An Amateur Radio publication for the Microwave Enthusiast

# scatterpoint

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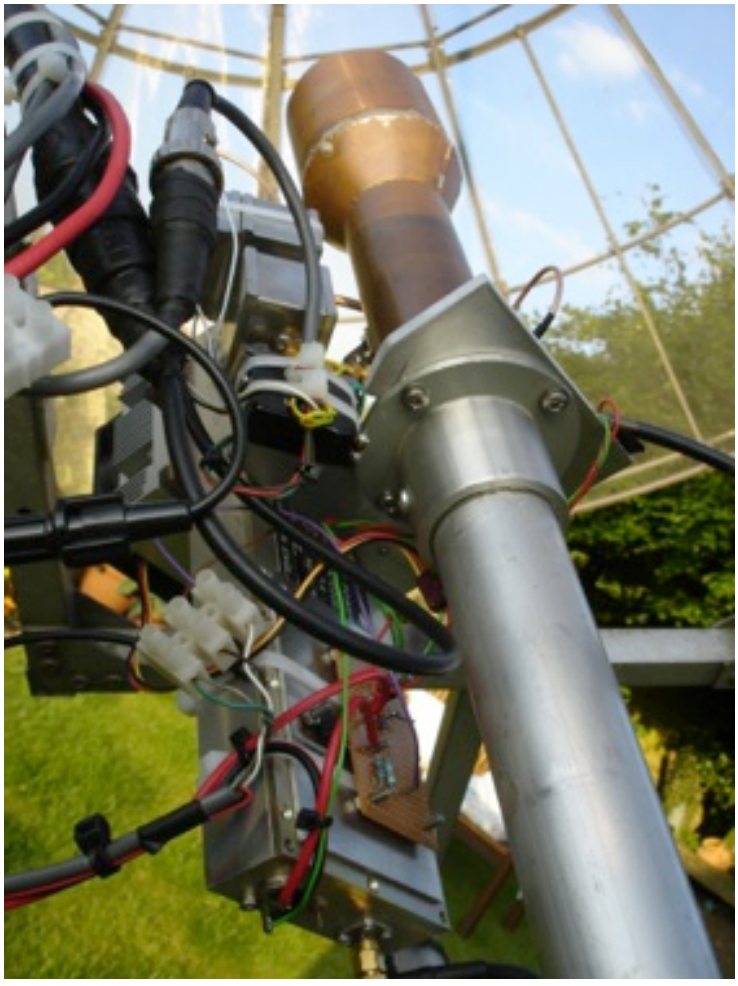
Friedrichtshaven
By Sam Jewell G4DDK



## In this Issue

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## Editor's corner

We welcome Chris Bartram GW4DGU as our new Chairman.

Summer has arrived (hence the refreshing cover picture). Hope you are enjoying the solar influences.

The Big Issue (no I'm not on the streets just yet) is the Ofcom Consultation. Responses are due by 22 July. Please see our Chairman's words and example response.

**73 de Martin G8BHC**

# 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, rtfd, 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 you co-operation.

**Martin G8BHC**

UK MICROWAVE GROUP

# 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**

**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!)

# Colour codes

**Editorial & Events**

**Activity & Contests**

**Technical**

**Nanowaves (optical)**

**Commentary**

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# The Ofcom Consultation

*We're Doomed, Dooomed, Doooooomed ..!*'

Well not quite, but there is some writing on the wall, aka the Ofcom website, stakeholders.ofcom.org.uk/consultations/public-sector-spectrum-release/ which should be read, understood and acted-on by everyone reading this, if we are to continue to enjoy our hobby.

We have access to all of 'our' spectrum between 146.000MHz and 24.000000GHz on sufferance. There's no unalienable 'right' to the frequencies we use within that frequency range. We are secondary users, and can lose access at the click of a mouse. Don't think it can't happen! Sweden has already effectively lost its 13cm allocation due to exactly the same pressures that we are experiencing.

HM Government, in its great wisdom, has committed itself to 'releasing' 500MHz of additional spectrum for mobile communications, ie. phones and other 'mobile devices', before 2020. One of the chief candidates for the spectral chop is the MoD, effectively 'landlord' to the amateur microwave bands. They are planning to release 2.35 – 2.39GHz and 3.41 – 3.6GHz ('the Release Bands') to the mobile industry. If we respond appropriately, we will probably retain access to 2310 – 2350MHz and 3400 – 3410MHz ('the Adjacent Bands' in the language of the Ofcom's consultation on the process).

So what does his mean? Well, firstly, we'll lose the frequencies we currently have access to within the 'Release' bands (2350 – 2390, and 3410 – 3600MHz) as it's pretty clear that sharing the same piece of spectrum with, say, 4G data is likely to cause mayhem, and the mobile companies, having paid serious money for spectrum access aren't going to take that kindly, either! Secondly, other users, losing their frequencies, will crowd into the 'Adjacent' bands. We, and they, will have to cooperate if we are to continue to enjoy access. As we're at the bottom of the pecking order, that cooperation might well mean that we have restrictions placed on where, when, on which frequencies and at what power levels we can operate.

Fortunately, we have an excellent negotiator, in the shape of our RSGB Microwave Manager, Murray, G6JYB, and the RSGB has a good relationship with Ofcom, but the terms to which we're likely to have to agree won't be terribly palatable to some people. Effectively we'll be on three months notice to quit. The trigger comes if Ofcom decides that there are an 'onerous' number of interference episodes involving other services. One of the problems with accepting such a woolly definition is that we could be closed-down for one incident or a thousand. It is also subject to manipulation by another service wishing to clear us from the band. Adopt a policy of complaining about interference every time an amateur station is detected and, hey-presto, the problem goes away, be it a real problem or not. However, I suspect Ofcom would detect that, were it to happen. Apparently, in a typical year Ofcom have a total of between four and fourteen complaints of interference to other services from a total UK amateur radio population of, what, 60,000? As far as I am aware, the stats don't allow analysis by frequency band, but if they did, I'd lay good money on the microwave bands not featuring very prominently.

We will not only need to be squeaky clean, but to show that. The way forward is not, as some suggested, to put together a hit team or teams to deal with interference issues. We may find that approach useful later in the process – but even with volunteers, that won't be cheap to implement. So, first we need to put our own house(s) in order. That means a clean signal. Not just close to the centre frequency, but discrete spurious such as images, unwanted upconverter products, spurs from LO chains, in and out of band noise, harmonics and parasitics, will need to be very well controlled. When was the last time you looked at your 2.3 or 3.4GHz system with a suitable spectrum analyser? Have you ever looked at the standards to which commercial equipment has to conform? Ideally we need to exceed those. As a first step, I believe we need to decide on a set of guideline performance figures which are acceptable to ourselves and possibly Ofcom. That does not need to be decided now, but if anyone would like to volunteer to develop it.

There's nothing new in having to test your equipment periodically – take a look at your licence! What is different here is that regular interference to the services we share with could lead, not to a rap across the knuckles from Ofcom, but to loss of a band, or bands for all of us. We have to 'up our game' significantly! Note to self: That includes keeping an accurate and detailed log!

Ofcom are allowing a year from the date of publication of the consultation results until the date when the changes become effective. That's when the negotiation of details will take place. We will also have to negotiate specific frequencies with Ofcom and the Primary User. The biggest changes look likely to be to the television frequencies, and I suspect that these changes may herald the end of FMTV in the band. As

Ofcom and the PU have recently given the go-ahead for narrowband beacons in the 2320.9MHz region it seems probable to me that narrowband weak-signal activity around 2320MHz will be able to continue – but it's not guaranteed.

On 3.4GHz, there are potential problems with interference to and from mobile devices, particularly in the current narrowband segment, and this needs more thought, and perhaps some measurement.

My gut feeling is that as potential interference to mobile data systems from narrowband systems operating around 3400.1MHz will usually consist of a single large signal a few MHz away from the centre frequency of the mobile channel, coexistence should be possible.

Once the details are clearer we need people to critically check their rig's performance and do any updating that's necessary. Within UkuG we have a long history of mutual help, and I suspect that it won't prove too difficult for people to check their performance on decent test equipment. I also expect the Technical Assistance Volunteers, (formerly known as 'elmers' ) to be busy. More volunteers would be welcome! I hope we can also set-up dedicated 2.3/3.4GHz testing facilities at Round Tables. Having a set of test data for your system would be good evidence if you were to be 'fingered' for causing interference.

If you've read this far, I suggest, nay, insist, that you put an evening aside and read the Consultation Document thoroughly. Directly or indirectly, it concerns YOU! Then submit answers to the questions the Consultation poses. You only have until 5pm on 22 July to submit your replies, so extract digits and apply them to your keyboards. Please don't think that your reply is unimportant. It's very important.

If you need help, some guidelines are given below in my own response.

**Vy 73**
**Chris GW4DGU**
**Chairman UKuG**

Don't copy this - use it as a template and source of ideas!

**Public Sector Spectrum Release: Consultation on amateur use of 2310 – 2450 and 3400 – 3475 MHz**

<name & Contact details>

## Statement of interests and background.

I have held the 'Advanced' Amateur Radio Licence (or it's predecessors) since 1972.

Professionally, I have worked as an engineer, largely in private practice, within the RF and microwave industries for in excess of 35 years. I am a Member of the Institution of Engineering and Technology, and of The Institute Of Electrical and Electronic Engineers, where I also am a member of its Microwave Theory and Techniques Society.

I am also a radio amateur with a particular interest in exploring some of the more esoteric aspects of microwave propagation, a member of the Radio Society of Great Britain, and currently Chairman of the UK Microwave Group, the organisation which promotes activity in those parts of the UHF/microwave spectrum available to radio amateurs.

My amateur radio interest also includes the design and manufacture of small quantities of system components suitable for incorporation into amateur microwave equipment.

## Replies to Consultation Questions

**Q1.** I am fully in favour of the principles of good spectrum management. In the current climate, it is difficult to argue for the retention of the release bands as secondary amateur allocations.

**Q2.** None that I am aware of.

**Q3.** No.

**Q4.** The most significant consequence of the proposed changes to these allocations would be the loss of a part of the UHF/microwave spectrum which provides relatively straightforward access to radio amateurs who wish, for interest, or self-education, to explore the characteristics of this area of the spectrum. Complete removal of access to the 2.3 – 3.4GHz spectrum would also lead to significant personal financial loss, possibly individually in the region of £2k, to the several hundred individuals who have invested in equipment for these allocations. It is very probable that much of the equipment used could not be readily adapted for use at other than very similar frequencies.

The 2.3GHz segment also provides a highly accessible introduction to the techniques and technology involved in microwave EME (moonbounce) communication.

At 3.4GHz, it is unlikely that inband television repeaters will be practicable in the proposed 10MHz allocation, except perhaps by some form of time domain sharing technique. However, a 3.4GHz output from a repeater with an input at another frequency has attractions.

**Q5.** Many of those 'amateurs' active using narrowband techniques at 2.3 and 3.4GHz are actually professional engineers involved in non-profit, self-directed research and continuing education via amateur radio. Often these projects explore marginal propagation mechanisms, which are not seen as immediately useful commercially. It is desirable from a National viewpoint to have a body of informed individuals with practical experience of these phenomena.

Typical of the current areas of interest is international communication via reflection from aircraft, a form of bistatic radar, which itself has become a 'hot topic' within radio/radar research. Although first demonstrated at UHF by this UK 'amateur' and collaborators in the early 1980s, propagation mechanism is currently being extended to the use of orbital objects, particularly the International Space Station, although large Clarke Belt objects also appear to be suitable targets.

Like EME, advanced projects require international cooperation, and it would be a very severe constraint on this work if it proved impossible to use frequencies designated by International Amateur Radio Union band plans. Within Europe, all 2.3GHz narrowband work is contained within the segment 2319 – 2322MHz, and it is highly desirable that these frequencies are retained.

The amateur 3.4GHz band is located in a part of the spectrum where a number of marginal propagation mechanisms prevalent at lower frequencies exist alongside others more commonly found in the upper part of the microwave spectrum. This makes the band of considerable interest for experimental activities.

**Q6.** Proper band planning by the RSGB and special interest groups, such as UKuG and BATC, in conjunction with the Primary User and other interested parties has to be at the heart of mitigation.

There are unlikely to be insuperable technical problems: it may require some further development, particularly with respect to the linearity of amateur television repeater transmitters, but solutions can be found.

With regard to the receiver performance of LTE base stations, providing extra low-loss bandstop filtering to reject large signals in specific areas of the adjacent band is not particularly difficult. The cost to the system operator would be marginal, particularly if the protection measures were included at an early point in the system planning. I believe that it could be acceptable, in this case, to specify the maximum adjacent channel power (ACP) performance of amateur transmitters to assist with the mobile operator's system implementation. This would also be significant to the Primary User and to other services sharing the allocations. It would not be particularly onerous to add frequency domain filtering to the output circuitry of an amateur transmitter to minimise energy radiated a few MHz away from the centre frequency.

Amateurs have the equipment and expertise to design, make and test suitable filters.

**Q7.** There has long been a mechanism within amateur radio licensing by which the licence schedule has been individually modified in order to solve specific interference problems. Given that, it would be difficult to justify a global modification to licences as necessary to solve specific interference problems.

It is likely that amateur radio organisations, such as the UK Microwave Group (UKuG) and the British Amateur Television Club (BATC) under the auspices of the Radio Society of Great Britain (RSGB) could provide first-line investigation of reported interference to Primary Users. As noted in a reply to previous question, many amateurs operating at these frequencies are, in reality, very experienced professionals.

UkuG has a long track record in making professional test equipment available at its meetings in order to assess the performance of commercially available and homebuilt equipment. Members with particular expertise and equipment also provide assistance to others by way of a network of volunteers. These are located throughout the UK. A list of equipment, locations and capabilities is available at the group's website: www.microwavers.org/tech-support.htm

**Q8.** Ofcom's preferred option is, if not entirely desirable from the amateur point of view, acceptable. Continued amateur access to this frequency range is highly desirable from considerations of self-education and experimentation.

**Q9.** The Amateur Radio Licence already contains clauses requiring amateurs not to cause undue interference to other services. It is difficult to see any variation to the current Licence which would reduce the risk of causing harmful interference.

# As easy as A,B,C,D:

## Simple guide (I hope) to using KST2ME on the microwave bands

**By Martyn Vincent G3UKV**


For many years, the Telford group (G3ZME) individually and collectively have used the ON4KST chatroom program to set up QSOs across the microwave bands. Here in Telford, we ALL prefer 2 metres for microwave/nanowave talkback, but that's another well-worn topic that defies sensible argument – so I'll put that to one side for the purposes of this short article.

A development of the original 'KST program is that devised by Bo, OZ2M. Many times I had been told it was an improvement over the original version, mainly because it tamed the mad scrolling that resulted in 'chat' to/from a chosen station disappearing down off the monitor screen, almost before you had time to look up from hitting the necessary keys, especially if the rest of Europe are sharing a microwave contest date with the UK.

I hadn't got round to using it until very recently; in fact, I down-loaded KST2ME so long ago, that my user's key had time-expired by the time I got down to actually using it for real.

First of all, you need to be registered with Alain's (ON4KST) chat-room service. I will assume all readers of Scatterpoint are aware of this facility, and are mostly included in the 15000 world wide users.

Next, down-load the KST2ME program (www.kst2me.zip) to a suitable folder, and un-zip the files.

Apply for a personal key from OZ2M by e-mail, as described in "Installation" in the opening gambit of the program. It comes back quickly, in less than 24 hours (10 minutes in my case at a weekend) and is about 250 bytes in size. Add this key to the KST2ME folder on your computer.

Are we all sitting comfortably ? Then I suggest you either print out the following four steps, or open a second visible window showing the 4 steps on your screen:-

Assuming you have provided a desktop icon, click on this and the program runs, and several empty windows fill your screen. Now ...

A) Click on Tools < setup kst2me - enter your call-sign and your usual KST password.

B) Just below where you entered your callsign, check that 'chat 1' to is set to 'GHz'. Then go to 'chat 2(optional)', with its drop-down menu and click on "filtered" (bottom) option. This is critical for our purposes. You probably do not want two chat-rooms open together, as Bo envisaged, and this 'filtered' option leaves the microwave chat 1 open for microwaves, but leaves a second (lower) window also open for retaining chat to/from a specific station you hope to contact on a microwave band. Also it displays and retains any 'Server' information you request (usually distance and direction to a chosen station), and any alerts ('watches').

C) To activate the usual 'meep' sounds, still in Tools, go to ' setup kst2me', select the 'sounds' tab and click on the plain button just above 'test' for each of the 3 situations: 'CQ', 'preamble' and 'watch'. Testing each one in turn, it should turn on the default sounds. (preamble, by the way, is Bo's way of referring to the callsign and /cq preliminaries when sending/receiving a message).

D) On the top tool bar (left), click on 'Connection' , and then 'Connect ' – the usual windows, including current users etc, should then appear , in a similar (but not identical) fashion to the original 'KST version. And away you go.

Once these four main set-up routines have been followed, KST2ME works well, and is well worth the effort of installation – especially if like our group you go portable, try to keep the dish pointing the right way in a gale, talk to an inquisitive passer-by, find the mike down the back of the car seat, squint to adjust your eyes to read the screen etc etc.

KST2ME offers numerous refinements that can follow, as you become more familiar with Bo's Telnet program options. It is worth going right through the Manual, trying out the numerous options available, and particularly exploring the powerful 'watch' facilities.

Last weekend I had both ON4KST and KST2ME open together during the Low Band microwave contest, and even from home, where it is all "cushty", as I switched from one to the other, it was clear despite a few quirks, that OZ2M's variation on the 'KST program is a real improvement.

I hope this brief article will encourage others like me, who have not quite got round to using KST2ME before now to "Have-a-Go". It's probably sensible to do any initial 'test' messages outside of known contest or activity events! I would also be interested to hear of any significant options that other KST2ME users have found really worthwhile to apply in practice.

Finally, going back to my first paragraph ..... give me 2 metre talkback any time !

**Martyn Vincent G3UKV**

# 76 GHz Report

**By John Wood G4EAT**

In August 2012, a bunch of intrepid millimetre-wave enthusiasts went hill topping to check out their equipment. Three operators travelled by ferry to Ventnor, IOW (G8KQW, G8ACE, G3PYB) and another three to Bignor Hill, Sussex (G4EAT, G8CUB, G0FDZ). Over a 52km path, all operators were able to have QSO's on the bands 24, 47 and 76GHz.

Encouraged by this, the Bignor Hill group moved to Ditchling Beacon, Sussex at a distance of 83km which, if successful, would beat the UK distance record of 79km at 76GHz. Unfortunately, despite QSO's on the lower bands, only G4EAT/P was able to hear G8KQW/P signals on 76GHz with a one way report of S2.

Undeterred each operator in the group upgraded its equipment during the winter, knowing we needed a few dB's more to establish QSO's. This included checking antenna performance, raising output powers and adding LNA's (yes LNA's @76GHz!!).

On 9th June 2013, the same operators set out for Ventnor and Ditchling. Immediately G8KQW's signals were heard on 76GHz at S9!! QSO's were achieved by all ops and a new UK record established.

With such big signals on the day, the Ditchling group moved to Firle Beacon, Sussex to test at 94km. There was some concern as to whether it was necessary to carry all our gear up the footpath (a further 2km!) to establish a clear line of sight path. Denis G0OLX tried 24GHz signals from the car park and immediately decided the strong signals would confirm we had sufficient path clearance.

So from the lower sighted car park, one by one all operators had a QSO on 76GHz, further extending the UK distance record. QSO were in SSB, FM and A1 CW. No further distant hills with line of sight were known, so we finished satisfied we had all achieved our objectives.

On reflection not only had we all improved our equipment performance by typically 6 to 10dB but we had been very lucky with the weather. Millimetre-wave signals are attenuated by the water vapour in the atmosphere. Last August the warm humid weather gave us an attenuation of 0.525dB/k but this June 2013 event was in cool dry air with an attenuation of 0.274dB/km so overall a 20dB+ benefit!

It should be noted that no two 76GHz stations were of the same configuration as each operator has his own ideas, preferences and component sourcing. World-wide E-bay searches are required and prices vary wildly! Hence transmit powers varied from 200microwatts to 80mW. Receive noise figures from 18dB to 5dB (using LNA's and image rejection filters). Fortunately relatively small 130mm antennas give high gain (+38dBi) at these frequencies but you have to know where to point them as beam-widths are <2degrees! Hence sturdy wind resistant tripods and construction techniques are required.

Ventnor Group: L to R: G3PYB Peter, G8ACE John, G8KQW Ian.


Firle Beacon Group:
L to R G8BJG Alan 2m, G4EAT John 76GHz, G0OLX Denis 24G, G0FDZ Chris 47 +76GHz, G8CUB Roger 47+76GHz.


Operating from Firle Beacon:
from left 24GHz station of G0OLX, then 76GHz stations of G4EAT, G8CUB, G0FDZ.

## Equipment for 76GHz:

G8KQW: Tx 13.7mW A1 multiplier, 250mm Tx Lens Horn Antenna; Rx 150mm LHA, 76GHz LNA
G8ACE: Tx 4mW FM, NEC Pasolink 300mm Tx antenna; Rx NEC Pasolink antenna, 76GHz LNA
G3PYB: Tx 30mW Impatt multiplier, Tx ant 45cm; Rx ant 45cms, DB6NT mixer
G4EAT: Tx 5mW linear amp (LNA), Tx antenna 130mm LHA; Rx ant 130mm LHA, MEDL fundamental mixer
G8CUB: Tx 80mW linear amp, Tx antenna 130mm LHA; Rx ant 130mm LHA, WA1MBA LNA
G0FDZ: DB6NT transverter with 250mm Lens Horn Antenna Tx/Rx.

# Dishy pictures

**From Howard Ling G4CCH**

I was active on 9cm during the contest last weekend, and managed to make 21 QSO's including 6 Initials.

My operating time was limited to sensible hours, not through the night, so was really pleased to make so many QSO's

Of course I don't know what I missed...

I worked the following stations:

G4NNS #24, PA0BAT, SP7JSG #25, DL1YMK, G3LTF, ES5PC, OK1CA, SP6OPN #26, OK1KIR, DL7YC, WA6PY, K2UYH, W5LUA, VE6TA, HB9Q #27 & HUGE SIGNAL, VK3NX, OH2DG, SP6GWN, S50C #28, PA3CQE #29 & LX1DB.

I made recordings of several stations over the weekend, and will put clips on my website in the next few days.

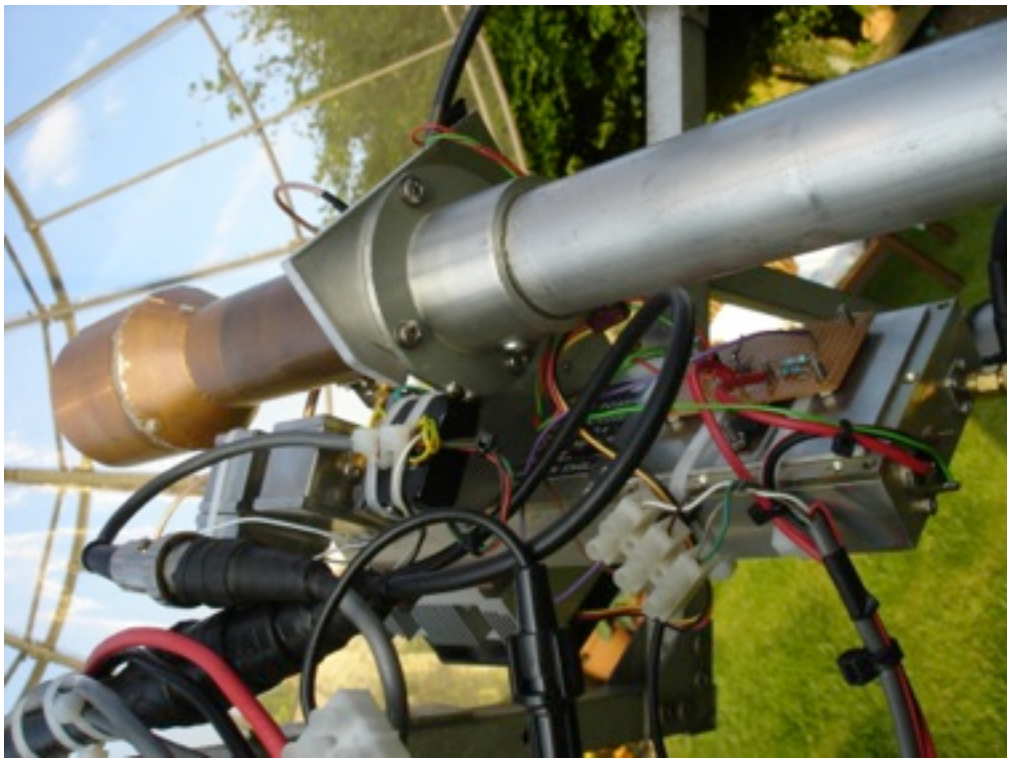
I still have the 9cm system in the dish, and can be QRV after 1300z on Friday and over the weekend if anyone is interested in trying with me.

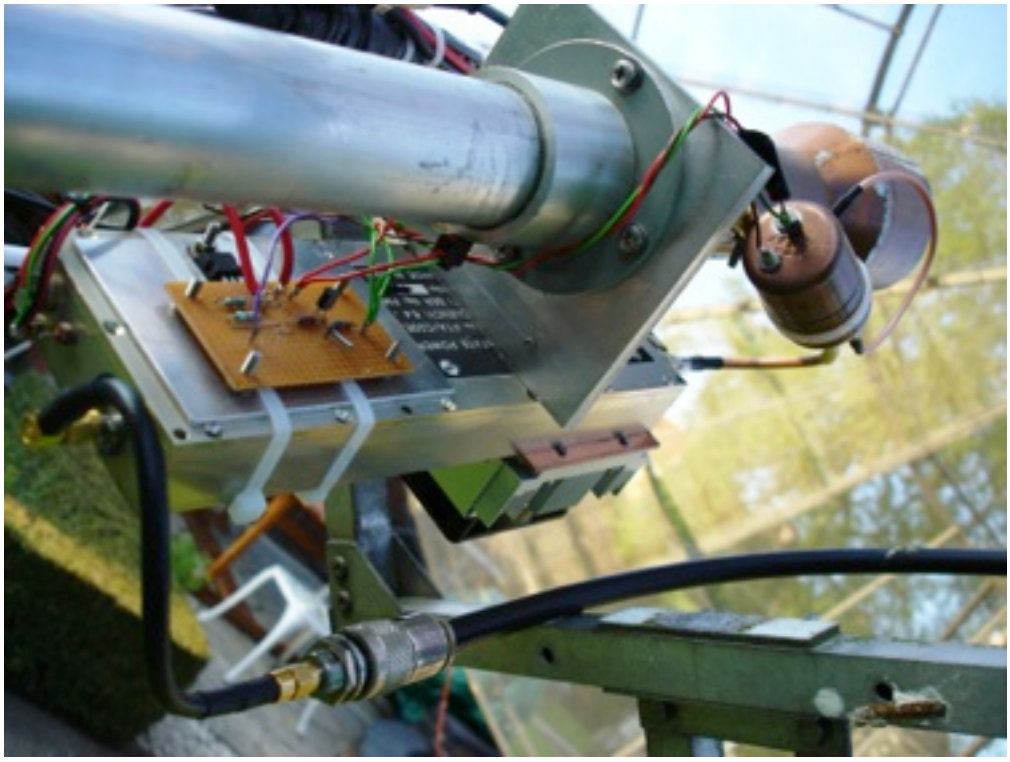
The system here is: 5.5m hb mesh dish, N2UO scaled feed, 100W at feed, G4DDK LNA.

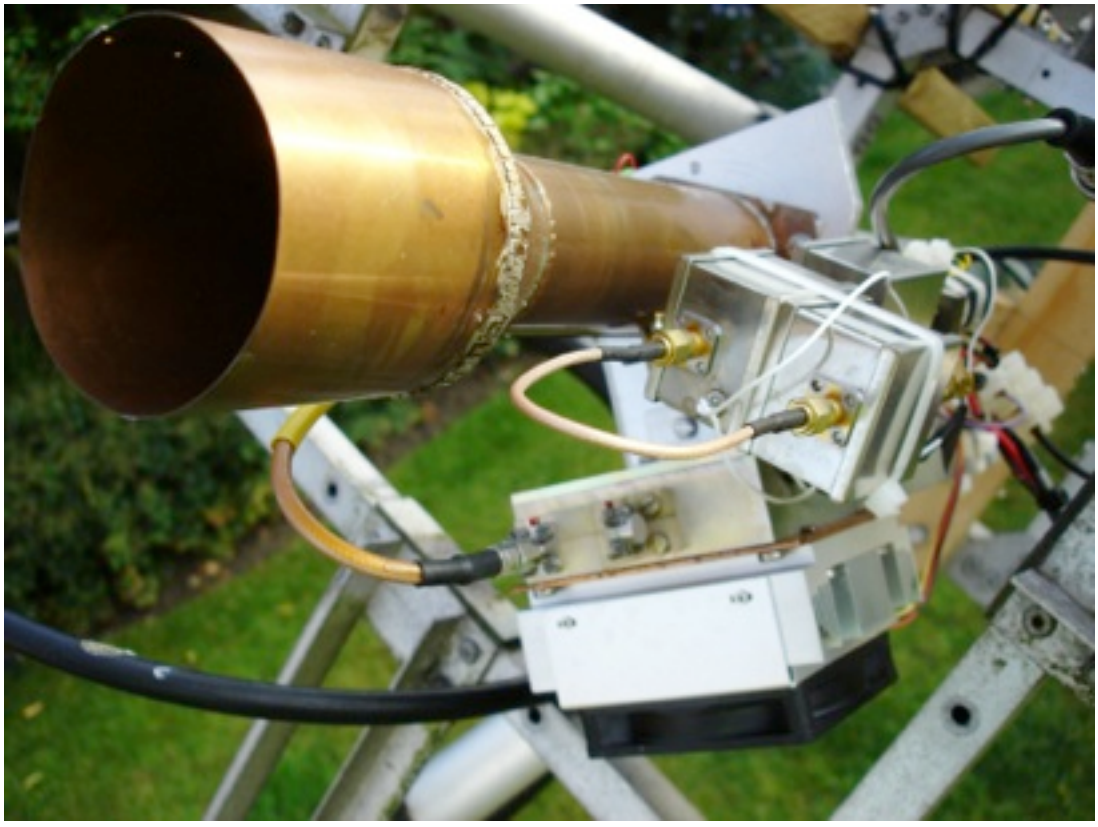
Many thanks to all for the QSO's and the initials

**Best 73 & GL**

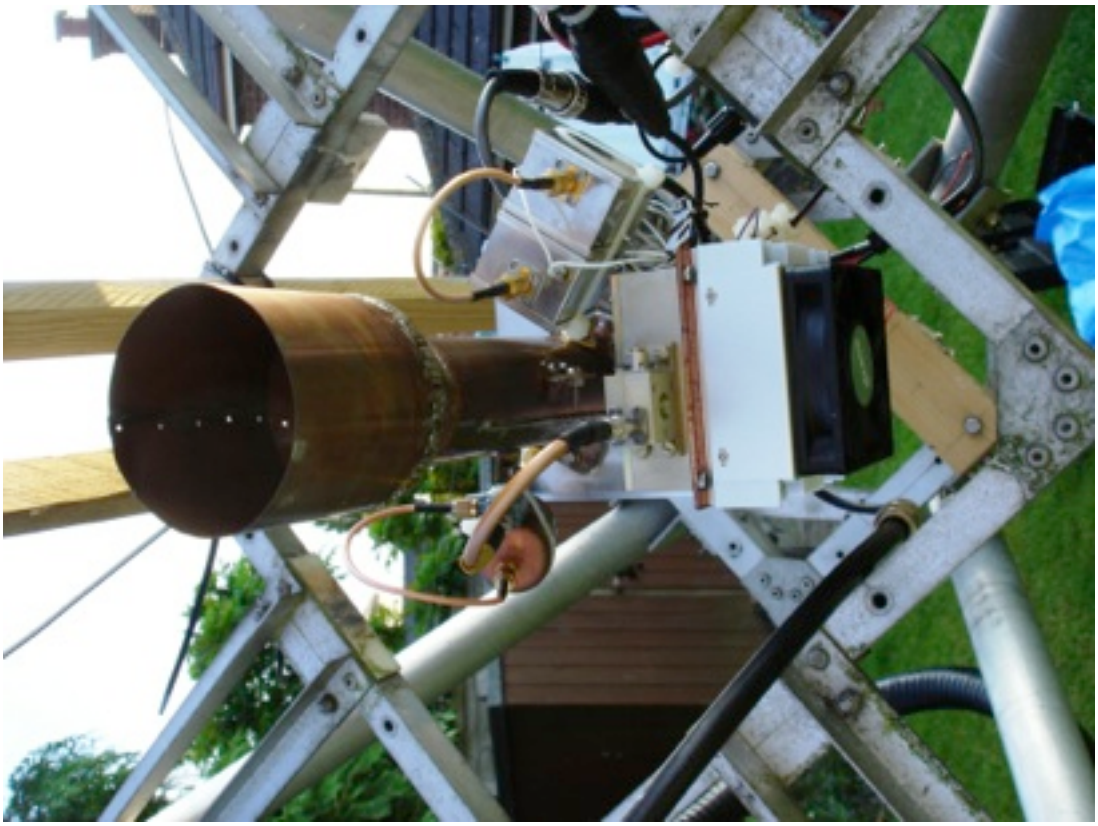
**Howard, G4CCH**







**Never look into open waveguide!**



# Friedrichschafen

## or, three men in a boat!

**By Sam Jewell G4DDK** **Source: g4ddk.blogspot.co.ukl**

Now that the dust has settled and I am recovered from the weekend's trip to Friedrichschafen, the story can be told!

This was my fourth trip to FHN. For the second time I travelled by plane, boat and train, arriving at Zurich airport on Thursday afternoon, taking the Intercity train to Romanshorn and then the ferry across Lake Constance (Bodensee) to the town of Friedrichschafen on the German ( northern) bank of the lake.


**Arriving into Friedrichschafen harbour**

My travel companions were Graham, G4FSG and John, G4BAO.

We met up with a bunch of the Camb Hams on the ferry for the short crossing.

**A drink on the ferry with the Camb Hams**

After a great breakfast on Friday morning at the City Krone hotel, where we were staying, it was off to the Messe on the free bus.

Since we had previously bought our tickets on line we were able to join the shortish line to get into Hall1

I had some business to complete ( delivering VLNA preamps) on the Friday morning, so it limited my time to look around until late morning.

Hall 1 houses all the clubs as well as the various traders selling 'new stuff'. Traders like Kuehne Electronic, EISCH Electronic, Schubert Electronic, the Icom, Yaesu and Kenwood stands together with lots of smaller and larger traders selling everything from antennas to SDRs, RC helicopters, QSLS cards and computer wares.

Between Halls A1 and Hall A, where the first of the flea market stands were to be found, was the QSL wall, DARC presentation area, food court and A2 talks rooms.

**Part of the QSL wall**


I met up with Enrico, IW5BCE, at the QSLS wall at 1pm. this is an annual event when all the EME ops get together to either arrange the evening's meal or just meet and say hello in person. Enrico is the organiser for the EME Friday evening meal event on Lindau Island ( on the lake).

After lunch of Curry Wurst and Pomme Frites, washed down with German beer, it was on to the serious business of looking round the flea market stalls.

I have to admit I didn't buy a lot on the first day ( or the second!)

Being very tired and 'hammed out' we went back to the hotel about 5pm, ready for the evening meal with the Camb Hams at a local Chinese-Indian restaurant. To be honest the quality of service left a lot to be desired and I doubt we will be going back there again.

However, the company of the Camb Hams more than made up for the long serving delay and general quality of the food.

On day two it was a repeat of the trip to the Messe, followed by a good scour of Hall A4 and then back to Hall A3. Undoubtedly the quality of the 'items' in Hall A3 were superior, although this may be my perception as a microwaver.

This was also the day when Chris Duckling, G3SVL, presented his talk on 100 years of the RSGB and its association with other societies. Earlier there had been a talk on IOTA, also arranged by the RSGB.


**Chris does his talk in one of the A2 convention rooms.**

During the day I met up with a number of amateur radio friends from around the world. One of these was Bruce, PY2BS! Visiting from Brazil with his wife and son. in order to have more time to chat we arranged to meet up on the lakefront in Friedrichschafen and have our evening meal together.

We (Graham, John and I) were joined by Bruce, XYL Darsheema and son Max.

Sitting in the restaurant, looking out across the lake at the falling rain ( yes, it rained on the Saturday....) but enjoying a superb Greek meal with excellent wine made I seem like a different world!

Sunday morning and Graham and I elected to spend another few hours at the Messe whilst John went off the visit the adjacent Zeppelin museum.

**A Zeppelin flies over the Messe!**

All to soon it was time to head off for the ferry and the train and plane. But not before we had a last Kaffee und Kuchen, sitting by the lakefront. Most enjoyable!

The trip home was uneventful and although we were all tired, we all felt it was worth the expense.

**John's friend says good-bye as we approached Romanshorn!**

*(forgotten the tablets, John? Ed)*

**Arriving back in Romanshorn.**

In all I didn't buy a great deal ( what do you buy a man who already has everything?)!!!!!!!

I bought some adapters, attenuators and GaAs FETs and of course lots of coffee, ice cream and the various meals and beer.

I was also presented with a nice 23cm feed for my EME dish. I want to thank Carlos and Victor for the very kind thought. I will be testing it soon and promise to report back on my results.

I'll be updating the Friedrichschafen blog as and when I think of anything else to cover.

**73 de Sam**

# UKµG Chip Bank

## A free service for members

The catalogue is now on the UKµG web site See 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, that is, Jiffy bags, small plastic bags for individual component values, and Large letter 2nd class postage, currently 69p.

*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. We have asked Mike to check with the Chairman (or designated officer) if any individual is making excessive requests, and we will ensure that the service is only available to members.

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!! )

**73, Mike, G3LYP**

# May 5.7/10/24GHz Contest Results

**By John Quarmby G3XDY**

## 5.7GHz Contest May 2013

This was the first of the new contests that are running in place of the previous cumulative series.

Activity was patchy, one entrant thought it was “reasonable” and another “poor”. All entrants were in the unlimited talkback section for this event.

Congratulations to G3ZME/P as the winner, and G4LDR as runner up in this event. The scores will go forward into the overall championship that will decide the destination of the G3KEU Trophy for 2013.

| 5.7GHz Contest May 2013 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Pos** | **Callsign** | **Locator** | **QSOs** | **Score** | **Best DX Call** | **km** | **Talkback** |
| 1 | G3ZME/P | IO82QL | 9 | 1330 | G4ALY | 248 | Unlimited |
| 2 | G4LDR | IO91EC | 9 | 756 | G4ALY | 195 | Unlimited |
| 3 | GW3TKH/P | IO81LS | 7 | 667 | G1JRU | 155 | Unlimited |
| 4 | G4SJH/P | IO91GI | 6 | 421 | G3ZME/P | 149 | Unlimited |

## 10GHz Contest May 2013

Conditions were generally viewed as below average and not as good for the evening UKAC events. The rules do allow operating times to be chosen to take advantage of changes in conditions, but this has to be traded against activity levels outside the middle of the period.

Congratulations go to Rob M0DTS/P as the winner of the Radio Talkback section, who found the going hard without ON4KST. In the Unlimited section G3ZME/P was the winner, with G4LDR a close second as leading fixed station. The leading Restricted section entrant was G4WLC/P.

Scores from this event will go forward to the overall championship for the G3RPE and G3JMB Trophies.

### 10GHz Contest May 2013

**Radio Talkback**

| Pos | Callsign | Locator | QSOs | Score | ODX Call | ODX Kms | Open/Restricted |
|---|---|---|---|---|---|---|---|
| 1 | M0DTS/P | IO94MJ | 4 | 658 | GM0USI/P | 267 | O |
| 2 | GW4NOS/P | IO81FP | 2 | 185 | G4NNS | 147 | O |
| 3 | G4GSB/P | IO82WM | 2 | 148 | M0GHz | 121 | R |

**Unlimited Talkback**

| Pos | Callsign | Locator | QSOs | Score | ODX Call | ODX Kms | Open/Restricted |
|---|---|---|---|---|---|---|---|
| 1 | G3ZME/P | IO82QL | 13 | 1924 | GM0USI/P | 405 | O |
| 2 | G4LDR | IO91EC | 13 | 1824 | GM0USI/P | 570 | O |
| 3 | G8DTF | IO83SM | 6 | 1013 | G4SJH/P | 251 | O |
| 4 | G4WLC/P | IO81WU | 7 | 903 | G3LRP | 202 | R |
| 5 | G4SJH/P | IO91GI | 9 | 867 | G8DTF | 251 | R |
| 6 | GW4HQX/P | IO81LS | 8 | 705 | G1JRU | 155 | R |
| 7 | G8KMH/P | IO91JA | 8 | 585 | G4ALY | 220 | O |
| 8 | GM8OTI/P | IO74UV | 3 | 468 | G4CBW | 243 | R |
| 9 | G0EHV/P | IO84XT | 3 | 291 | GM0USI/P | 185 | R |

## 24GHz Contest May 2013

A limited number of entrants took part in this first 24GHz event of the year. Congratulations to Ian G8KQW who won the event from his fixed station location. Runner up and leading portable was Keith GW3TKH/P.

Scores from this event will go forward to the championship table for the G0RRJ Memorial Trophy.

### 24GHz Contest May 2013

| Pos | Callsign | Locator | QSOs | Score | Best DX Call | km |
|---|---|---|---|---|---|---|
| 1 | G8KQW | IO91OC | 4 | 323 | GW3TKH/P | 173 |
| 2 | GW3TKH/P | IO81LS | 2 | 297 | G8KQW | 173 |
| 3 | G4LDR | IO91EC | 4 | 232 | GW3TKH/P | 124 |

**73**
**John G3XDY, UKuG Contest Manager**

# June 2013 Lowband Contest Results

**By John Quarmby G3XDY**

Entry levels for this event plumbed the depths this year for some reason, despite some good continental DX being available in the coincident microwave contest in Germany.

On 1.3GHz G4BRK was the winner despite having one fewer contact than G4NBS and G3UKV, and Neil also worked the best DX with DF0MU in JO32 square.

G4BRK also won the 2.3GHz section by a narrow margin over Martyn G3UKV as runner up. GM4CXM provided the best DX for all the entrants.

G4BRK continued his winning ways on 3.4GHz, with G3UKV as runner up.

The overall winner this year was G4BRK with G3UKV as runner-up, and G4NBS is third.

Congratulations to all three stations who will all receive certificates..

**73**

**John G3XDY**

**UKµG Contest Manager**

## June 2013 Low Band Contest Results

### Overall

| Pos | Callsign | 1.3GHz | 2.3GHz | 3.4GHz | Total |
|---|---|---|---|---|---|
| 1 | G4BRK | 1000 | 1000 | 1000 | 3000 |
| 2 | G3UKV | 664 | 946 | 683 | 2293 |
| 3 | G4NBS | 867 | 822 | 0 | 1689 |

### 1.3GHz

| Pos | Callsign | Locator | QSOs | Best DX | Points |
|---|---|---|---|---|---|
| 1 | G4BRK | IO91HP | 10 | DF0MU 597km | 3210 |
| 2 | G4NBS | JO02AF | 11 | GM4CXM 503km | 2782 |
| 3 | G3UKV | IO82RR | 11 | GM4CXM 377km | 2130 |

### 2.3GHz

| Pos | Callsign | Locator | QSOs | Best DX | Points |
|---|---|---|---|---|---|
| 1 | G4BRK | IO91HP | 6 | GM4CXM 517km | 1599 |
| 2 | G3UKV | IO82RR | 8 | GM4CXM 377km | 1512 |
| 3 | G4NBS | JO02AF | 6 | GM4CXM 503km | 1314 |

### 3.4GHz

| Pos | Callsign | Locator | QSOs | Best DX | Points |
|---|---|---|---|---|---|
| 1 | G4BRK | IO91HP | 3 | G4ALY 237km | 600 |
| 2 | G3UKV | IO82RR | 4 | G4BRK 145km | 410 |

# UKµG Technical support

## Another free service for members!

While many of you will have taken advantage of the "test equipment rooms" that we run at the Round Tables, sometimes that project just cannot wait for the few occasions per year when we hold them. 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, 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

The current list is available at www.microwavers.org/tech-support.htm

| Region | Tech support volunteer | Facilities |
|---|---|---|
| NW England, N Wales<br><br><br><br>Wales | David Wrigley G6GXK 07811776432<br><br>Chris Bartram GW4DGU | Spectrum Analysis to 24GHz<br>Power measurement to 76GHz<br>Freq Measurement to 26GHz<br>Freq sources to 47GHz<br>NF Measurement to 10GHz<br>Antenna Test range to 24GHz |
| NE England Yorks and Humberside | Peter Day G3PHO microwaves@blueyonder.co.uk | Available from Spring 2013<br>Spec Analyser to 24GHz<br>Power measurement to 24GHz (up to 5W on 24GHz),<br>RF sources to 24GHz, direct freq measurement to 3GHz.<br>Setting up/tuning up transverters, etc + general advice. |
| S and SW England | Brian Coleman G4NNS<br><br><br><br><br><br><br>Paul Marsh M0EYT pjmarsh@uhf-satcom.com | Spectrum analyser to 24GHz<br>Power measurement to 26 GHz<br>Scalar Network analyser and sweeper 2 to 15GHz<br>Antenna test range 2.3, 3.4, 5.7, 10 and 24GHz<br>Wavegide directional couplers for 10GHz and 24GHz<br>Coax couplers 1.3 – 26GHz.<br><br>Power measurement to 12GHz<br>High power dummy load @ 10GHz (500W)<br>Frequency measurement to 22GHz<br>Spectrum analysers to 6 and 18GHz<br>Frequency generation to 18GHz. |
| SE England and London | Allan Wyatt G8LSD allan@virtual-museums.org | not known |
| East Anglia, Essex & Suffolk<br><br><br>Herts. | Sam Jewell G4DDK sam@g4ddk.com<br><br>Bryan Harber G8DKK Letchworth, Herts | Spectrum analysis to 24GHz<br>Power measurement to 24GHz<br>Direct frequency measurement up to 3GHz<br>VNA to 3GHz<br>RF sources to 24GHz |
| West Anglia East Midlands | John Worsnop G4BAO john@g4bao.com | Spectrum analysis to 24GHz<br>Power measurement to 24GHz<br>Direct frequency measurement up to 18GHz<br>VNA to 1.3GHz<br>RF sources to 24GHz<br>High current PSUs at 12, 28 and 48V |
| W Midlands | Richard Bown G8JVM richard@g8jvm.com | power measurement to 18 GHz<br>Sig gen to 1.3 GHz but can mix up to 3cms<br>SA to 1.3 GHz but can down convert from 3 cms and probably other lower bands , check<br>NF to 3 cms with IFs of 144 and others , check<br>Freq measurement to 18 GHz, Rb standard |
| N Scotland | Vacancy | |
| S Scotland | Vacancy | |
| N Ireland | Gordon Curry GI6ATZ | |

# Activity News : June

**By Bob Price G8DTF**

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

***scatterpoint@microwavers.org***

## Introduction

The column this month includes reports from the June UKuG Low Bands Contest, the 5.7/10/24GHz contest, the 23cm and SHF UKAC, as well as and EME report.

## Beacons

**From Ralph G4ALY**

I have been monitoring for the Spanish beacon ED1YAQ on 3cm at 829km in IN73TA. I heard it for the first and only time so far on June 4th 2013 at 539. It was in for about 3 hours. A recording of the beacon is on Robin's "Beaconspot".

## EME

**From Howard G4CCH**

I was active on 9cm during the contest last weekend, and managed to make 21 QSOs including 6 Initials. My operating time was limited to sensible hours, not through the night, so I was really pleased to make so many QSOs . Of course I don't know what I missed…

I worked the following stations:

G4NNS #24, PA0BAT, SP7JSG #25, DL1YMK, G3LTF, ES5PC, OK1CA, SP6OPN #26, OK1KIR, DL7YC, WA6PY, K2UYH, W5LUA, VE6TA, HB9Q #27 & HUGE SIGNAL, VK3NX, OH2DG, SP6GWN, S50C #28, PA3CQE #29 & LX1DB.

I made recordings of several stations over the weekend, and will put clips on my website in the next few days

The system here is: 5.5m HB mesh dish, N2UO scaled feed, 100W at feed, G4DDK LNA.

Many thanks to all for the QSO's and the initials

## June 23cm UKAC

**From Eddie G0EHV**

The 23cms UKAC event had very pleasant summer weather for /P. Usual IO94 site I managed 30 QSOs with best DX being G3TCU/P at 422 Km.

Radio conditions were poor and I missed quite a few stations usually workable, but just not heard tonight. No equipment problems thankfully, a good check before VHF NFD.

**From John G3XDY**

The 1.3GHz UKAC gave best DX of SK7MW in JO65MJ and contacts with four
OZ stations plus DL0VV in JO64AD, all by aircraft reflection.

## June UKuG Low Band Contest

**From John G3XDY**

In the UKuG Low Band contest at the beginning of June I made some good aircraft reflection contacts on all bands. Pick of the crop were;

1.3GHz:

HB9FX in JN46BX - JN46 is a new square for me on this band.
DJ5AR in JN49CV
DL0GTH in JO50JP
GI4SNA in IO64XM - IO64 is another new one
GM4CXM in IO75TW
DK2ZF/P in JO43WJ
DJ6OL in JO52AP
DL3IAS in JN49EJ
G3YPQ/P in IO70SS
G4ALY in IO70VL

2.3GHz:

DL0GTH in JO50JP
DK2ZF/P in JO43WJ
G4ALY in IO70VL

3.4GHz:

DK0PU in JO31JN
G4ALY in IO70VL

With the two new ones on 23cm I reached a new milestone on 1.3GHz with 150 squares worked, all on terrestrial modes. Aircraft reflection is proving very useful in helping fill in some gaps on the map, thanks to new tools such as AirScout.

On the 17th June there was a good rain scatter opening on 10GHz, but I could only operate for a short spell near the end, and just worked DJ5BV in JO30KI

## June SHF UKAC

**From John G3XDY**

The 2.3GHz UKAC resulted in a good QSO with SK7MW at 861km, plus OZ1FF in JO45BO and DF9IC in JN48IW. Several tests with DL0VV resulted in signals being heard, but not enough for a contact. The most welcome contact was with GM4CXM (IO75TW) for the first time on this band, thanks to the Heathrow to Aberdeen shuttle being in the right place for once. This is a new square for me on 13cm (No 79).

**From Eddie G0EHV**

The13cms UKAC event was to be used to do a comparison of 2 aerials – my usual Tonna and my "BBQ" dish. The dish is a commercial grid reflector with a log periodic feed designed for "WiFi". (See attached picture)

I set up originally with the dish and had a test QSO locally with Gordon G8PNN, he seemed down a bit with me, but I had band noise so assumed all OK. First try on the contest with G4BRK was only a one way, nothing heard from Neil. After investigation it transpired that the RX cable to the masthead was open circuit, bother! A quick substitution with a spare length sorted it out. By then I was on the Tonna and used it for all QSOs. I did try the dish again later, but I found it was very noisy as it was rotated around, no GM beacon could be hear above the noise, but I could hear it on the Tonna. Further tests required I think but I go tired of dropping the mast after the fourth time!

Only 10 QSO's, once again best was G3XDY at 359 Km.

**From Ross G6GVI**

I spent half an hour loading all the bits into my car: three radios (FT817, IC202 plus DJG7 for talkback), transverters for 13 & 9cm, microphones, headset, patch-leads, antennas, feeders, mast, 6cm WBFM units, tripod, batteries and log-sheets. Then a 15-minute drive took me to my favourite site on the South side of Winter Hill, where it was a warm sunny evening for once.

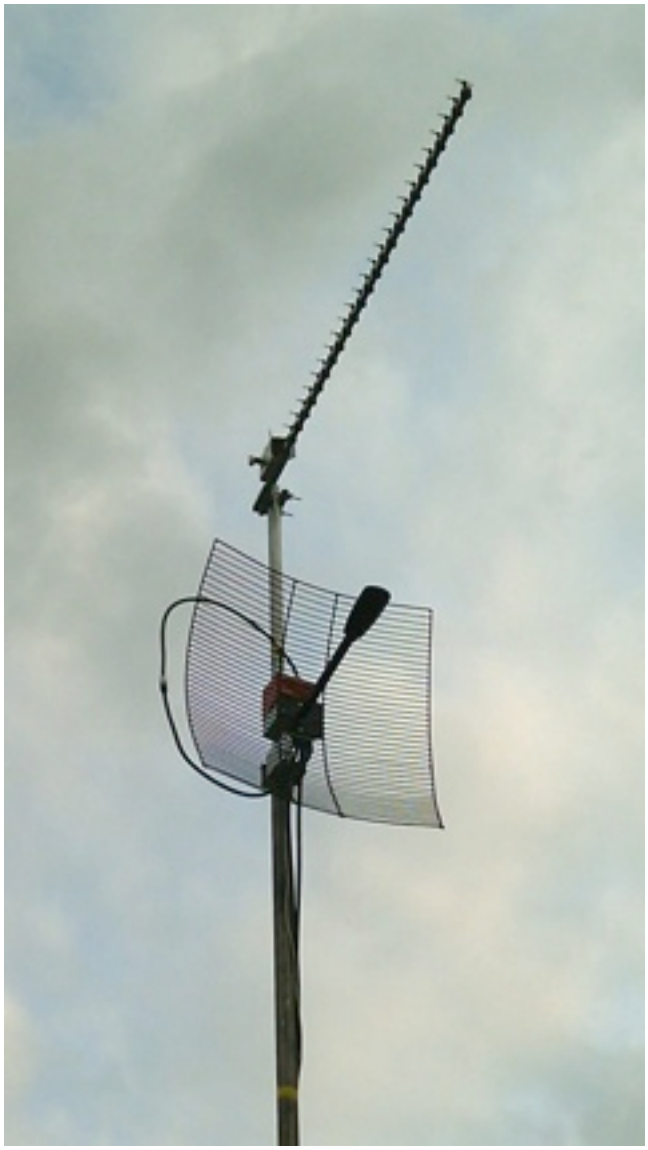
I'd got my three stations up and running by 7:58, and then was surprised to hear no fewer than three strong signals on 3400.1 as soon as I turned on my 9cm kit! So within three minutes of the start of the UKAC I had G8DTF, G4MVU and G4JLG/P in my log.

Whilst waiting for my 6cm WBFM skeds, I made three contacts on 13cm, and also caught Tony G4CBW on 9cm. My 9cm system is rather limited (only 400mW into an 8-ele patch panel), but I did manage to reach GD0EMG with it during the SHF event at the start of May.

Four of us (Mark M0UFC, Dave G4JLG, John MW1FGQ and I) each have a pair of 5.8GHz WBFM video-sender units - these are specified for a range of up to 100m with video signals, but we've already proved these on paths of over 60km with WBFM voice (using separate panel antennas with gains of around 20dB or TX & RX).

The biggest issue with these is co-channel interference from many other signals in the ISM band, but we've now found a combination of sites where our mutual beam-headings take us away from the worst of this QRM. So within five minutes I'd completed QSOs with both Mark and Dave. Unfortunately John wasn't available this evening, so no "international DX" from Wales!

So then I could give my full attention to 13cm, where I managed another four QSOs (including G8CUL in IO91 and G8OHM in IO92) within the first hour - not bad for 1W into a 24-ele. This was certainly my best session on SHF - and with the long light evening, I didn't even need to use my torch for logging or packing away – roll on next June!



**From Dave G4MVU**

The 3cm gear comprised of a Eyal Gal 10GHz unit that I had used before, but the oscillator was unstable, also a new dish and feed. So the oscillator has been changed using the synthesizer from an Airspan AS4000 1.8GHz unit with MiniKits multiplier to get the correct frequency. This was proved to be very stable locked to a 10MHz reference. The advantage of this board is it has two synthesizers on it so the second has been modified to allow for 6cm to be added (latter next month). The dish is a 54cm offset with a dual feed horn for 3/6cm.

For the June SHF UKAC we put the new 3cm kit onto the SCAM mast and up it went as normal. The problem I have from this location is a manmade hill about 0.5Km to the south of me. The antennas are just about at the same height, so it acts as a knife edge. I can hear Bob G8DTF working stations to the south at 55 or better and I can't hear a whisper. But we did work Bob G8DTF as normal. So it looks like we will now have to work on a plan for portable contesting. In addition we have also had a rebuild with the 9cm AS4000 kit we are using. We have changed out the patch antenna to a loop Yagi and added an SSPA amp. This has allowed me to operate at 10w from the original 0.4W. This has been more successful, being able to get over the hill and work Tony G4CBW as well as the normal locals of G6GVI/P, G4JLG/P and G8DTF. For 13cm I am running 20w into a Wimo yargi and Down East preamp, with the antenna mounted on mast attached to the house, but it is about 1m lower than the Scam mast. In the past we have managed to work GM4CXM and the Harwell club stations. This month condition did not appear to be adequate and I could not hear them but heard other station work them. For me it was G3UVR, M0UFC/P, G8DTF, G1SWH, G6GVI/P, G8OHM and G4JLG/P.

So finally, some great fun as normal and we should have the 6cm kit working next month, but it will possibly have the same issues as the 3cm kit as it will be on the same mast.

**From Alan GM0USI**

Here are just a few lines about my usual trip to Cumbrae IO75MS and my outing today at IO76XA.

It's always good to test with Chris GW4DGU/P in IO71 when down at the island - on the Tuesday activity night I tried a sked with Chris at IO71SW - his local spot...I heard nil from him but he did get me for 1 full period at 539 - probably AS. The mid-point is to the south of GD which can be quite busy with traffic. On the 28th we tried again, but this time he was at IO71NX - where you can see the sea... nothing heard for the first 20min - a cold front was moving between us which really hampered signals - G4CBW whose normally very loud signal was easily 4 or 5 S points down.

About an hour later - presumably as the front moved through Chris's signal appeared and peaked to a very respectable 54 on SSB at 420Km.... conditions were still below par I think...[579 last year]

Bill GM0ICF/P IO75OP who runs a very similar station was out just across the water managed a contact too. I suspect the path across the Irish Sea will be open quite a lot of the time. More [any] activity in EI/GD/GI would be good!

Today the weather was very breezy with gusts to 30mph - I went out anyway to see who was about - Tony G4CBW was around 56 - quieter than normal but not too bad - conditions for me to the south certainly were down a bit. This was proved by the strength of Rob M0DTS/P IO94MJ who was around 54 on SSB - quite stable though - well down on last month when the weather was better!

Chris GW4DGU/P IO71SW at 455km tried our usual sked with 1min periods - during the second or third period he appeared straight away at 549 lasting the whole period - enough time for once to get all the info over — it sounded like AS to me, but may well have been RS – I would like to be able to monitor Planefinder and Rain Radar when out /P.

Also had a successful SSB QSO with Eddie G0EHV/P IO94ET also – little weaker than usual, but very good for his 1W.

It was good to try with F6DWG/P and F9OE at 850km although any planes would be to be very high I imagine – nil with each, but always worth a go.

I really notice an upsurge in 3cm activity compared to the last couple of years which is great.

**From David G4JLG**

As a "regular" member of the Bolton Wireless Club UKAC SHF team, it was my duty to go to my usual site on a low ridge South of Bolton for the SHF UKAC on 25th June, equipped with 9cm SSB and 6cm WBFM gear, and a 70cm FM handheld for talkback. The site had been chosen some time ago as it has a line of site path to Winter Hill, where Ross, G6GVI/P, would be operating. The 9cm gear comprised two AS4000 WIFi units driven by a Microwave modules 1296MHz transverter and an FT290 (all on loan from G4MVU who had worked out the modifications to the AS4000 units), mounted on a Stagg Speaker stand. These make excellent solid tripods for supporting portable microwave gear and can be obtained quite cheaply on Ebay. This month's improvement comprised the use of an HB9CV antenna for the 70cm talkback, which had proved less reliable than the microwave link in the past. I set this up in the corner of a field of new–mown grass (resulting in a fearsome attack of sneezing during the subsequent QSO's) and called Dave, G4MVU on 70 at around 19:45. For some reason it took a few minutes to make contact with Dave on 9cm, during which time Bob (G8DTF) called and we had just about got the antennas aligned so that we could all each other when Ross (G6GVI/P) called from Winter Hill, making it a 4–way net on 9cm, which was a first for us. When the clock turned 20:00 we were able to quickly make the necessary contest exchanges with each other and move on to other things. Unfortunately, Mark (M0UFC), our other "regular" microwaver, has not yet got round to making the modifications to his AS4000 unit (like myself!) and so couldn't join us. We are looking forward to when both of us finally get round to it, we will have enough gear to manage a 6-way net on 9cm, assuming we can find another microwaver in the club!

I had set up the Wide Band 6cm gear on a second Stagg tripod and after finishing on 9cm I listened to G6GVI/P working M0UFC/P who was located near Oldham, after which I quickly worked Ross on 6cm.

The "cheap on cheerful" 6cm gear comprised two patch antennas and a couple of unmodified video sender units with a small AF amplifier and filter coupled to a cheap computer type headset. Yet with this simple setup we have managed QSO's of 60Km or so without any real effort at all.

Unfortunately, our "DX" contact, John, MW1FGQ, was unavailable that evening, so I had to content myself with Ross (G6GVI) and Mark (M0UFC). I couldn't hear Mark while he was working Ross on 6 cm. I had previously found that to work Mark from my site I had to carry the gear to the other side of the road and crawl underneath a locked barrier to a point a few feet higher up. So I had to pack away the 9 cm station and move the 6 cm station across the road, after which I was able to work M0UFC/P some 35Km away, with 5 and 9 reports both ways. The new tripod lifted the patch antennas well clear of an adjacent steel fence (about 6 feet high). This made a huge improvement to the signals compared with previous months when I was using a smaller tripod. While this wide band equipment is not compatible with conventional modes, it does provide a very cheap and simple way of getting going on 6cm, and there is no reason why it shouldn't be possible to work 100Km or so. We need a few more people with compatible equipment to equipment to explore its capabilities properly.

Unfortunately, the need to pack away the 9cm equipment before moving to the other side of the road to work Mark on 6cm meant that I missed a chance to work Tony (G4CBW) when he was active on 9cm a little later on in the contest, which I am sure would have been possible .

**From Chris GW4DGU**

I'm currently only active /P, so I tend to operate only during the summer. I was out on three occasions in June, all in the last week of the month. During the UKAC on the 25th, I demonstrated 3cm to some members of the Carmarthen Amateur Radio Club from IO71sw. I didn't make any contacts, largely because of the demonstration, and partly because I was using the outing to try to work Alan, GM0USI/P, on the Isle of Cumbrae, in the Firth of Clyde via aircraft reflection.

Despite an incomplete QSO, I think those present were impressed to hear a long burst of signal from Scotland on 10GHz.

On June 28 I went over to IO71NX near Trefdraeth/ Newport in North Pembrokeshire. This site is particularly good for long sea paths over the Irish Sea. Last year we exchanged 57 reports over the 422km path to IO75MS. This test was more difficult, probably because a cold front over GD was bisecting the path, but we made a good CW QSO. As we finished I was called by GM0ICF/P (IO75OR). Bill and I also made a good CW QSO – our first, over 417km. I was then called again by Alan on SSB, and we completed a second QSO. All of these QSOs seemed to be via troposcatter.

## June 5.7/10/24GHz Microwave Group Cumulative Contest

**From Chris GW4DGU**

In today's UKuG Contest, I started with a 59/59 QSO over 408km with F9OE at Camaret in Brittany (IN78QG). GB3MCB was a little stronger than usual at the time. Shortly afterwards, I tried with G4ALY, and most unusually, we failed. I guess that there was an elevated duct which was preventing Ralph's signal escaping from Cornwall.

A test with F5HRY failed, but that attracted F6DWG who went portable to JN19aj. We completed by AS after a long test. That was over 539km. Marc was delighted to work IO71 for his 100th QTH locator on 3cm!

I worked a few other stations in G and SW Wales, but the other notable QSO was with GM0USI/P up in the 'car park in the sky' 455km away at IO76XA by (I think) RS for a new country and square from IO71SW.

**From Bob G8DTF**

I thought I would have a go at the UKuG contest from home (IO83SM). The first attempt was with John G3XDY (JO02). I could tell John was there, but nothing strong enough to copy.

The next attempt was with G1IKV (IO91). I was heard weakly, but heard nothing the other way.

The next attempt was with Roger G8CUB/P (JO01). I could hear Roger, not too strong. Nothing was heard of my 2.5W though.

The next attempt was with Graham G3VKV (IO81). Graham was very strong with me at a good 58 and a QSO on SSB was completed with no problems.

A QSO followed with G1EHF/P (IO91) with good signals both ways.

The next attempt was with F6DKW from whom I heard occasional pings, but nothing heard the other way.

A QSO with Nick G4WLC/P (IO81) followed again with good signals both ways, once I had figured out where to point the dish.

I worked Neil G4LDR (IO91) who was very strong as usual.

I also tried with Eddie G0EHV/P and did hear him via some brief AR, but nothing the other way.

I need to get a bit more power, so I will have to start looking for an amplifier.

## ...and finally

I want to encourage you all to report your activity to clearly document use of the amateur microwave bands. This means not just DX, but also local activity with low power or WB equipment. I was looking back at the reports we have had since I started editing the column and the only activity not really reported yet is ATV.

***Please send your reports to Scatterpoint@ukmicrowaves.org, remember the deadline is the 1st of the month.***

Don't forget that

**Every Monday evening is Microwave Activity Evening**

# RSGB & UKµG Contests 2013

| Month | Contest name | Certificates | Date 2013 | Time GMT | Notes |
|---|---|---|---|---|---|
| Mar | Low band 1.3/2.3/3.4GHz | F, P,U,R,L | 3-Mar | 1000 - 1600 | First 4 hours coincide with IARU event |
| Mar | 1.3GHz Activity Contest | *Arranged by RSGB* | 19-Mar | 2000 - 2230 | RSGB Contest |
| Mar | 2.3GHz+ Activity Contest | *Arranged by RSGB* | 26-Mar | 2000 - 2230 | RSGB Contest |
| | | | | | |
| Apr | 10GHz & Up EME | *Arranged by DUBUS* | *13–14-Apr* | 0000-2359 | DUBUS EME Contest |
| Apr | 1.3GHz Activity Contest | *Arranged by RSGB* | 16-Apr | 1900 - 2130 | RSGB Contest |
| Apr | Low band 1.3/2.3/3.4GHz 2 | F, P,U,R,L | 21-Apr | 1000 - 1600 | |
| Apr | 2.3GHz+ Activity Contest | *Arranged by RSGB* | 23-Apr | 1900 - 2100 | RSGB Contest |
| | | | | | |
| May | *10GHz Trophy* | *Arranged by RSGB* | *4-May* | *1400 - 2200* | Saturday, to coincide with IARU |
| May | *432MHz & up* | *Arranged by RSGB* | *4–5-May* | *1400 -1400* | RSGB Contest |
| May | 1.3GHz EME | *Arranged by DUBUS* | *11–12-May* | 0000-2359 | DUBUS EME Contest |
| May | 5.7GHz EME | *Arranged by DUBUS* | *18–19-May* | 0000-2359 | DUBUS EME Contest |
| May | 1.3GHz Activity Contest | *Arranged by RSGB* | 21-May | 1900 - 2130 | RSGB Contest |
| May | 5.7GHz/10GHz/24GHz | F, P,U,R,L | 26-May | 0600-1800 | |
| May | 2.3GHz+ Activity Contest | *Arranged by RSGB* | 28-May | 1900 - 2130 | RSGB Contest |
| | | | | | |
| Jun | Low band 1.3/2.3/3.4GHz 3 | F, P,U,R,L | 2-Jun | 1000 - 1600 | Aligned with some Eu events |
| Jun | 2.3GHz EME | *Arranged by DUBUS* | *15–16-Jun* | 0000-2359 | DUBUS EME Contest |
| Jun | 1.3GHz Activity Contest | *Arranged by RSGB* | 18-Jun | 1900 - 2130 | RSGB Contest |
| Jun | 2.3GHz+ Activity Contest | *Arranged by RSGB* | 25-Jun | 1900 - 2130 | RSGB Contest |
| Jun | 3.4GHz EME | *Arranged by DUBUS* | *29–30-Jun* | 0000-2359 | DUBUS EME Contest |
| Jun | 5.7GHz/10GHz/24GHz | F, P,U,R,L | 30-Jun | 0600-1800 | |
| | | | | | |
| Jul | VHF NFD (1.3GHz) | *Arranged by RSGB* | 6– 7-Jul | 1400 - 1400 | RSGB Contest |
| Jul | 1.3GHz Activity Contest | *Arranged by RSGB* | 16-Jul | 1900 - 2130 | RSGB Contest |
| Jul | 24GHz - 1THz Contest | O | 21-Jul | 0900 - 1700 | New Format |
| Jul | 2.3GHz+ Activity Contest | *Arranged by RSGB* | 23-Jul | 1900 - 2130 | RSGB Contest |
| Jul | 5.7GHz/10GHz/24GHz | F, P,U,R,L | 28-Jul | 0600-1800 | |
| | | | | | |
| Aug | Microwave Field Day | O,L | 4-Aug | 0900 - 1700 | |
| Aug | 1.3GHz Activity Contest | *Arranged by RSGB* | 20-Aug | 1900 - 2130 | RSGB Contest |
| Aug | 5.7GHz/10GHz/24GHz | F, P,U,R,L | 25-Aug | 0600-1800 | |
| Aug | 2.3GHz+ Activity Contest | *Arranged by RSGB* | 27-Aug | 1900 - 2130 | RSGB Contest |
| | | | | | |
| Sep | 1.3GHz Activity Contest | *Arranged by RSGB* | 17-Sep | 1900 - 2130 | RSGB Contest |
| Sep | 2.3GHz+ Activity Contest | *Arranged by RSGB* | 24-Sep | 1900 - 2130 | RSGB Contest |
| Sep | ARRL Microwave EME | *Arranged by ARRL* | 28–29-Sep | 0000 - 2359 | |
| Sep | 5.7GHz/10GHz/24GHz | F, P,U,R,L | 29-Sep | 0600-1800 | |
| | | | | | |
| Oct | *1.3 & 2.3GHz Trophies* | *Arranged by RSGB* | *5-Oct* | *1400 - 2200* | RSGB Contest |
| Oct | *432MHz & up* | *Arranged by RSGB* | *5–6-Oct* | *1400 - 1400* | IARU/RSGB Contest |
| Oct | 1.3GHz Activity Contest | *Arranged by RSGB* | 15-Oct | 1900 - 2130 | RSGB Contest |
| Oct | 2.3GHz+ Activity Contest | *Arranged by RSGB* | 22-Oct | 1900 - 2130 | RSGB Contest |
| Oct | ARRL EME 50-1296MHz | *Arranged by ARRL* | 26–27-Oct | 0000 - 2359 | |
| | | | | | |
| Nov | ARRL EME 50-1296MHz | *Arranged by ARRL* | 16–17-Nov | 0000 - 2359 | |
| Nov | 1.3GHz Activity Contest | *Arranged by RSGB* | 19-Nov | 2000 - 2230 | RSGB Contest |
| Nov | Low band 1.3/2.3/3.4GHz 4 | F, P,U,R,L | 24-Nov | 1000 - 1400 | |
| Nov | 2.3GHz+ Activity Contest | *Arranged by RSGB* | 26-Nov | 2000 - 2230 | RSGB Contest |
| | | | | | |
| Dec | 1.3GHz Activity Contest | *Arranged by RSGB* | 17-Dec | 2000 - 2230 | RSGB Contest |

| **Sections** | | |
|---|---|---|
| | **F** | Fixed / home station |
| | **P** | Portable |
| | **L** | Low-power <10W 1.3/2.3/3.4GHz, <1W 5.7/10GHz) |
| | **R** | Radio talkback |
| | **U** | Unlimited Talkback |

| **Main changes from 2012 calendar** | |
|---|---|
| 1 | ARRL/DUBUS EME updated |
| 2 | Lightwave event deleted |
| 3 | 5.7/10/24GHz Cumulatives replaced with individual events |

**73 John G3XDY, UKUG Contest Adjudicator**

UKµG Contest Portal

# Journées d'Activité Dates in 2013

**From Robin Lucas G8APZ**

There will be nine fixed JA in 2013:

First JA – 24 GHz and above in March,

Seven JA – 1296 MHz and above in April, May, June, July, August, September and October, and a JA mid-July for reflection via Mt Blanc 1296 MHz and above.

| | |
|---|---|
| JA March: | W/E 30 and March 31 |
| JA April: | W/E 27 and 28 |
| JA May: | W/E 25 and 26 (UKMG contest) |
| JA June: | W/E 22 and 23 (Activity "Big Blue") |
| JA July: | W/E 27 and 28 (UKMG contest) |
| JA of August: | W/E 24 and 25 (UKMG contest) |
| JA September: | W/E 28 and 29 (UKMG contest) |
| October JA: | W/E 26 and 27. |

F6BSJ memorial JA: QSOs by reflection via Mt Blanc will take place on Sunday morning July 14.

Duration of JAs: Saturday 5:00 p.m. Sunday 5:00 p.m.

The latest EME calendar is available from DL7APV's website

# Events calendar 2013/14

## 2013

| | | |
|---|---|---|
| June 28–30 | Ham Radio, Friedrichshafen | www.hamradio-friedrichshafen.de/ |
| July 13–14 | **Finningley Roundtable** | detail tbc |
| July 19–21 | Amsat–UK Colloquium, Holiday Inn, Guildford, Surrey | www.uk.amsat.org/Colloquium/ |
| Sept 9 | **Crawley Roundtable** | detail tbc |
| Sep 13–15 | 58.UKW Tagung Weinheim | www.ukw-tagung.de/ |
| Sept 27–28 | National Hamfest | www.nationalhamfest.org.uk/ |
| Oct 6–11 | European Microwave Week, Nuremberg | www.eumweek.com/ |
| Oct 11–13 | **RSGB Convention** | www.rsgb.org/rsgbconvention/ |
| Oct 18–19 | Microwave Update, Morehead, Kentucky | www.microwaveupdate.org/ |
| Nov 2 | **Scottish Roundtable** | www.rayjames.biz/microwavert/ |

## 2014

| | |
|---|---|
| July 1 | Scatterpoint 10th Anniversary |
| August | EME2014, Pleumeur-Bodou near Lannion |
| October 6–9 | European Microwave Week, Rome |