Mike Stevens G8CUL/M0CUL**

The 2nd UK Microwave Group Low-Band contest took up 6 hours on Sunday 19th April and there was good activity on 23 and 13cms (I don't have any 9cms equipment yet!). I managed to work 32 stations on 23cms and 15 on 13cms with Ray, GM4CXM being best Dx on both bands. It was also good to work a few French stations, also on both bands.

The next Tuesday saw the 23cms Tuesday night UKAC event, where we worked 56 stations with this time the best Dx being PA0BAT. Conditions didn't seem too good but there was a lot of activity and we ran out of time to work everyone we could hear! It was good to see that 4 of the 56 QSOs were with non-UK stations.

The Martlesham roundtable held over the weekend of 25th/26th April was another most enjoyable event although Ann and I only managed the Sunday this year. We enjoyed the lectures and meeting all our Microwave friends. I also bought a 13cms filter – see below!

The 13cms event on the 28th was really bad from here. While Ann, G8NVI was doing her stuff on 6m, I was struggling on 13cms, failing miserably to work the regulars, only managing 14 contacts in the end with the best Dx being GM4CXM (again - thanks Ray!) but no non-UK QSOs. I am being plagued by cell phone noise in certain directions to the extent that the noise floor rises from S1 to S9, effectively drowning out any stations in those directions. And it is getting worse! I'm hoping the filter I got at Martlesham will help the problem albeit at a probable reduction in receive noise performance.

The next weekend saw the 3rd UK Microwave group Low Band contest, this time coordinating with an RSGB 70cms to daylight contest as well as a European 2m to daylight contest. This meant a great deal of activity which was shown in the fact that I managed 37 contacts on 23cms (10 non-UK), the best Dx being DF0MU and 22 on 13cms (6 non-UK), best Dx again DF0MU. There is no doubt that coordinating with other RSGB and European contests improves the activity no end.

## ...and finally

I want to encourage you get on the air as often as possible and report your activity to clearly document use of the amateur microwave bands. This means not just DX and EME, but also local activity with ATV, low power or WB equipment.

Please send your reports to [Scatterpoint@microwavers.org](mailto:Scatterpoint@microwavers.org), remember the deadline is the 1st of the month.

**73 Bob Price G8DTF**

## RAL 2015 – Sunday 14 June

<http://www.ntay.com/hars/RAL2015.html>

RAL Radio Society are running their Microwave Round Table assisted by members of HARS on **Sunday 14 June** at **a new venue, Hagbourne Village Hall, 53 Main Rd, East Hagbourne OX11 9LR.**

We are being charged for the use of the facilities this year and will therefore be requesting a small donation towards the costs, on your arrival.

## Registration

There is a registration email [info@g3pia.org.uk](mailto:info@g3pia.org.uk) – please indicate if attending to this address. We would like the names and callsigns for those attending so we can make up badges and plan the catering.

## Refreshments and Lunch

Refreshments in the form of tea, coffee, sandwiches and cake will also be available.

## The RAL Round Table

1000	Doors open
1000 – 1200	Informal socialising/testing/surplus swap tables – and the <b>UK<math>\mu</math>G Chipbank!</b>
1200 – 1300	Lunch:
1300 – 1345	<b>Lecture 1:</b> John, G4BAO - Ultralight EME - the Camb-Hams Way
1345 – 1430	<b>Lecture 2:</b> Mike, M0CUL -
1430 – 1445	Tea Break
1445 – 1530	<b>Lecture 3:</b> Ron, G7DOE - Power amplifier design for modern modulation schemes.
1530 – 1600	
1615	Event closes.

## The 2015 Crawley Roundtable, Sunday 20 September



We will be holding a heat for the UK Microwave Group annual project contest for the [G3VVB trophy](#). Please do bring along your constructed equipment or project and enter. Entries do not necessarily need to have been finished during the last year. This year the contest will also accept software entries as well as hardware. The winner of this round will go on to be considered together with entries from all the other roundtables over the past year after this event.

The morning will feature the usual 'bring and buy' sale, so if you have something to sell then please bring it along.

The program this year offers the microwaver something different - come along and support the construction contest and hear the talks.

Below is the **provisional** timetable – **Please contact Chris G0FDZ if you have a talk!**

### Location: Crawley Amateur Radio Club

10:00AM	Venue opens
12:00	UKuG Project contest round judging commences
13:00	Lunch (rolls, sandwiches, tea/coffee available)
14:00	Opening address and the results of the Project contest heat
14:15	Talk-1 - tbc
15:00	Talk-2 - tbc
15:30	Break (tea & coffee available)
16:00	Talk-3 - tbc
16:30	End of meeting

If you need further information, contact Chris Whitmarsh G0FDZ or Derek Atter G3GRO

### Access to Site:

The access road into Tilgate Recreational Centre and the CARC Clubhouse (Hut18) is via the sliproad at the new traffic lights on the southbound carriageway of the A23 (Brighton Road), just south of Crawley heading towards Brighton, and about 200m from the Broadfield Football Stadium roundabout which is well signposted.

The Clubhouse is accessed via a fairly narrow track for about 200m. Watch out for anti-traveller caravan chicanes then turn right at the 3rd sleeping policeman!

More Directions: [CARC Directions](#)





# UKuG Microwave Contest Calendar 2015

Contest results are also published online - please follow the link from the UKuG Contests Page at:

[www.microwavers.org/?contesting.htm](http://www.microwavers.org/?contesting.htm)

The contest rules and calendar for next year will be in the next issue of Scatterpoint but will appear first on the UKuG web site in early 2015.

## Events calendar

### 2015

May 15 – 17	Hamvention, Dayton	<a href="http://www.hamvention.org/">www.hamvention.org/</a>
June 14	“RAL” at the village hall in East Hagbourne Register <a href="mailto:info@g3pia.org.uk">info@g3pia.org.uk</a>	<a href="#">Programme/Registration</a> <a href="#">Hagbourne Village Hall</a>
June 26 – 28	Ham Radio, Friedrichshafen	<a href="http://www.hamradio-friedrichshafen.de/">www.hamradio-friedrichshafen.de/</a>
July 11 – 12	Finningley Round Table	<a href="http://www.g0ghk.co.uk/">www.g0ghk.co.uk/</a>
July tbc	Amsat-UK Colloquium, Holiday Inn, Guildford, Surrey	<a href="http://www.amsat-uk.org/colloquium/">www.amsat-uk.org/colloquium/</a>
Sept 5–6	BATC CAT-15, Finningley	
Sept 6 – 11	European Microwave Week, Paris	<a href="http://www.eumweek.com/">www.eumweek.com/</a>
Sept 11 – 13	60.UKW Tagung Weinheim	<a href="http://www.ukw-tagung.de/">www.ukw-tagung.de/</a>
Sept 20	Crawley Round Table	
Sept 25 – 26	National Hamfest	<a href="http://www.nationalhamfest.org.uk/">www.nationalhamfest.org.uk/</a>
Oct 9–11	RSGB Convention	<a href="http://rsgb.org/convention/">rsgb.org/convention/</a>
Oct 15–18	Microwave Update, San Diego	<a href="http://www.microwaveupdate.org/">www.microwaveupdate.org/</a>
Nov 7	Scottish Round Table	<a href="http://www.gmroundtable.org.uk/">www.gmroundtable.org.uk/</a>

### 2016

Jan 23	Heelweg	<a href="http://www.pamicrowaves.nl/">www.pamicrowaves.nl/</a>
Apr 9	CJ-2016, Seigy	<a href="http://cj.ref-union.org/">http://cj.ref-union.org/</a>
Apr	RSGB AGM	
Apr 30–1 May (tbc)	Martlesham Microwave Round Table & UKμG AGM	
May 20 – 22	Hamvention, Dayton	<a href="http://www.hamvention.org/">www.hamvention.org/</a>
Jun 24 – 26	Ham Radio, Friedrichshafen	<a href="http://www.hamradio-friedrichshafen.de/">www.hamradio-friedrichshafen.de/</a>
Oct 3 – 7	European Microwave Week, London	<a href="http://www.eumweek.com/">www.eumweek.com/</a>
Oct 7 – 9	RSGB Convention	<a href="http://rsgb.org/convention/">rsgb.org/convention/</a>

### 2017

Jun 23 – 25	Ham Radio, Friedrichshafen	<a href="http://www.hamradio-friedrichshafen.de/">www.hamradio-friedrichshafen.de/</a>
Oct 8 – 13	European Microwave Week, Nurembourg	<a href="http://www.eumweek.com/">www.eumweek.com/</a>

## Loan Equipment

Don't forget, UKμG has loan kit in the form of portable transceivers available to members for use on the following bands:

**5.7GHz**

**10GHz**

**76GHz**

Contact John G4BAO for more information.