



scatterpoint

July 2016

Published by the UK Microwave Group

Backyard 10GHz EME

By John Fell G0API



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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.

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](#) and/or Dropbox. Also, free access to the Chip Bank.

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

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

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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You may not reproduce articles for profit or other commercial purpose.

You may not publish Scatterpoint on a website or other document server.

UKμG Chip Bank – A free service for members

The catalogue is now on the UKμG web site at www.microwavers.org/chipbank.htm

Non members can join the UKuG 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 mislabelled. 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!

Mike G3LYP

UKμG Project support

The UK Microwave Group is pleased to encourage and support microwave projects such as Beacons, Synthesiser development, etc. Collectively UKuG 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 UKuG Secretary, after which they are reviewed/agreed by the committee

www.microwavers.org/proj-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 UKuG there are a number of people who are prepared to (within sensible limits!) share their knowledge and, what is more important, 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 The current list is available at

www.microwavers.org/tech-support.htm

80m UK Microwavers net – Tuesdays 08:30 local on 3626 kHz (+/- QRM)

73 Martyn Vincent G3UKV

Chairman's thoughts

Welcome to Barry Lewis, G4SJH, as the new RSGB Microwave Manager[1], p15. I am pleased to report that Barry has accepted our invitation to join the Committee of the UKuG as a corresponding member. Welcome Barry.

I plan to attend the Finningley Microwave Round Table in July. At the moment I am not sure if I will attend on one or both days. I am hoping to see lots of you there. Details of the event, including talks, are on the Finningley Radio club web page as well as on the UKuG web page.

I have recently been rearranging my shack in the best traditions of amateur radio. It is my long held view that we get as much enjoyment out of doing this instead of working other amateurs!

Having acquired an IC7300 I was keen to see how it would perform as a 2m IF. I now have it connected to an Anglian transverter and Gemini 2 PA for 2m (talk back on 144MHz again?).

It is nice to have a single USB connection between the laptop and the rig instead of the 'knitted' tangle with the K3, Signalink and Laptop. I am currently in the process of connecting this to my microwave transverters. I'll report on this in a later 'Chairman's thoughts'.

How does the IC 7300 perform? First off it has the best Noise Reduction I have yet encountered in a modern rig. NR on the K3 proved very disappointing and on the TS2000x is almost non-existent.

Second, I like having a touch screen. It is a big improvement on the IC7100. Almost everything you could need is available with a single or 'lingering' touch.

On the negative side there is only one antenna socket. Because of this I was keen to check if this rig suffered from 'spiking' output to near full power so common with many other HF rigs when the output is turned down to minimum (less than 1W on 28MHz on my 7300). I'm pleased to say that when checking with my spectrum analyser, on max hold and the fastest sweep speeds, the only spike seen was a good 55dB down on the 100W reference level. The test was repeated many times with identical results. However, for simplicity and for now, I use a 20dB attenuator between the 7300 and the Anglian. This means that even if I forgot to turn the power down (the rig does have 'per band' power setting) the maximum that the Anglian would see would be 1W. As there is additional attenuation, inside the Anglian, between the transmit input and the mixer, it is unlikely to do any damage. In general transverters are a lot more forgiving of overdrive than MOSFET SSPAs.

In the longer run a look inside the 7300 shows that the low level transmit and switched receive signals pass through TMP leads between the main PA board and the main RF board. This seems an ideal place to intercept them if you want to be completely safe from the danger of overdrive damage. My thanks to GM4JJJ for pointing out this possible option. G4HUP has arranged to stock TMP leads.

So, it would seem that we now have yet another option for use as an IF for our microwave transverters. Self contained SDR transceivers (no PC needed) are now becoming a viable option and with it real time spectrum displays of signal level and a waterfall to really see what incoming signals are doing and finding someone who is, perhaps, slightly off frequency.

1. <http://rsgb.org/main/blog/news/rsgb-notices/2016/06/29/new-rsgb-microwave-manager/>

Sam Jewell, G4DDK
Acting Chairman, UKuG

Procom

I have recently been in contact with the UK agent for [Procom](#), with a view to purchasing some microwave products but I have been advised that Procom now no longer make or supply any amateur radio microwave products. It's disappointing to hear this news but I did have an indication of the likelihood of this happening earlier in the year when buying a dish system – I was advised that it would not be available after April.

Chris G0FDZ

It Could Happen To You!

Chris Bartram GW4DGU

I've had a bit of experience outdoors, being a walker, and a reasonably experienced (now retired!) coastal sailor. I've cruised the south-west of England and Cornwall from Portland Bill to the Bishop Rock, as well as heading south on a few of occasions. The need to guard against hypothermia has been drilled into me, and I'm cautious about going outdoors in unsuitable weather, without adequate clothing. But, hypothermia is a crafty thing, and can creep-up on the unwary without warning, even in a Welsh summer!

I was unwary! I went out to the excellent portable site I've access to, a few km from home. It was a late June evening, and I'd set-up a couple of skeds on 10GHz. The weather was reasonable at my home 250m lower, with a temperature of ~15C and a breeze, so I wore a tee-shirt, a heavy outer shirt, and a fleece top. Up on the top, 'pen porfa' (above the grass), the temperature was very noticeably lower, and the breeze much stronger. I left the fleece off when I got out of the car, and started assembling the station. It started to feel a bit chilly; in retrospect, with wind-chill it was probably the equivalent of a temperature of only a few degrees C. But I pressed-on, and started trying to set-up my first sked with Alan, GM0USI/P, on the Isle of Cumbrae in the Clyde estuary at ~375km. After a while I realised that I was becoming slightly uncoordinated, and managed to walk into a car door and graze my forehead, while trying to optimise the antenna.

I put the fleece on. Initially, this seemed to help, but as time went by, I began to shiver, and had problems understanding what I was trying to do. Fortunately, at that time, I suspect some training kicked-in, and the idea of hypothermia came into my mind. I got into the car, started the engine, and turned-on the heater and sat there for some time, warming-up.

Warmed, I rapidly dismantled the gear, and headed down the hill. No repercussions, but this could have been a lot more serious. Alone on an isolated hilltop, I could have been in serious trouble had I continued. Hypothermia is a very real possibility, particularly if you go portable at more than a couple of hundred metres elevation. You should at least be aware of the symptoms: essentially disorientation, and shivering. The treatment, providing it's not too far advanced, is simple: gently warm your own body. Trying to do that at sea in a small boat isn't easy. Portable on a hilltop, getting into a car and turning the heater on is likely to be a much simpler exercise.

The real solution is not to let the problem occur. Dress sensibly if you play radio from exposed locations, and don't think that you can ignore that just because it's summer!

SK Rupert R Thorogood, G3KKT

From the RSGB web site:

<http://rsgb.org/main/blog/news/gb2rs/headlines/2016/06/27/ruPERT-r-thorogood-g3kkt-june-2016/>

“It is with great sadness that we announce the passing of Rupert Thorogood, G3KKT, who was the RSGB Company Secretary from 2006 until he passed away on Saturday 25 June 2016.

RIP Rupert, our thoughts are with his family at this sad time.

We will update this tribute as details become clearer, and include his obituary in the August edition of *RadCom*.

If you have any recollections of Rupert that you would like to share, please email sk@rsgb.org.uk – thanks.”

Preamp Measurements

Dave Powis, G4HUP

<http://hupRF.com> [twitter @hupRF](https://twitter.com/hupRF)

In the May issue of Scatterpoint (p12), the results of the Noise Figure measurements at the 2016 Martlesham Microwave Round Table were published. In the 144MHz section there were some interesting results, as shown in the table reproduced below:

144MHz	G4BRK	PGA103+	22.10	1.53
	G4BRK	ATF54143	21.50	0.86
	G4BRK	MGF1302 DJ9BV design	16.80	0.73
	G4BRK	DG8 Preamp	16.80	6.80
	G4BRK	DG8 Preamp #2	15.10	4.70
	G8DKK	PGA103+	10.00	0.96
	G4NRG	Dressler Mast Head Preamp	15.36	1.15

Of particular note are the measurements on the PGA103+ (row 1) and the the two DG8 preamps (rows 4 and 5) belonging to G4BRK. Compared with the other figures obtained, these stand out as being on the high side.

Having produced the assembled version of the DG8 for the market, I can verify that the NF values achieved in production are far below those given in this instance, and are in line with Ian, GM3SEK's, original measurements. Sam, G4DDK, has also confirmed that the PGA103+ measurement in row 1 is higher than he normally expects to see – which is closer to the value obtained on the other PAG103+ sample in row 6.

So what is different between the measurements here and the values being seen in other situations?

The fundamental difference is that these pre-amps need to be assessed for NF in a screened enclosure. The measurement system, using the HP8790 series NF Meter, is a broad band system, looking over a bandwidth of about 4MHz. Any extraneous signals within that range will cause measurement errors, even though they are outside the passband of the device being measured. Results similar to those achieved at the MHRT have also been observed in bare-board testing locally, and Ian has confirmed that he has also had the same experience with his CANFI meter.

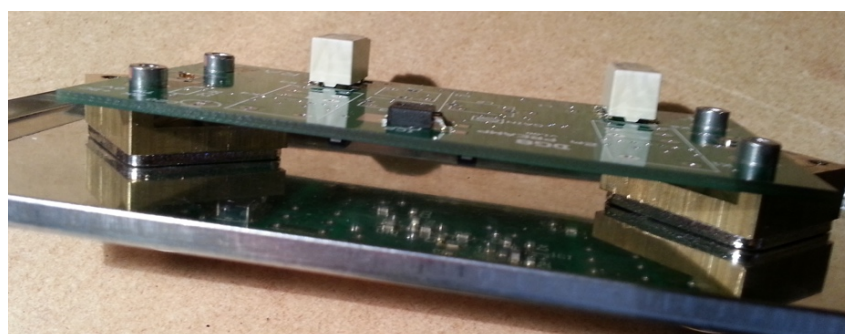
For testing the DG8's that I produce, a test jig is used to allow the preamp and measurement system to demonstrate their best performance. The jig is shown in Fig 1, and is fabricated from a large tin-plate box, and some machined brass spacers.

Fig 1 – DG8 Test Jig



These can be clearly seen in Fig 2, and their function is to provide clearance between the box and the PCB for the components mounted on the underside of the board, as well as giving a low impedance ground connection from the sockets to the PCB.

Fig 2 - Internal view of DG8 Test jig



Across the individual DG8-2s that have been produced and measured, the measured NF is very close to Ian's value of 1.2 to 1.3dB. Taking all produced so far into account, the median measured value for NF is 1.26dB, and the range is 0.15dB. For gain, the median is 16.5dB and the range is 1.2dB.

Why is this difference being observed?

There may be number of factors in play here. There can be no doubt that having an unscreened test device in a broadband measuring system is asking for trouble!

However, GM3SEK also suspects that there may also be coupling due to ground loops existing. Take first the example of the unscreened board being tested, via direct coaxial cable connections to the NF Meter. The top side of the board is already a continuous groundplane, with minimal openings for component pins and also many via-links to circuit grounds on the underside. In many other contexts this would be considered more than adequate grounding practice. However, when this board is being tested using coaxial input and output connections to the NF meter, the ground path between input and output also extends over the coax cables and via the ground connection on the PCB, setting up a ground loop of which the PCB is a part. Any pick-up of extraneous signals in any part of that loop will allow those signals to be included in the measurement. When the PCB is tested in the test jig, the screening of the jig provides a very low impedance ground connection between input and output of the DG8 – the PCB is no longer a functional part of that ground loop, as it is bypassed, and there is therefore no linkage into the signal path for anything that may be picked up on the coax braids.

But why doesn't this matter when the pre-amp is in use, in its unscreened enclosure?

Firstly, the system is narrow band. We are looking at Rx front end passbands of maybe tens of kHz, rather than the 4MHz of the NF meter. Most extraneous signals are normally outside this passband. Secondly, there is no ground loop – there is a connection from the antenna into the PCB for signal and ground, and an ongoing connection from the output to the rig – but no loop.

The performance of the DG8 in practice is entirely commensurate with the NF readings in the region of 1.2 to 1.3dB (as opposed to 4-6dB), and due to the internal filtering of the pre-amp, it has extremely good rejection of out of band strong signals. Combined with the excellent strong signal handling of the device used, it also has very good performance in the presence of in-band strong signals – it is likely that the Rx will have issues before the pre-amp does!

Conclusions

The DG8 is an extremely good terrestrial preamp for 2m. Caution is needed, however, if you build one and wish to measure the performance – to assess the Noise Figure you must carry out the tests in a screened enclosure, and you also need to make sure that you have a low impedance ground connection for the input and out connectors to the PCB ground plane.

Thanks to GM3SEK and G4DDK for their inputs to this article.

Dave Powis, G4HUP

Farnell: Sale of CadSoft

<http://www.premierfarnell.com/content/sale-cadsoft-0>

27 June 2016: Premier Farnell today announces that, together with its wholly owned subsidiary Celdis Limited, it has completed the sale of Cadsoft Computer GmbH ("Cadsoft") and the assets used in connection with the sale of Cadsoft products in the US (together "the Business") to a subsidiary of Autodesk Inc. ("Autodesk").

Backyard 10GHz EME

John Fell G0API



Back in the early 1990s I made a short cut-down mast from a section of Versatower and grafted it onto a trailer to mount a 1.6m offset dish for 10GHz /P activities with members of FRARS,G4RFR .Andy G4JNT and I , with his 10W TWT and this dish worked many Cumulatives /P.

The mast section stood out in the rain for the next couple of decades , with a /P foray or two by Paul M0EYT and his 20W SS system before it rusted up .

I decided to refurbish the mast this June and reduce its height for a "stealth" backyard EME test .

To my surprise I managed to get it stripped down and re-painted in a couple of days , reducing the top end height to approximately 750mm , just enough to fit a Yaesu KG-1000DXC rotator for AZ drive and a 1m jack for 90° EL .Spigots were made to allow the original height to be obtained for future outings on hilltops with fences...

Starting on a Monday June 16th, by Wednesday I had the system hooked up into my shack .I fitted an inclinometer into a plastic box with a BW camera looking at 90° of its scale movement - 1° markings . An old 4 wheel stillage was G clamped to the mast base and allows it to be wheeled about on my rear lawn for best Moon window .

Due to buildings and trees adjacent the min EL is around 21° at an AZ of 75° , limiting at 190° AZ when my bungalow gets in the way – trundling gets me an extra 20° of AZ if Moon is high enough.

With some trepidation I fired the system up on late Wednesday and found I could see 3.5db Sky/ground , 9dB Sun and 0.75dB of Moon surface noise .

The system used consists of the 1.6m elliptical offset dish with an unmodified Octagon OTLSO LNB , feeding to shack via standard Sat coaxial cable - feed set to Vertical polarity as that's normal for Northern Hemisphere EME , when circular is unavailable.

The 618MHz i.f output is down-converted using the synth locked system designed by Andy G4JNT [1], its 144MHz locked output feeding a 144/28MHz Meon TVTR RX and into an SDR-IQ , 28MHz RX.

I also use a 144MHz power meter system, based on a G4JNT design from the 1990s era , teed off the 144MHz input to the TVTR. This allows me to see Moon noise whilst using the primary RX for the actual signals returning from the Moon surface. I can use the Continuum function on the SDR-IQ to measure noise levels down to 0.1dB , before random noise fluctuations make measurements uncertain.

I was primarily hoping to see the DL0SHF EME beacon , nominally on 10368.025MHz but, after 2 days of tracking, nothing appeared. I found out that the 10GHz EME beacon, DL0SHF had developed a problem with its AZ breaking system and after an email from Per Dudek, the keeper, who said he had found the AZ tracking brake had failed so it was off boresight and he had just fixed it after a weeks holiday in – the UK!

I was able to copy and decode the beacon many times over the following few days as the moon continued to decline. I lost my window with 0.4dB of surface noise still detectable. Best decode on JT4G was -13dB.

The beacon uses a time stamp system devised by G4JNT so Andy was able to advise that the decodes were real.

I was convinced the system performance should be good enough so I emailed Charlie G3WDG for advice. This was readily made available and with an offer to try a test with him.

On Sunday 12 June at around 3.30 local I was just seeing some sign of Moon noise at min EL but the metering was bouncing around a lot .I looked out of the shack window and saw rain and black ominous clouds - clouds with moisture are noisy on 10GHz !

However I logged onto the HB9Q logger system and advised Charlie I was watching. To save me manually correcting my RX for the Moon Doppler shift (around +9kHz at the time) , he ran an auto CAT based prog to do the job automatically. I had calibrated my RX using GPS locking and a local GPS referenced synth based signal used for the JNT locking at 10368.000000MHz , so I was able to be exactly where I need to be .

A carrier was sent and amazingly it showed up as a very definite , typically Moon wobbled , line on the SDR Waterfall. Thereafter we moved to JT4F , which is the EME favourite data mode - I could see the signal but no decode .So, I asked for JT4G as my JT prog is not the latest version and I got a -13dB decode straightaway ! A WOW moment , even after several previous EME operations ...it was on 18June 1994 that I was part of the G4RFR team who had the first ever inter-G , 10GHz , EME QSO with G3WDG.

I am now looking at why I do not hear DL0SHF, it may be just below my current system capability and the Moon was at -2dB compared to its Perigee path loss .

To recap : EME reception on 10GHz can be done on a modest budget , from a normal location , using off the shelf RX components , with a "small" dish .Charlie has worked with stations using a 90cm dish and 10W (OZ7Z) .His system is currently 75W at the SM6FHZ , 0.692wl feed on a 10ft Andrew 0.36f/d dish that is rated for use to 30GHz .

Perhaps I will test on 24GHz next from the back yard/garden.

A BIG thanks to Charlie G3WDG

**73
John, G0API**

Reference

1. A Frequency Locking Scheme for Receivers with Unstable Local Oscillators, Scatterpoint, 5 May 2014 by Andy Talbot and John Fell G0API

SDR Console

WSJT 9.5 r3619 by K1JT

File Setup View Mode Decode Save Band Help

Mon_160612_155400

FileD Sync dB DT DF W Time (s)

155300	1	-19	-0.4	337	4	*
155400	7	-13	2.8	-267	94	*

GOAPI G3WDG IO92 1***** C

155400 1 8/8 GOAPI G3WDG IO92 1 0

155400 2 4/4

Log QSO Stop Monitor Decode Erase Clear Avg Include Exclude TxSkip

To radio: G4JNT Lookup Sync -1 Zap G4JNT G0API IO80 Tx1

Grd: IO90 Add Tel 400 AFC G4JNT G0API -20 Tx2

Az: 110 82 km MinW A Freeze G4JNT G0API R-20 Tx3

2016 Jun 12 15:55:16 Dasc 0.0 @1500 (RRR) Tx4

Gen Msgs Auto is Off Bpt: -20 @1700 (73) Tx5

CG G0API IO80 Tx6

1.0000 1.0001 JT4G Freeze OF: 0 Rk noise: 1 dB T/R Period: 60 s

EME Logger - Google Chrome

www.hb9q.ch/hb9q/wf/logger.php?f=10000

EME LOGGER (CW, SSB, JT)

50MHz 144MHz 222MHz 432MHz 902MHz 1296MHz 2300-5760MHz 10000MHz and up

Say: [input] Submit

UTC	Callign	Name	Comment
06-12/Change			
06-12 15:55:12	G0API	John	WHOOPEE! FIRST DECODE !!!
06-12 15:54:29	G3WDG	Charlie	I want the audio pse
06-12 15:54:18	G3WDG	Charlie	what minW do you have?

First decode -JT4G

SDR Console

WSJT 9.5 r3619 by K1JT

File Setup View Mode Decode Save Band Help

Mon_160612_160200

FileD Sync dB DT DF W Time (s)

155700	0	-19	2.1	-315	4	*
155800	5	-15	2.9	-280	90	*
155900	1	-18	0.6	15	4	*
160000	7	-12	2.9	-280	101	*
160100	0	-20	2.3	3	4	*
160200	8	-12	2.9	-280	98	*

GOAPI G3WDG -15 1***** C

HI JOHN 1***** B

160200 1 12/12 GOAPI G3WDG IO92 1 0

160200 2 8/8

Log QSO Stop Monitor Decode Erase Clear Avg Include Exclude TxSkip

To radio: G4JNT Lookup Sync -1 Zap G4JNT G0API IO80 Tx1

Grd: IO90 Add Tel 400 AFC G4JNT G0API -20 Tx2

Az: 110 82 km MinW A Freeze G4JNT G0API R-20 Tx3

2016 Jun 12 16:02:57 Dasc 0.0 @1500 (RRR) Tx4

Gen Msgs Auto is Off Bpt: -20 @1700 (73) Tx5

CG G0API IO80 Tx6

1.0000 1.0000 JT4G Freeze OF: 0 Rk noise: 1 dB T/R Period: 60 s

EME Logger - Google Chrome

www.hb9q.ch/hb9q/wf/logger.php?f=10000

EME LOGGER (CW, SSB, JT)

50MHz 144MHz 222MHz 432MHz 902MHz 1296MHz 2300-5760MHz 10000MHz and up

Say: [input] Submit

UTC	Callign	Name	Comment
06-12/Change			

EME from G3WDG

2016 Finningley μ Wave Roundtable

Saturday 9 and Sunday 10 July 2016



- FRT 16 to feature talks and demos on the millimetric bands – 24GHz upwards
- A test lab: noise figure measurement
- Power measurement & swept measurement
- UK microwave group Chipbank
- Flea market in building 2

Register at www.g0ghk.com/events/round-table/

Site Open from Friday lunch time ~1:00pm for Camping / Caravans from Friday to Monday midday..

Registration / Refreshments name badges please see Stuart Boast G3WDL on arrival Tea or coffee & Biscuits charge £10.00 per day includes buffet lunch including unlimited tea & coffee all day! (Note all proceeds go towards the upkeep of the site radio society) please register <http://www.g0ghk.com/events/round-table/>

Finningley Round Table Agenda 9 & 10th July

- UK Microwave Chip bank an ever expanding selection of SMD components for all those construction projects and a completely free service to UK μ Wave group members available Saturday & Sunday pls see Mike Scott G3LYP for assistance ...& thanks to Mike G3LYP for this great service ukmicrowave group membership <http://www.microwavers.org/> a great service for only £6.00 PA (Please contact Mike G3LYP for assistance) Chipbank will be located in Building II <http://www.microwavers.org/>
- Tony Frazer G8DMU will have his operational Portable demonstration station 23cm station & the UK Microwave Group 10GHz Loan system in operation located outside building 1.
- Demonstrations across the grounds on 24GHz 47GHz & 134GHz please see Barry G8AGN & Gordon G0EWN for assistance.
- Antenna range will be open on Sunday 10th from ~11:00am please bring along your Horns, Dishes, Yagis etc for testing from 23cm to 24G pls see David Wrigley G6G XK & Tom Jones G4TWJ Results to be posted on the reflector & Scatterpoint.
- Dave Powis G4HUP trader table in building II <http://www.g4hup.com/>
- Peter Day G3PHO trader table in Building II <http://www.g3pho.org.uk/>
- RFDesign / G3AAF electronics products "Magic Flux" trader <http://www.g8fek.com/> Noise sources very Low noise amplifiers etc.
- Martin G7CKX Trader table PMR kit & test kit Antennas

Construction award entry's for the UK Microwave group trophy

Please bring along your construction projects however small or large for entry into the UK microwave group's competition.

Test Lab

Test lab Manager Martyn Gawthorpe G8FEK Saturday & Sunday bring along your LNA's Noise figure measurement, Filter sweeping , Transverters, home brew test kit for testing & verification.

A of Sample Test Kit Available

- Noise Figure Measurement to 12Ghz
- HP8970 HP 346A RFD 2305 Noise sources
- Marconi test sets 3955 & 3956
- Racal Dana frequency counter with Rubidium standard >23cm
- Marconi 2024 signal generators
- HP 8920B Test set
- R&S power reflection meter NRT 200Mhz -4Ghz
- High power loads & Attenuators

Talks

(titles & timings are approx. & may change)

Saturday Talks

- 11.30 "Low cost Noise figure measurement in your shack" Kevin G3AAF & Martin Steele G7CKX
12:15-13:45 Lunch, Flea Market & Traders
1400 "New life for old(er) rigs" Dave Powis G4HUP
14:30 Tea & Coffee
14:45 A novel Sub Harmonic mixer for 23cm Trev-Haydu-Jones G3OAD
15:30 Tea coffee /Break
15:45 Parabolic Antennas for 47Ghz Trev-Haydu- Jones G3OAD
16:30 Traders
18:00 Pre-dinner drinks Reindeer inn 18:45 dinner

Sunday Talks

- 11:00 "Low Pass filter for 23cm PA's" Bryan Harber G8DKK
11:45 Tea/coffee traders Antenna Range
12:00 "A New Hope ADF9853 PLL" Gordon Fiander G0EWN
12:45 Lunch Fleamarket / traders
13:30 "24GHz signal Generator" Geoff Easedown G4HIZ .
13:45 "Antenna Analysis for mmWave bands Barry Chambers G8AGN
14:30 Tea Coffee / traders
15:00 Raffle Draw & Wrap up Kevin G3AAF / G0EWN

Have great weekend 73's & look forward to seeing you.

Kevin G3AAF

BATC 2016 Convention for Amateur TV (CAT 16)

The BATC has run a number of highly successful rallies and conventions known as CAT (Convention for Amateur Television) at locations around the UK.

The 2016 Convention for Amateur TV will be held at the [RAF Museum Cosford](#) on **24 and 25 September** 2016.

The Events will start at around 1:00 pm on the Saturday, and conclude with the Biennial General Meeting early afternoon on the Sunday. Attendees will be free to wander around the Museum at no extra charge; we hope to arrange some guided tours. Arrangements are also being made for an informal dinner at a Hotel in Telford on the Saturday evening.

Latest news and discussion about the Convention can be found on the [BATC Forum](#).

Previous events have been recorded and are available online:

- The recording from the 2015 and previous years conventions are now available on the BATC Online Youtube channel - [Click here for more details](#).
- Some rare black and white footage from [CAT70](#) is available here.

This month I 'ave mostly been building...

A 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.

From John Worsnop G4BAO

Inactivity Report

I need to get this off my chest..... I had a rare 24GHz QSO with G4BEL 11km up the road this month. Roger wanted to check out his equipment. That was my and his only QSO on the band this year despite both of us having received the new 24GHz beacon at GB3PKT plus GB3SEE during the early June opening via tropo.

I'm really beginning to wonder whether I should pack away the 24GHz system, find a TWT and try it on EME as there are no other active stations in the country to do tests with. The hardy and much appreciated few who go / P in contests always miss the conditions and, for them all the line of sight paths have been worked in the UK.

24GHz is a band where you need to react to short openings in real time, and operating on a fixed contest timetable will, by definition, miss openings. At the least it's a band where a regular sked with someone is an interesting way to test propagation and improve system performance. If you are a shack sloth like me, that means having a permanent system at home, or if not having a local hill (rare in JO02) and a system you can sling in to the car at a moment's notice.

OK, so I admit that no amount of missed QSOs will get **me** to sit in a tent or a car with a tripod fending off stupid "what're you doing" questions on a windy roadside 50 miles away from home. In my nine years on the band I've tried to encourage some more local and home station activity by spending time and money (mine and yours, dear UKuG member) building 2 beacons, but in that nine years have had just 41 QSOs with 8 different stations, 2 of whom are now silent key. To top it all, the UKuG 24GHz loan equipment is sitting gathering dust in my garage. Yes, a bit of a whinge, but I feel better having put it in writing!

Actually it's not all doom and gloom on the Fen Edge as far as 24GHz is concerned. After I wrote the above, my spirits were lifted when I took my 24GHz portable system to the Camb-Hams VHF NFD activity in July. I attracted a bit of a crowd. Thanks to Roger G4BEL, 6 people had their first ever 24GHz QSOs using my kit. Most were died in the wool HFers but found it "great fun". There are photos of the activity and there's a YouTube video at <https://t.co/NudUsP58k6>

UKμG YouTube videos

Quite a few of you may be aware that the UKuG has a YouTube channel where, so far, we have been accumulating nicely edited mm-Wave clips at:-

<https://www.youtube.com/channel/UChXhVN-JythhYCHbM27AHNw>

- the latest is a 400m distance test on 241 GHz by John G8ACE and a longer distance path test on 241 GHz over ~6km by John G8ACE. Despite the low power transmitter, in principle the signal should be several dB stronger, so further work to improve this is planned. Latest video at:

<https://www.youtube.com/watch?v=MLBgQXEebZY>

Expanding on this leads to a few requests...

- a) We would like to qualify for a better channel name so if you are a YouTube user please subscribe to our channel (we need 100+ subscribers to qualify - and so we need another 70)
- b) We now also need nice video clips of UK QSO activity to represent the lower bands - 5.7 GHz being quite topical at the moment, but the other bands too (1.3, 2.3, 3.4, 10)

If you already have really good videos on your own YouTube account we can link to them by adding a link to one of our playlists. - Otherwise send me a file transfer link (or CD/stick) so we can upload it ourselves. As we have minimal editing facilities we are looking for nicely done, succinct, captioned ones with clear soundtracks. Info regarding callsigns, distances, kit and locations, etc., are also needed so we can fully populate the YouTube data fields.

Murray G6JYB

PS EME Pileups on 23cm are just as welcome as terrestrial narrowband stuff:)

Barry Lewis G4SJH – new Microwave Manager

Source: RSGB News

The RSGB Board is pleased to announce the appointment of Barry Lewis, G4SJH to the position of Microwave Manager.

Barry brings considerable experience to the role from homebrew and contesting to regulatory affairs.

He succeeds Murray Niman, G6JYB, who had been covering the role since his appointment to Chair of the Spectrum Forum.

The RSGB Board would like to thank him for his efforts on behalf of radio amateurs.



Contest Results

John G3XDY, UKuG Contest Manager

May 5.7GHz Contest 2016

Activity is perhaps slowly improving on 5.7GHz, there were few comments from the entrants on this occasion. Congratulations to Telford & District for winning this first event of 2016, with GW3TKH/P and GW4HQX/P as joint runners up operating from the same site but with separate systems.

Pos	Callsign	Locator	QSOs	Score	ODX Call	ODX km
1	G3ZME/P	IO82QL	7	908	G4ALY	248
2	GW3TKH/P	IO81LS	7	751	G4ALY	166
--	GW4HQX/P	IO81LS	7	751	G4ALY	166
4	M0GHZ	IO81VK	6	428	G3ZME/P	120
5	G4BRK	IO91HP	4	369	G3ZME/P	127
6	G3VKV	IO81XV	2	142	GW3TKH/P	71

May 10GHz Contest 2016

Few comments were received but most felt conditions were poor for this event. In the Open section the Telford & District club took the leading position by a large margin, operating from Brown Clee. Runner up was Keith GW3TKH/P in SE Wales. In the restricted section the family team of 2E0MDJ/P and G0LGS/P shared the same site and equipment to come joint first, with GW4HQX/P in third place.

Section Open						
Pos	Callsign	Locator	QSOs	Score	ODX Call	ODX km
1	G3ZME/P	IO82QL	18	3021	F6DKW	535
2	GW3TKH/P	IO81LS	13	1602	G4EML/P	205
3	G4KUX	IO94BP	7	1407	G4LDR	395
4	M0DTS/P	IO94MJ	7	1280	G0LGS/P	283
5	G4BAO	JO02CG	4	818	F6DKW	415
6	G8GTZ/P	IO91JH	11	756	G3ZME/P	163
7	G4GSB/P	IO82WM	6	491	G4LDR	162
8	G3VKV	IO81XV	6	299	G3ZME/P	77
Section Restricted						
Pos	Callsign	Locator	QSOs	Score	ODX Call	ODX km
1	2E0MDJ/P	IO81XW	15	1365	M0DTS/P	283
1	G0LGS/P	IO81XW	15	1365	M0DTS/P	283
3	GW4HQX/P	IO81LS	8	750	G8GTZ/P	137
4	M0GHZ	IO81VK	9	680	G3ZME/P	120
5	G0PEB/P	IO90JO	6	665	G3ZME/P	231
6	G1DFL/P	IO91OM	1	74	G4EML/P	74

June 2016 Lowband Contest Results

For once there were some above average tropo conditions at least down the East coast of the UK, which gave some nice DX contacts for a few stations. Activity levels were not great, however, and the good conditions did not extend far inland.

On 1296MHz the battle for first place was between the Combe Gibberlets (M0HNA/P) and John G4BAO. Despite working better DX (GM4ODA/P on the Shetland Islands), John could not amass as many contacts as M0HNA/P who came out ahead by about 10%.

M0HNA/P continued their dominance on 2.3GHz, beating Martyn G3UKV by a large margin. Best DX was DF0MU in JO32 at 549km. M0HNA/P made their first contact on the new 2300MHz segment, working G4DDK twice for double points.

It was a similar story on 3.4GHz but with a slightly smaller margin of victory for M0HNA/P over Neil G4BRK. Ralph, G4ALY provided the best DX for both stations at well over 200km.

The overall winner was M0HNA/P with leading positions on all three bands. Overall runner up was G4BRK, who was fourth on 1.3GHz, third on 2.3GHz and second on 3.4GHz.

Certificates go to the overall Winner M0HNA/P and Runner-up G4BRK and to the following winners and runners-up:

1.3GHz	M0HNA/P, G4BAO, GW3TKH/P (Low Power)
2.3GHz	M0HNA/P, G3UKV
3.4GHz	M0HNA/P, G4BRK

In the overall Low Band Championship M0HNA/P have already secured top places on all three bands and overall, irrespective of the last session. However, the runners up positions will be keenly contested in the final event in November.

Overall					
Pos	Callsign	1.3GHz	2.3GHz	3.4GHz	Total
1	M0HNA/P	1000	1000	1000	3000
2	G4BRK	389	360	533	1282
3	G3UKV	240	485	338	1063
4	G4BAO	922	0	0	922
5	G8DOH	767	0	0	767
6	GW3TKH/P	319	0	0	319
7	G8EOP	116	108	0	224
8	GM4TOE	202	0	0	202
9	GM4BYF	175	0	0	175
10	GM8IEM	82	0	0	82
11	G1DFL	6	0	0	6
12	M0XIG	2	0	0	2

1.3GHz							
Pos	Callsign	Locator	QSOs	Score	ODX Call	ODX km	
1	M0HNA/P	IO91RF	26	5777	DF0MU	549	1000
2	G4BAO	JO02CG	18	5324	GM4ODA/P	853	922
3	G8DOH	IO92FA	20	4433	DF0MU	604	767
4	G4BRK	IO91HP	9	2246	DK2MN	580	389
5	GW3TKH/P	IO81LS	12	1840	G3XDY	294	319
6	G3UKV	IO82RR	7	1386	G4ALY	276	240
7	GM4TOE	IO87RP	5	1168	G3XDY	666	202
8	GM4BYF	IO85JV	2	1009	M0HNA/P	548	175
9	G8EOP	IO93EQ	3	670	M0HNA/P	284	116
10	GM8IEM	IO78HF	2	471	GM4BYF	291	82
11	G1DFL	IO91NL	1	37	M0HNA/P	37	6
12	M0XIG	IO90EX	1	14	G4LDR	14	2
2.3GHz							
Pos	Callsign	Locator	QSOs	Score	ODX Call	ODX km	
1	M0HNA/P	IO91RF	8	1783	DF0MU	549	
2	G3UKV	IO82RR	6	864	M0HNA/P	216	
3	G4BRK	IO91HP	4	641	G4ALY	237	
4	G8EOP	IO93EQ	4	193	G3UKV	123	
3.4GHz							
Pos	Callsign	Locator	QSOs	Score	ODX Call	ODX km	
1	M0HNA/P	IO91RF	6	931	G4ALY	271	
2	G4BRK	IO91HP	3	496	G4ALY	237	
3	G3UKV	IO82RR	2	315	M0HNA/P	216	

June 2016 Lowband Championship table – Overall positions

After four events, the best three events count towards the total.

Overall						
Pos	Callsign	3/6/16	4/10/16	5/8/16	6/7/15	TOTAL
1	M0HNA/P	2962	2682	2688	3000	8650
2	G4BRK	343	1647	2000	1282	4929
3	G4LDR	1759	1669	1299	0	4727
4	G3UKV	1137	0	858	1063	3058
5	G4BAO	0	873	397	922	2192
6	G8CUL	0	1805	0	0	1805
7	G4KCT	0	1748	0	0	1748
8	G8EOP	224	0	533	224	981
9	G3YJR	139	468	306	0	913
10	G8DOH	0	0	0	767	767
11	M0GHZ	678	0	0	0	678
12	GW3TKH/P	0	0	0	319	319
13	G0PEB/P	0	0	266	0	266
14	G4DBN	0	256	0	0	256
15	GM4TOE	0	0	0	202	202
16	GM8IEM	0	0	117	82	199
17	GM4BYF	0	0	0	171	171
18	GM3HAM/P	0	0	142	0	142
19	G3ZMF	29	67	0	0	96
20	G1DFL	0	0	83	6	89
21	G1TYY/A	0	0	8	0	8
22	M0XIG	0	0	5	2	7

June 2016 Lowband Championship tables by band

1.3GHz						
Pos	Callsign	3/6/16	4/10/16	5/8/16	6/7/14	TOTAL
1	M0HNA/P	1000	1000	1000	1000	3000
2	G4BAO	0	873	571	922	2366
3	G4BRK	90	435	604	389	1428
4	G3YJR	139	468	452	0	1059
5	G4LDR	379	255	266	0	900
6	G8DOH	0	0	0	767	767
7	G4KCT	0	748	0	0	748
8	G8CUL	0	735	0	0	735
9	G3UKV	209	0	259	240	708
10	G0PEB/P	0	0	397	0	397
11	GW3TKH/P	0	0	0	319	319
12	GM3HAM/P	0	0	306	0	306
13	G4DBN	0	256	0	0	256
14	G8EOP	6	0	117	116	239
15	GM8IEM	0	0	142	82	224
16	GM4TOE	0	0	0	202	202
17	GM4BYF	0	0	0	175	175
18	M0GHZ	141	0	0	0	141
19	G3ZMF	29	67	0	0	96
20	G1DFL	0	0	83	6	89
21	G1TYY/A	0	0	8	0	8
22	M0XIG	0	0	5	2	7
2.3GHz						
Pos	Callsign	3/6/16	4/10/16	5/8/16	6/7/14	TOTAL
1	M0HNA/P	1000	682	688	1000	2688
2	G4BRK	24	524	1000	360	1884
3	G4LDR	380	539	450	0	1369
4	G3UKV	282	0	253	485	1020
5	G4KCT	0	1000	0	0	1000
6	G8EOP	218	0	274	108	600
7	G8CUL	0	279	0	0	279
8	M0GHZ	197	0	0	0	197
3.4GHz						
Pos	Callsign	3/6/16	4/10/16	5/8/16	6/7/14	TOTAL
1	M0HNA/P	962	1000	1000	1000	3000
2	G4LDR	1000	875	278	0	2153
3	G4BRK	229	688	396	533	1617
4	G3UKV	646	0	153	338	1137
5	G8CUL	0	791	0	0	791
6	M0GHZ	340	0	0	0	340



Activity News : June 2016

By Neil Underwood G4LDR

Please send your activity news to:

scatterpoint@microwavers.org

Introduction

Quite a lot to get through this month, so I hope this reflects the amount of activity on the microwave bands during June. I have received input from, EA5DOM, OZ1FF, G4UVZ, GW3TKH, G4BAO, G3XDY, G7JTT, GM3UAG and G3UVR thank you.

Contest Operating

From John, G3XDY, JO02.

4th June - European Microwave Contest some good RS QSOs.

5.7GHz: DL0GTH JO50; DF0MU JO32.

10GHz: DL0GTH JO50; DL5EAG JO31; DK0PU JO31; DF6IY JN48; DL3EBJ JO31; DK2ZF/P JO43; DF0MU JO32; ON4CJQ/P JO20.

5th June - UKuG Low Band Contest & Tropo afterwards.

1.3GHz: GM4ODA/PIO99 Shetland Isles New #; DF0YY JO62; DH0LS JO61; OZ9PZ JO46; OZ9PP JO47; DK2ZF/P JO43; DL0GTH JO50; GM3UAG IO87; G4ALY IO70; GW4HXO IO71; GM4TOE IO87; DK0NA JO50; DL3IAS JN49; DJ8MS JO54; DJ6OL JO52; LA3EQ JO28; OZ3ZW JO54; OZ2OE JO45; SM6CEN JO67; SM6VFZ JO57;

2.3GHz: DL0GTH JO50; G4ALY IO70; GM4ODA/P IO99 New #; GM3UAG IO87; DL3IAS JN49; G8PNN IO95; OZ9PP JO47; OZ2OE JO45.

3.4GHz: DL0GTH JO50; G4ALY IO70; DF0MU JO32; M0HNA/P IO91; DK0PU JO31; DL3IAS JN49; OZ3ZW JO54; OZ2OE JO45.

5.7GHz: OZ3ZW JO54; OZ2OE JO45.

10GHz: DL0LN JO31; DL3IAS JN49; DF6IY JN48; OZ7Z JN44; PA0T JO33; OZ3ZW JO54; OZ1LPR JO44.

19th June - French contest.

1.3GHz: F1AZJ/P JN28. 2.3GHz: F1AZJ/P JN28. 10GHz: PA3DZL JO21.

25th June - UKuG 5.7/10GHz Contest - only QRV near the end.

5.7GHz: GP3ZME/P IN89 RS. 10GHz: GP3ZME/P IN89 RS.

Overall a busy month with some interesting conditions and DX.

From John G4BAO, JO02.

Nice tropo on the 5th of June brought me 23cm CW QSOs with SM6HYG (JO58RG) at 974km and SM6VFZ (JO57XQ) at 959km. On SSB I worked GM4ODA/P (IO99IV) at 853km in the Shetlands for a new square with 59 signals, then LA3EQ (JO28XJ) at 771km and DL0GTH (JO50JP) at 754km.

On the 21st June in the 23cms UKAC I had the "usual" CW Aircraft Scatter QSOs with DF9IC (JN48IW) 704km, DJ5AR (JN49CV) at 617km plus a first QSO with Daniel DL3AIS (JN49EJ) at 656km. My new 400Watt PA and repaired 44element Wimo seem to be doing the business on 23cms!

From Adrian, G3UVZ, IO81

For the 10GHz UKuW contest on the 27th June I went out to Coombe Beacon and worked G7JTT and G3VPF only.

After all the effort of getting my head around KST2ME the IT system failed me ..with a very poor data connection...not to mention the difficulty in seeing the Laptop screen!



Adrian G4UVZ (and friend) operating from Coombe Beacon (trying to read laptop screen).

From John, G7JTT, IO90.

Still having issues with my GPSDO so a new approach and rebuild is in full swing.

I was out for the contest on the 27th June with 9 stations worked from a very busy car park at Picket Post in the New Forest. They were GP3ZME/P, G4EML/P, G6ZAC/P, G3VPF/P, G0LGS/P, M0HNA/P, G4LDR, G4UVZ/P and G8GTZ/P (see attached picture). Most were worked via KST although GP3ZME/P was worked direct on 3cm as I heard him working someone and cheekily jumped in on the end before they QSY'd to another band! Conditions weren't great and best DX was 171km.

I now have a commercial 1m dish with H/V feeds in WG17 and Scalar feed which I hope to use instead of the sky mini dish. But I will say as a returning Uwaver/Ham it's still fun and enjoying all the ups and downs.

From Neil G4LDR, IO91.

I operated in the UKuW 5.7 and 10GHz contest on the 26th June but had two power supply failures during the middle of the day that took me off air for some time meaning I missed several of the portable stations. My best DX on 5.7GHz was GP3ZME/P on Jersey and on 10GHz was G4KUX in IO94..

The RSGB UKAC 13cms and up contest on the 28th June turned out to be the first contest that I didn't work anyone, despite a number of attempts. Conditions seemed to be at rock bottom, with paths worked easily two days earlier being unworkable.

Other Activity on the cm bands

From G3XDY JO02.

6th June - 3.4GHz Tropo & 10GHz RS

3.4GHz: PA2GON JO21. 10GHz: DF6IY JN48; ON5TA JO20.

9th June - Tropo

1.3GHz: SM6EAN JO57; SM7FWZ JO77; LA3EQ JO28; SM6VFZ JO57; SM7GVF JO77.

2.3GHz: SM6EAN JO57. 5.7GHz: OZ3ZW JO54.

23rd June - Very strong RS opening

1.3GHz: DL3IAE JN49 54S pure RS on 23cm, offset path and no tropo signal.

2.3GHz: DL3IAE JN49 59S. 5.7GHz: DL3IAE JN49 59S.

10GHz: DL3IAE JN49 59+S; DL7QY JN59 57S.

From G4BAO, JO02.

On the 7th June, the opening (which began on the 5th June) was still on and as well as chatting to GM4ODA/P for quite a while I worked OZ3ZW (JO54RS) on CW at 793km.

On 10GHz I had a good mix of Tropo and rainscatter this month. On the 5th and 6th I worked G4KUX (IO94BP) at 59+ SSB both ways via tropo at 298km plus DF6IY (JN48EU) 690km, F1RJ (JN18AT) at 406km, ON7FLY (JO1ØLT) at 250km and G4RGK (IO91ON) 104km over a very obstructed path, all on RS CW. On the 23rd I worked F6DKW (JN18CS) on CW RS at 414km. Maurice is always a guaranteed signal if we have rain in the channel.

From Kjeld, OZ1FF

Good conditions are still rare, but beginning of June there were TR conditions around the North Sea. The OY6BEC beacon on 23 cm, QRB >1,100 km, was audible for several days as well as GB3MHX up to 10 GHz. I had the luck to work Keith, GM4ODA/P from the Shetland Island on both 23 and 3 cm.

When no TR conditions, aircraft reflection (AR) is an easy way to make DX on the microwave bands up to 800 km on 23/13 cm and a little shorter on 6/3cm.

During the activity contests I normally work a few UK stations, but when I look into the contest results I see that many participating stations are well equipped for making these contacts. So many more contacts should be possible to the benefit of both stations.

QSO worked by OZ1FF on 23 cm. Type of propagation: All. Mode: All mode. From 2016/06/01 to 2016/06/30. Distance over: 600 km.

6th June: GM4ODA/P, IO99IV, Shetland Isles, 733km.

21st June: DJ5AR, JN49CV, 635km; SM0FZH, JO99HI, 752km; DL3IAE, JN49DG, 529km; DL3IAS, JN49EJ, 704km; G4CLA, JO92JL, 700km; SK0EN, JO0EN, 796km; DF9IC, JN48IW, 742km; G4KUX, IO94BP, 644km,

QSO worked by OZ1FF on 13 cm. Type of propagation: All. Mode: All mode. From 2016/06/01 to 2016/06/30. Distance over: 600 km.

28th June: G8OHM, IO92AJ, 748km; G3XDY, JO02OB, 600km.

QSO worked by OZ1FF on 10GHz. Type of propagation: All. Mode: All mode. From 2016/06/01 to 2016/12/31. Distance over: 200 km.

6th June: GM4ODA/P, IO99IV, 733km.

28th June: LA8GT/P, JO48AD, 283km; DJ1LP, JO64BC, 305km; SM6UBC/6, JO57TQ, 315km; OZ6OL, JO65DJ, 263km; DL0VV, JO64AD, 298km; SM7ECM, JO65NQ, 314km.

From Jim, GM3UAG.

Hepburn had been quite colourful over the North Sea for some days but nothing heard until the 4th June 2016 when, at 1600Z, PI7ALK was heard on 23cm at a good S7 and on 13cm at S5. Nowadays, PI7ALK is always the first, the most reliable and the last DX logged here. SK6MHI and GB3MHZ were logged in the evening.

5th June was a good day from early until late with GB3NO, SK6UHI, DB0JO and PI7QHN logged on 23cm, GB3ANT, PI7RTD and GB3MHS on 13cm and DB0XY and ON0VHF on 70cm. G3XDY was worked on 13cm at S7.

Conditions held up on 6, 7, 8, and 9th June with OZ5SHF on 23 and 13cm and ON0TB on 23cm added to the log. Frank, PE1EWR and Paul, OZ9PZ were both worked via random CQ on 23cm. Very satisfying to hook up that way.

The FM channels on 2m were absolutely chock a block with continental stations. It was quite reminiscent of what conditions were like during the 70's and 80's.

On the 7th June, I fired up my 9cm rig and logged PI7RTD thundering in at S9 but no response to CQ! GB3MHZ was just there about S1. A listen on 6cm produced PI7RTD at S6 and on 3cm PI7RTD at S6, PE9GHZ at S6 and ON0SNW at S5 were logged.

Beacons were logged on the morning of the 10th June but they had faded out by midday with PI7ALK my final entry.

PI7RTD was by far the most consistent beacon.

This was the best tropo opening we've had for some years.

From Denis Jones G3UVR, IO83

Following on from the QRM issues Denis is having on 13cms he sent an update.

The unusual signal described in last month's Activity News (June, page 33) still remains on 24 hours a day. I have drawn up a list of those stations active on 13cms where reception at my QTH would now be a problem with the high noise level from unusual signal.

G3XDY 114°, G4BAO 116°, G4NBS 118°, G8OHM 142°, G8CUL 145°, G0MJW 146°, G4BRK 147°, G3VKV 155°.

The peak heading for the signal is about 135° and I have made a short video showing its effect at my QTH.



Unusual signal on 13cm 2320MHz band at G3UVR

Assuming this signal could be around for some time to come I have devised a work around for me to QSO any of the above stations. The top end of the unwanted signal is 2321.915MHz anything above that is unaffected so I plan to QSY to 2321.950MHz if I can't copy them through the noise. This frequency is hopefully easier to use for most people to drive transverters from 145.950MHz than a QSY below the unwanted signal on 2319.550MHz requiring a transverter drive of 143.550MHz in most cases.

When I get a chance I plan to take my 13cm kit on the road and hope to identify where unusual signal is coming from near or far.

mm- wave Activity

From John, G4BAO (JO02)

I had a rare 24GHz QSO with G4BEL 11km up the road this month. Roger wanted to check out his equipment. That was my and his only QSO on the band this year despite both of us having received the new 24GHz beacon at GB3PKT plus GB3SEE during the early June opening via tropo.

From Keith, GW3TKH, IO81.

Pete (G4HQX) and I have been out testing another LoS path. G3TKH/P at Broad Oak, on the banks of the river Severn, IO81ST75EC. G4HQX/P at Coaley Peak, 220m asl, IO81UR40CF.

47GHz was first used to get bearings, with signals 59++ in both directions.

76GHz gear was transferred to the tripod and a beacon set running, which Pete eventually found. On peaking up, Pete's signal was very scattered, +/-20 degrees. From the hill, my signal was much less scattered, our SSB contact was 52/3 both ways. Equipment at both ends was the same barefoot mixer to a 36dBi Lens horn. Power I guess at the uW level. Wx was very warm humid beside the river, so not a good choice of site!

Steve, M6JJV, who was assisting Pete, has now seen that this mmWave equipment does work. Now searching for longer paths away from water!

From Luis, EA5DOM.

I send you some info about a 136Km QSO at 47GHz we made yesterday in EA5. Yes !! There is some activity at millimetric waves in EA ;-)

For antenna aiming and also to demonstrate that the QSO was not made at FI or any other QRG Pascual EA5JF was using an independent beacon (tx only). No FI. just PLL, multiplier and small horn. There is also the fact that passing the hand palm over the feeder you block the Rx signal. So it seems to be a 47GHz link ;-) We received the beacon with weaker signals than the transverter because of the small gain of the wide aperture horn.

At EA5JF side he is using solar noise to calibrate azimuth and elevation of his antenna. As you know, this is the best system to calibrate the aiming. On our side we do not have this feature.yet !

The beacon was received first and the SSB signals after fine aiming of the antennas. This is the video shown in Youtube. <https://dl.dropboxusercontent.com/u/7162072/Video/M4H06285.wmv>

QSO follows and conditions improve. Signal 9+ sometimes. No more adjustments to the antennas <https://dl.dropboxusercontent.com/u/7162072/Video/M4H06286.wmv>

A final interesting test. Pascual turns beacon on again and we compare the signal with the SSB transverter. The transverter is louder due to the 40dB gain of the small offset (dish).

<https://dl.dropboxusercontent.com/u/7162072/Video/M4H06287.wmv>



Take off from EA5DOM towards EA5JF, 136km away.

From Neil, G4LDR (IO91)

For the 24, 47 and 76GHz contest on the 19th June, I operated from Stoke Hill (IO81XG). Since last year I had acquired a 47GHz transverter from GW3TKH, which had been built by Roy, G3FYX some years ago. Having passed on the UKuW 76GHz loan equipment to G3UKV earlier in the year, I have built my own 76GHz transverter based on the DB6NT diode mixer pcb built into in a DL2AM housing.

On 24GHz I worked three stations, GW3TKH/P, G8CUB/P and G4NNS. On 47GHz I had my first contact on the band with G8CUB/P. On 76GHz, it was again G8CUB/P that I worked. As Roger had the 76GHz mounted on his tripod, we started with 76GHz and worked down to 47 and then 24GHz. This did not

matter as Roger quickly found my 76GHz signal and once dishes were aligned we exchanged 59 reports both ways over the 29km path.

An attempt with GW3TKH on 47GHz failed due to the path between us not being quite line of sight and the fact that there was a band of rain between us.

ATV

From John, G7JTT, IO90.

I have been out with Noel G8GTZ and Dave G8GKQ watching and learning about NB-DATV on 3cms.

... and finally

The deadline for activity news for the next edition of Scatterpoint is Monday 1st August. Hopefully the weather will finally improve resulting in more portable activity.

Beacons news?

From David Anderson GM6BIG

I have an attended beacon running on test on 10368.500. It won't be on quite 24/7 but will be on much of the day for a few weeks. It's located near Salsburgh, between Glasgow and Edinburgh and has a fairly good 360° horizon. It is GPS locked and will send an "L" after the call if its inlock. It will also send an "F" if the fan is running.

Its not quite ready for the big time yet, and needs some more work. But, I wont have the opportunity to work on it for a while, so figured it best to put it on and get some feedback.

Am interested in coverage reports of course and what you think of the tones. It should have better coverage than CSB...

Please email the via the [Yahoo ukmicrowaves] reflector or direct to me at gm6big@gmail.com

Documentation wanted

Philips FL5000 1500MHz link base station

I am beacon keeper of the 4m/2m/70cm/23cm GB3ANG beacon located at the Angus TV Transmitter near Dundee.

The current 23cm beacon, which has been in service for nearly 20 years, has recently become unreliable. I have recently obtained a Philips FL5000 1500MHz link base station which may prove useful to be converted into a 23cm beacon transmitter. Unfortunately, I have no service documentation which might assist. The unit is outwardly similar to the Philips FR5000 VHF PMR base station equipment for which I do have some information. I very kindly received a manual from G4BAO. Unfortunately it looks like the conversion to a FSK 23cm beacon might not be very easy. If any UK Microwave Group member is able to assist further, I would be very grateful.

You can contact me at gm4zuk@arrl.net

Thanks,

Allan, GM4ZUK

(Beacon Keeper GB3ANG)

UK μ G Microwave Contest Calendar 2016

Dates	Time UTC	Contest name	Certificates
6-Mar	1000 - 1600	1st Low band 1.3/2.3/3.4GHz	F, P,L
10-Apr	1000 - 1600	2nd Low band 1.3/2.3/3.4GHz	F, P,L
8-May	0800 - 1400	3rd Low band 1.3/2.3/3.4GHz	F, P,L
29-May	0600 - 1800	1st 5.7GHz Contest	F, P,L
29-May	0600 - 1800	1st 10GHz Contest	F, P,L
5-Jun	1000 - 1600	4th Low band 1.3/2.3/3.4GHz	F, P,L
19-Jun	0900 - 1700	1st 24GHz Contest	
19-Jun	0900 - 1700	1st 47GHz Contest	
19-Jun	0900 - 1700	1st 76GHz Contest	
26-Jun	0600 - 1800	2nd 5.7GHz Contest	F, P,L
26-Jun	0600 - 1800	2nd 10GHz Contest	F, P,L
17-Jul	0900 - 1700	24GHz Trophy / 47 / 76/122-248 GHz	
31-Jul	0600 - 1800	3rd 5.7GHz Contest	F, P,L
31-Jul	0600 - 1800	3rd 10GHz Contest	F, P,L
14-Aug	0900 - 1700	3rd 24GHz Contest	
14-Aug	0900 - 1700	3rd 47GHz Contest	
14-Aug	0900 - 1700	3rd 76GHz Contest	
28-Aug	0600 - 1800	4th 5.7GHz Contest	F, P,L
28-Aug	0600 - 1800	4th 10GHz Contest	F, P,L
11-Sep	0900 - 1700	4th 24GHz Contest	
11-Sep	0900 - 1700	4th 47GHz Contest	
11-Sep	0900 - 1700	4th 76GHz Contest	
25-Sep	0600 - 1800	5th 5.7GHz Contest	F, P,L
25-Sep	0600 - 1800	5th 10GHz Contest	F, P,L
13-Nov	1000 - 1400	5th Low band 1.3/2.3/3.4GHz	F, P,L

Key: F Fixed / home station
P Portable
L Low-power (<10W on 1.3-3.4GHz, <1W on 5.7/10GHz)

Contest results are also published online – please follow the link from the UKuG Contests page at:

www.microwavers.org/?contesting.htm

73

John Quarmby G3XDY

Microwave activity days in France. Journées d'Activité

JA March	WE 26 & 27	JA July	WE 30 & 31
JA of April	WE 23 & 24	JA August	WE 20 et 21
JA May	WE 28 et 29	JA September	WE 24 & 25
JA June	WE 18 & 19	JA October	WE 29 et 30

On the 17th July in the morning will be a special JA in memory of F6BSJ, all contacts will be done by reflection on Mont Blanc.

73 Jean Paul F5AYE

Events calendar

2016

Jan 23	Heelweg	www.pamicrowaves.nl/
Feb 13	Tagung Dorsten	www.ghz-tagung.de/
Apr 9	CJ-2016, Seigy	cj.ref-union.org/
Apr 16–17	Martlesham Microwave Round Table & UK μ G AGM	http://mmrt.homedns.org
Apr 16–17	IARU-R1, Vienna	
Apr 16–17	EUCARA (European Conference on Amateur Radio Astronomy)	https://www.eucara.nl
Apr 23	RSGB AGM, Scotland	rsgb.org/agm
May 20 – 22	Hamvention, Dayton	www.hamvention.org/
May 22	BroadBand HamNet (BBHN) Meeting, Crawley ARC	BBHN.Event.2016@gmail.com
Jun 24 – 26	Ham Radio, Friedrichshafen	www.hamradio-friedrichshafen.de/
July 9–10	Finningley Round Table	www.g0ghk.com/events/round-table/
Jul 29 – 31	Amsat-UK Colloquium, Holiday Inn, Guildford	www.amsat-uk.org/colloquium/
Aug 19–21	EME2016, Venice	www.eme2016.org/
Sept 9–11	61.UKW Tagung Weinheim	www.ukw-tagung.de/
Sept 18	Crawley Round Table	www.microwavers.org/cra-prog.htm
Sept 24 –25	BATC Convention, RAF Museum Cosford	www.batc.org.uk/convention.html
Sept 30–Oct 1	National Hamfest	www.nationalhamfest.org.uk/
Oct 3 – 7	European Microwave Week, London	www.eumweek.com/
Oct 7 – 9	RSGB Convention	rsgb.org/convention/
Oct 13–15	Microwave Update, Saint Louis, Missouri	www.microwaveupdate.org/
Nov 12 (tbc)	Scottish Round Table	www.gmroundtable.org.uk/

2017

Apr 22–23	Martlesham Microwave Round Table & UK μ G AGM	http://mmrt.homedns.org
July 14 – 16	Ham Radio, Friedrichshafen	www.hamradio-friedrichshafen.de/
Oct 6 – 8	RSGB Convention	rsgb.org/convention/
Oct 8 – 13	European Microwave Week, Nurembourg	www.eumweek.com/

2018

June 22–24	Ham Radio, Friedrichshafen	http://www.hamradio-friedrichshafen.de/
Sept 23–28	European Microwave Week, Madrid	http://www.eumweek.com/

NB Some of the 2017/18 event links may not be working yet.

Yahoo log-in for Scatterpoint

We have received a number of reports from members advising they are no longer able to log into Yahoo groups. Some months ago Yahoo Groups made changes to its formatting including a change to the sign-in page where the original single page requested entry of Yahoo ID or email and a password.

The revised sign-in now has two pages where the first page requests an email address only. If you enter a non-Yahoo email address and click "Next" you will see a message: "sorry, we don't recognise this email".

The solution is to enter your normal Yahoo ID into the "email box" and click "Next", this will bring in the second page requesting your Yahoo password.

Enter your password and click "Sign in" and you should now be in your Yahoo groups Home page.

If you are aware of any UKuG members having difficulty with their login to Yahoo groups please pass this information on to them.