An Amateur Radio publication for the Microwave Enthusiast

# scatterpoint

Published by the UK Microwave Group

July 2023

In This Issue



GB3KBQ moves home

Finningley Microwave Round Table report

UK Microwave Group

# Subscription Information

The following subscription rates apply

UK £6.00 US $9.00 Europe €9.00

This basic sum is for **UKuG membership** For this you receive Scatterpoint for **FREE** by electronic means (now internet only) via

https://groups.io/g/Scatterpoint 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

payukug@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, rtfd, doc, docx, odt, Pages

Spreadsheets: Excel, OpenOffice, Numbers

Images: tiff, png, jpg

Schematics: sch (Eagle preferred)

Please send pictures and tables separately, as they can be a bit of a problem.

Thank you for you co-operation

**Roger G8CUB**

## Reproducing articles from Scatterpoint

If you plan to reproduce an article exactly as in Scatterpoint then please contact the Editor – otherwise you need to seek permission from the original source/author.

# 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 (e.g. 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 contact the committee.

The current list is available at

www.microwavers.org/tech-support.htm

# UKµG Chip Bank – A free service for members

**By Mike Scott, G3LYP**

Non-members can join the UKµG by following the non-members link on the same page and members will be able to email Mike with requests for components. All will be subject to availability, and a listing of components on the site will not be a guarantee of availability of that component.

The service is run as a free benefit to all members of the UK Microwave Group. The service may be withdrawn at the discretion of the committee if abused. Such as reselling of components.

There is an order form on the website with an address label which will make processing the orders slightly easier.

Minimum quantity of small components is 10.

These will be sent out in a small jiffy back using a second class large letter stamp. The group is currently covering this cost.

As many components are from unknown sources. It is suggested values are checked before they are used in construction. The UKµG can have no responsibility in this respect.

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

# UK Microwave Group Contact Information

| | | | |
|---|---|---|---|
| Chairman: | Paul Nickalls G8AQA | chairman@microwavers.org | |
| General Secretary: | John Quarmby G3XDY | secretary@microwavers.org | tel: 01473 717830 |
| Membership Secretary: | Bryan Harber G8DKK | membership@microwavers.org | |
| Treasurer: | David Millard M0GHZ | treasurer@microwavers.org | |
| Scatterpoint Editor: | Roger Ray G8CUB | editor@microwavers.org | |
| Beacon Coordinator: | Denis Stanton G0OLX | beacons@microwavers.org | |
| Contests Manager: | John Quarmby G3XDY | g3xdy@btinternet.com | |
| Scatterpoint Activity news: | John Worsnop G4BAO | scatterpoint@microwavers.org | |
| Trophies & Awards Manager: | Heather M0HMO | m0hmo@microwavers.org | |

## Assistants

| | | | |
|---|---|---|---|
| Murray Niman | Webmaster | G6JYB | g6jyb@microwavers.org |
| Kent Britain | USA | WA5VJB/G8EMY | wa5vjb@flash.net |
| Mike & Ann Stevens | Trophies | G8CUL/G8NVI | trophies@microwavers.org |
| Noel Matthews | ATV | G8GTZ | noel@noelandsally.net |
| Robin Lucas | Beaconspot | G8APZ | admin@beaconspot.uk |
| Chris Whitmarsh | mmWaves | G0FDZ | chris@g0fdz.com |
| Mike Scott | Chip Bank | G3LYP | g3lyp@btinternet.com |
| Paul Nickalls | Digital | G8AQA | g8aqa@microwavers.org |
| Heather Nickalls | SDR | M0HMO | m0hmo@microwavers.org |
| Neil Smith | Tech Support | G4DBN | neil@g4dbn.uk |
| Barry Lewis | RSGB uWave Manager | G4SJH | barryplewis@btinternet.com |

## UK Regional Reps

| | | | |
|---|---|---|---|
| Martin Hall | Scotland | GM8IEM | martinhall@gorrell.co.uk |
| Gordon Curry | Northern Ireland | GI6ATZ | gi6atz@qsl.net |
| Peter Harston | Wales | GW4JQP | pharston@gmail.com |

## International

| | | | |
|---|---|---|---|
| Kent Britain | USA | WA5VJB/G8EMY | wa5vjb@flash.net |

# Loan Equipment

Don't forget, UKuG has loan kit in the form of portable transceivers available to members for use on the following bands: **Contact Neil G4DBN for more information**

**5.7GHz 10GHz 24GHz 76GHz 122GHz**

# GB3KBQ Moves Home

**Adrian G4UVZ**

View to the North

The beacon was first located on the Blackdown Hills in Somerset over 30 years ago. I built the beacon in memory of John Moxham G8KBQ, a big character and a big signal. The initial set up was a White Box local oscillator with a very basic FSK Morse ID, followed by a G3WDG PA. Over the years it grew in both stature and sophistication and in recent times was upgraded to JT4G modulation and a new more powerful PA.

About 12 months ago I was contacted by the land owner to advise me the building housing the beacon was in a state of poor repair, and they proposed knocking it down and rebuilding. It was decided that it would be better to take down the beacon and GB3VS repeater in a controlled manner rather than getting a call to say the building is coming down tomorrow! This was carried out 12 months ago. The subsequent demolition and rebuild took forever but in mid-November the new building was erected. Then the bomb shell, the board decided that they didn't want antennas on their new shiny building!

I immediately started a search for a replacement site. Several potential sites were found, a really promising site which turned out to be off-grid but with a total daily consumption of just under 2 kWh, this was a non-starter. A couple of private dwellings were also considered but these were rejected on the grounds that individuals move on a regular basis and there would be no guarantee that a new owner would play ball.

All this was taking place at a time when electricity prices were going through the roof and power cuts were a real possibility. Now the repeater arm of the installation is 'sponsored' by the local Raynet group and this gave me an idea. It prompted an email to the CEO of our local water company to explain that we had lost our site to explain how Raynet was looking for a new home and I had identified a possible location at one of their reservoir sites. Within 24 hours I had a response from the CEO! The waterboard were very aware of Raynet and were keen to

engage as they felt that parts of their own comms systems were vulnerable to mains failure, relying on the mobile phone network in rural areas means mains failure would result in imminent failure of comms.
As one door closes another door opens!
Within a week I had an agreement in principle to move to the waterboard site. I then started the ball rolling with Ofcom to move both beacon and repeater, to my absolute amazement within a month I had clearance for both ! The UHF aerials were erected on the new site for the repeater and a compatibility test run to ensure that our 433MHz system didn't get in to their 459MHz telemetry, all went well on this front.
Following a site meeting a location for aerials and equipment was agreed. What's more the waterboard agreed to do all the civils.

Returning to GB3KBQ, the original installation had the head end, inside the building. The new installation necessitated an external head end. This was completed in just over a month. The old antenna system again needed some modernisation / refurbishment, and this is where G4DBN engineering came to the fore, producing a new radome and waveguide mounting brackets, all made to an extremely high standard!
At the beginning of June, the whole system went live, and initial indications are that the new site is at least as good as the old site. In the Northern quarter, although stations beyond 70 degrees East need rain scatter to hear the beacon. The Beaconspot.uk map has been reset so that all the lines on the map are current and these are building up nicely.

The new site benefits from a 500 kVA generator, so there should be minimal outage!
As with any project it was achieved with support from many individuals. I am particularly indebted to Neil G4DBN for his engineering skills, to Andy G4JNT for reprogramming the pic for the new site ID, to Taunton Raynet Group for their continued support, to Wessex Water and to the Microwave Committee for their financial assistance with this project.

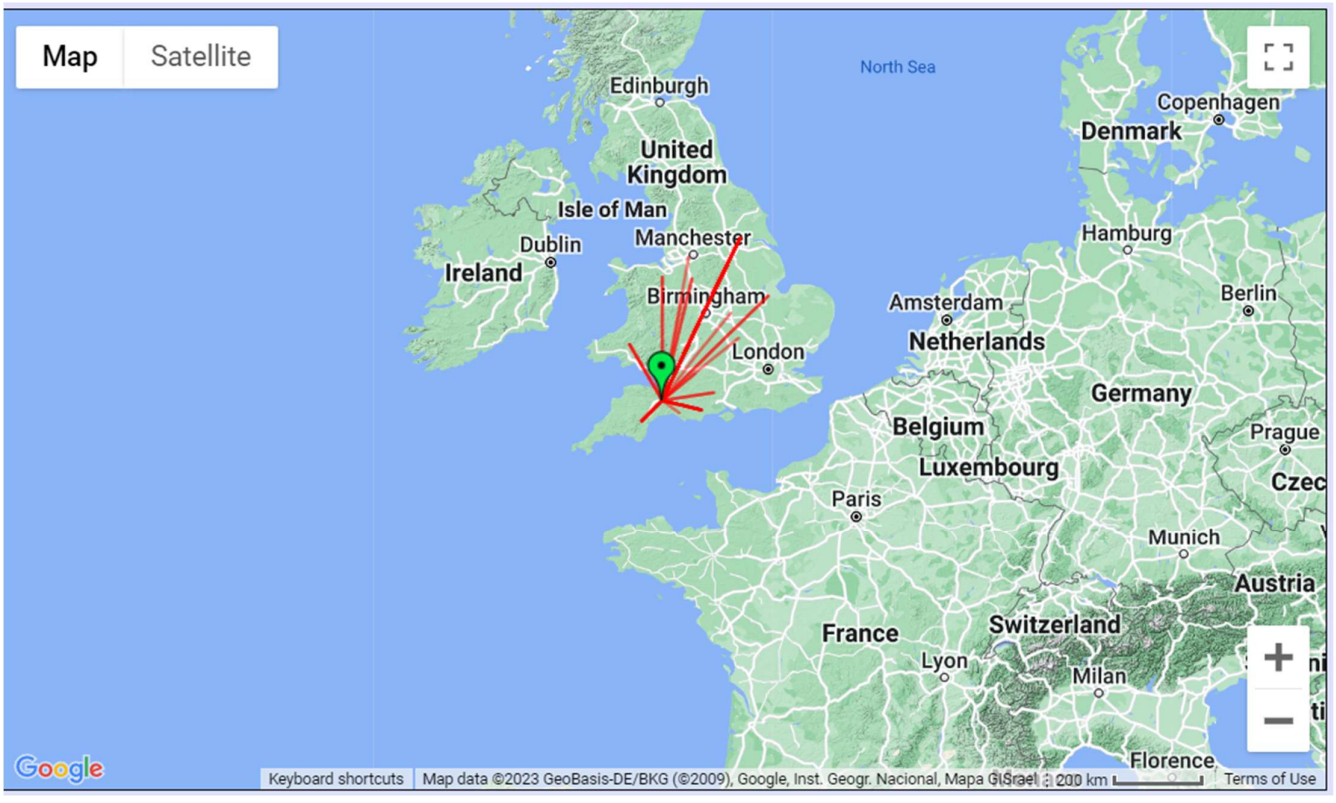

Old Radome


Slot prior to cleaning

Commissioning day

Mechanics from Neil G4DBN

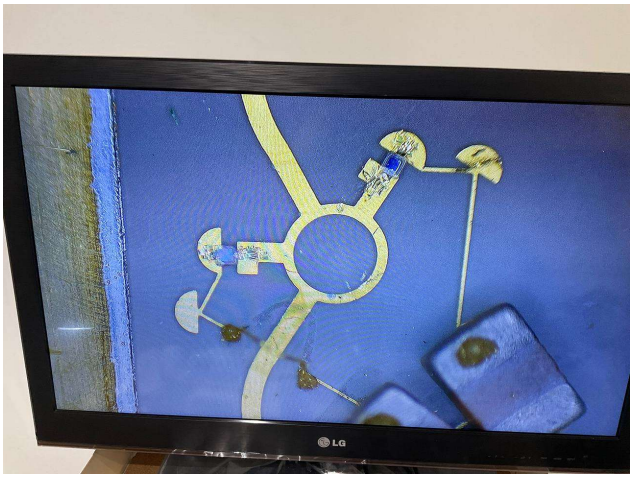
Adrian G4UVZ
Beacon Keeper GB3KBQ

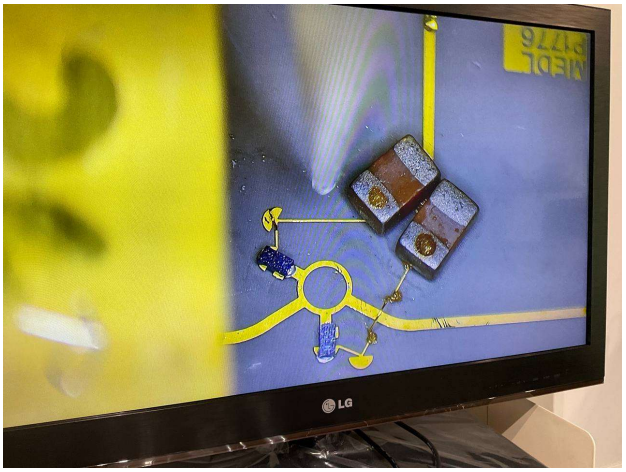


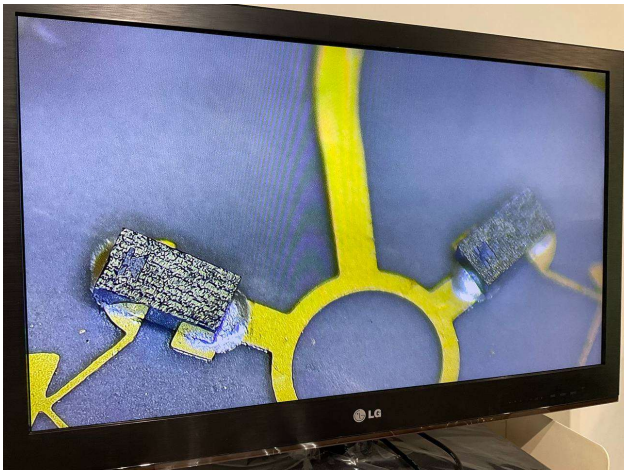

**Recent Spots GB3KBQ 10,368.870 MHz IO80KW48**

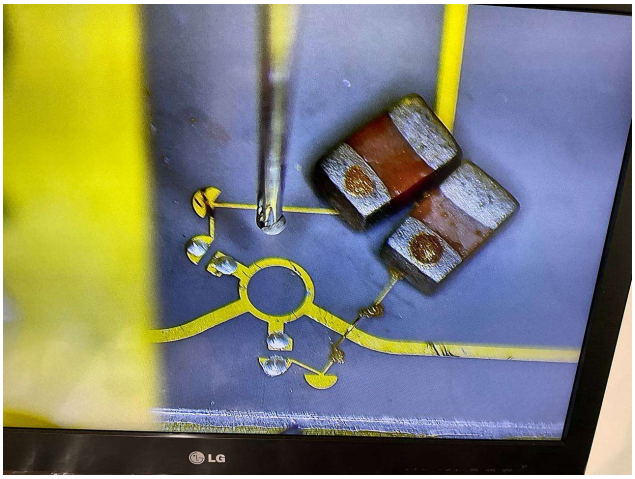
# 76GHz Loan System Mixer Repair

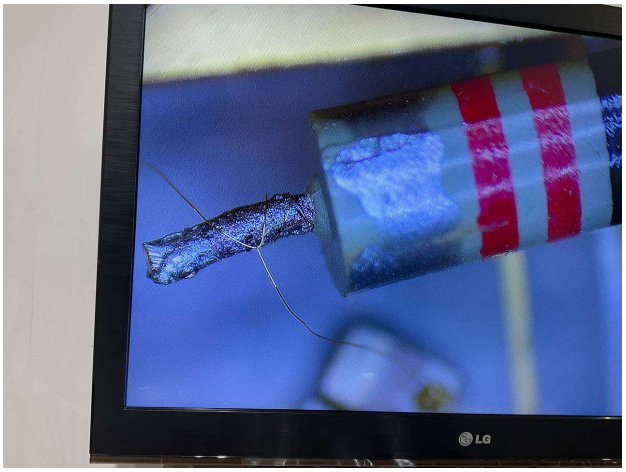
When the receive part of the 76GHz transverter was found to have failed. Noel G8GTZ investigated. Everything pointing to a failure of the AEI Semiconductors fundamental mixer. This is a biased mixer, with fine bond wires. With wire bonding required, Iban EA3FRN offered to have a look. This sequence of photos shows the diode replacement and bond wire repair, by Iban.

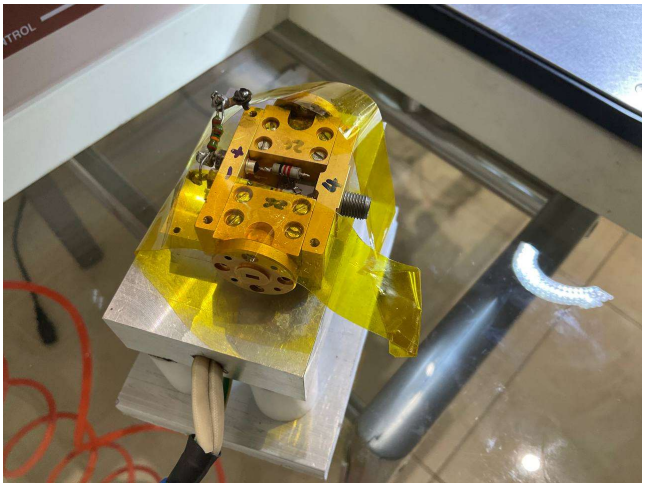


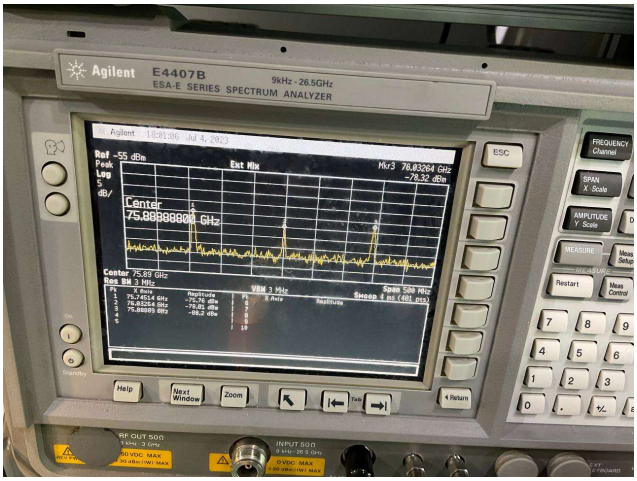


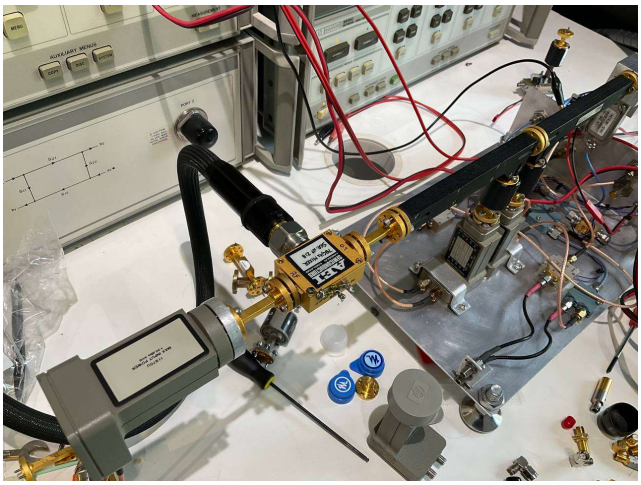


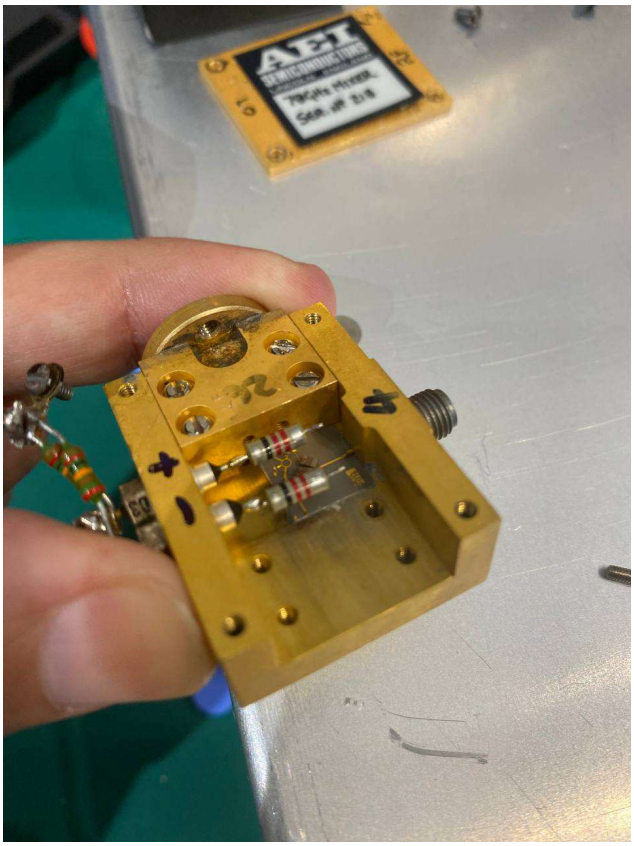











Test setup, with the analyser picture showing the upconverted signal.

An especial thankyou to Iban, for making the repair. With another thankyou to  John Lambo PA7JB for donating the MA4E1317 diodes.
It looks like the failure was caused by oxidation or metal migration of the connections to the original diodes. I guess with such items of 40+ years old, this problem may not be uncommon!

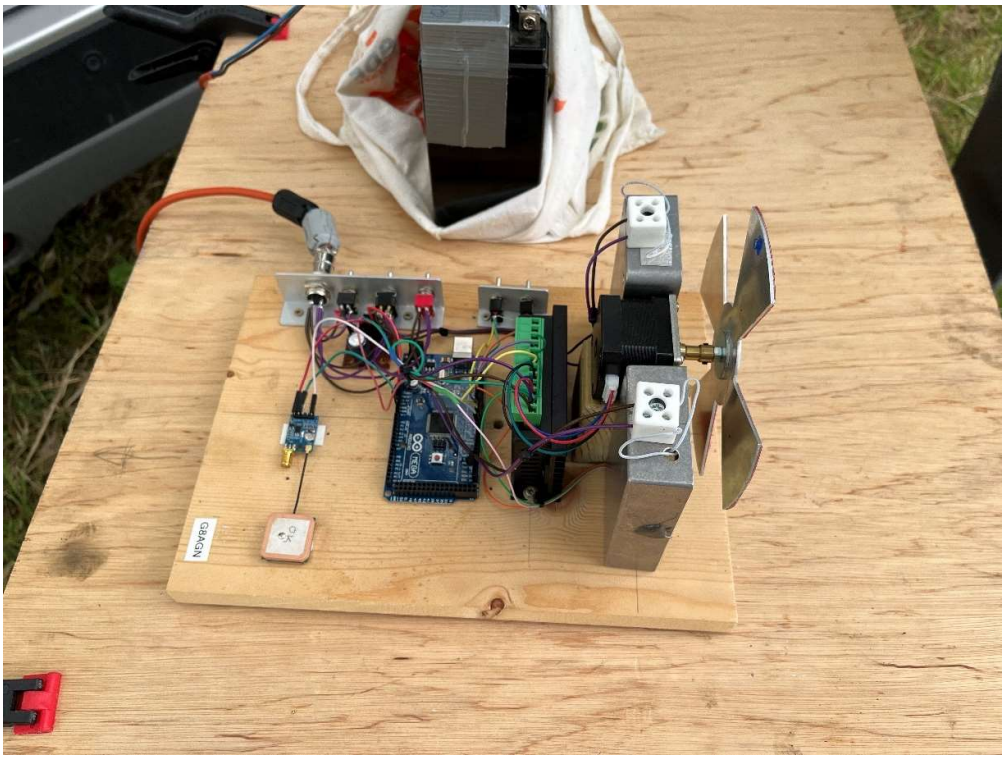
# Finningley Round Table 2023 Report

**Saturday**

**Roger G8CUB**


Introduction from Kevin G3AAF before the talk by Barry G8AGN

G8CUB - Testing 47GHz transverter front, and 76GHz transverter rear on receive to use the next day.



30THz transmitter being demonstrated by Barry G8AGN

**Sunday**

**Steve G1PPA**

I attended the FNY round table on the Sunday, I took the microwave group loan equipment with its new bracket which allows the system to be quickly mounted on a pole or tripod, unfortunately there was no one close enough to work and conditions was poor.

Rob M0DTS also brought his van and set up ATV rob has done an excellent job of building his ATV equipment and fitting it in the van needless to say this generated a lot of interest,

On Sunday we had approximately 25 visitors and a few club members it was good to see a couple of guys travelling down from up north, also pleased to see Sam, Brian and on a personal level to meet John G3XDY for the first time after many QSO over the years.

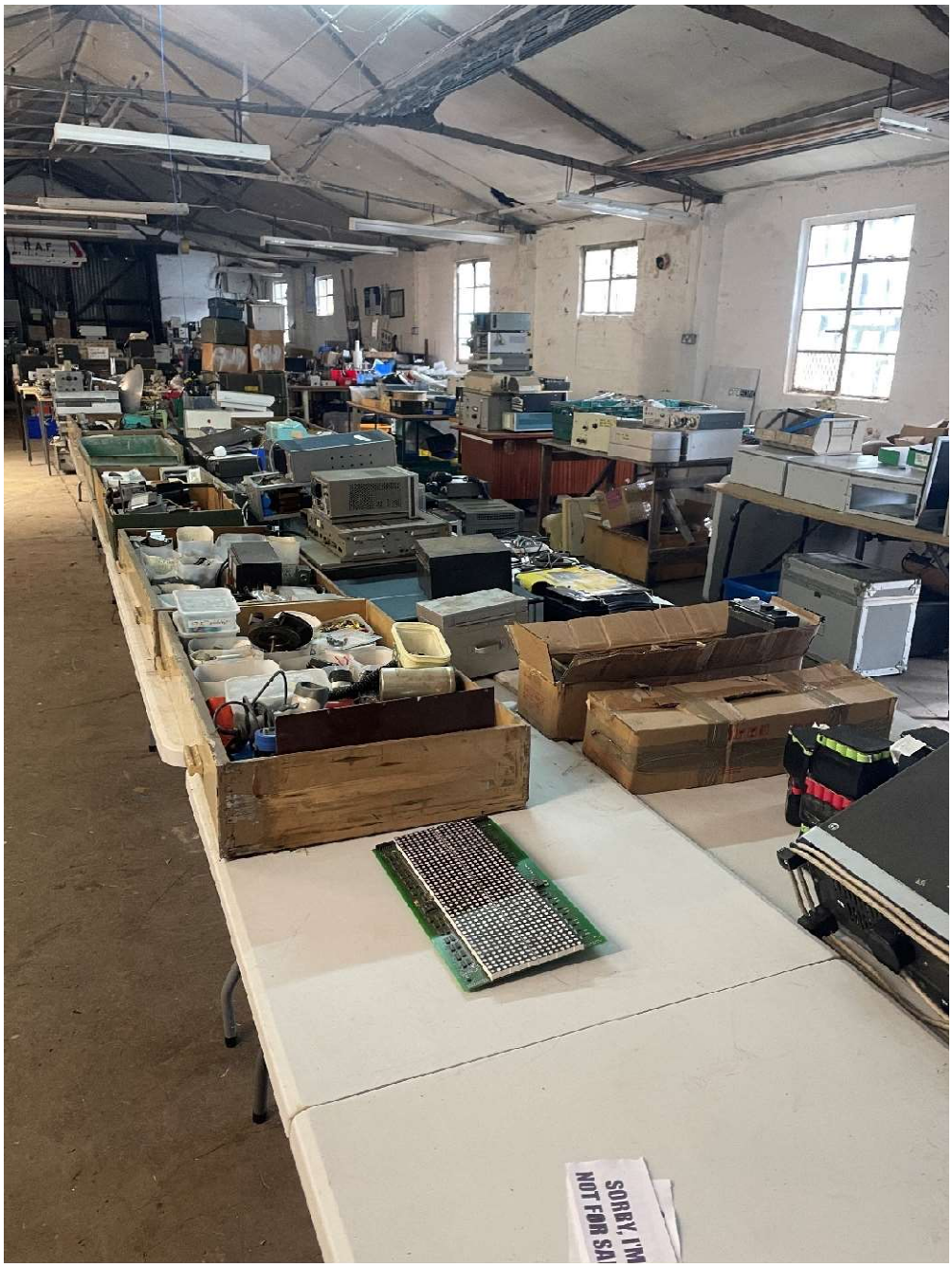
There was a couple of talks in the morning one by a club member which I missed, then a demonstration by Barry of his 30tb equipment followed by a talk on his tests.

A big thanks to Michelle who took care of the catering kept us well fed and supplied with tea and coffee at lunchtime.

1st talk in the afternoon was a very interesting one by Bryan Harber on the new Icom 905 he emphasised it's key points and to give people new to SHF who purchase one a guiding hand re better antennas dishes give encouragement etc.

This was followed by a talk from David G0LBK on the build of his EME dish and his currently building a large number of countries worked in a short time on 23cm . Dave concentrated on how it's possible to build a small or large dish with simple hand tools, explaining how he bent and formed the ribs with a simple homemade Jig there was well over 200 hours put in the build, it was enjoyed by all and Dave shown with a bit of care and dedication it can be done.

We then had a talk by Martin M0HOM
On chasing squares and DX with a simple set up on 144mhz
We wrapped the day up around 4:30



Plenty of stuff for sale in B2

Photos of microwave group's 24GHz loan kit

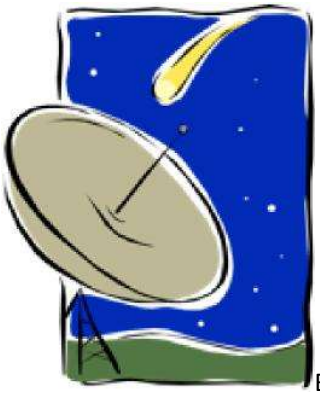
## Tech Support in Wales

I'm located in Cardiff and would be happy to offer support answering questions and making some test equipment available to folks looking to debug or measure their systems.

Derek Kozel MW0LNA
derek.kozel@gmail.com

Spectrum Analysis to 6 GHz
Power Measurement to 26.5 GHz
Frequency Measurement to 26.5 GHz
Vector Network Analysis 0 to 20 GHz
General Advice

# Activity News July 2023


By John G4BAO

***Please send your activity news to:*** **scatterpoint@microwavers.org**

## From Dave G1EHF

I ventured out to Walbury Hill IO91GI44 again for the July 24/47/76 GHz session. Conditions on 24 GHz were very poor, with failure to work any of the usual stations over 100 km away and no beacons heard. I did manage eight contacts but all relatively local. On 47 GHz I was pleased to make five contacts, despite the conditions. ODX was Dave G4FRE/P at 74 km and my best on the band so far. On 47 GHz I have 80 mW and around 6 dB NF to a pair of 35 mm icing-cone horns.

## From John G4BAO

One step forward and one step back on the repair of the 24GHz GB3CAM beacon after my negative report last month. With help from Dave G4FKI and some "influential friends" we managed to get on site and replace the damaged diplexer, only for a week or so later for the GPS signal to be lost leaving the beacon sinusoidally wavering +/2kHz. I'm hopeful we can get back on site soon and investigate.

On a recent trip to Yorkshire, I managed to pop in to visit Neil G4DBN for a bit of "tea and character assassination" and have a look round his place. I was impressed with both his machine shop and YouTube Studio and talked through a few ideas for EME and support for UKuG users of the new IC-905. I spent much of the month doing the upcoming review of said IC-905 along with Dave G8GKQ. It will be in the October issue of RadCom.

I did manage to make a few QSOs on 10GHz terrestrial towards the end of July including a fully quieting NBFM rainscatter QSO with G4DBN IO93NR at 178km on the evening of the 22nd and a few of the "usual suspects in the SHFUKAC on the 25th July. ODX was G4ASR/P IO82LB 539 both ways on CW.

## From Sam G4DDK

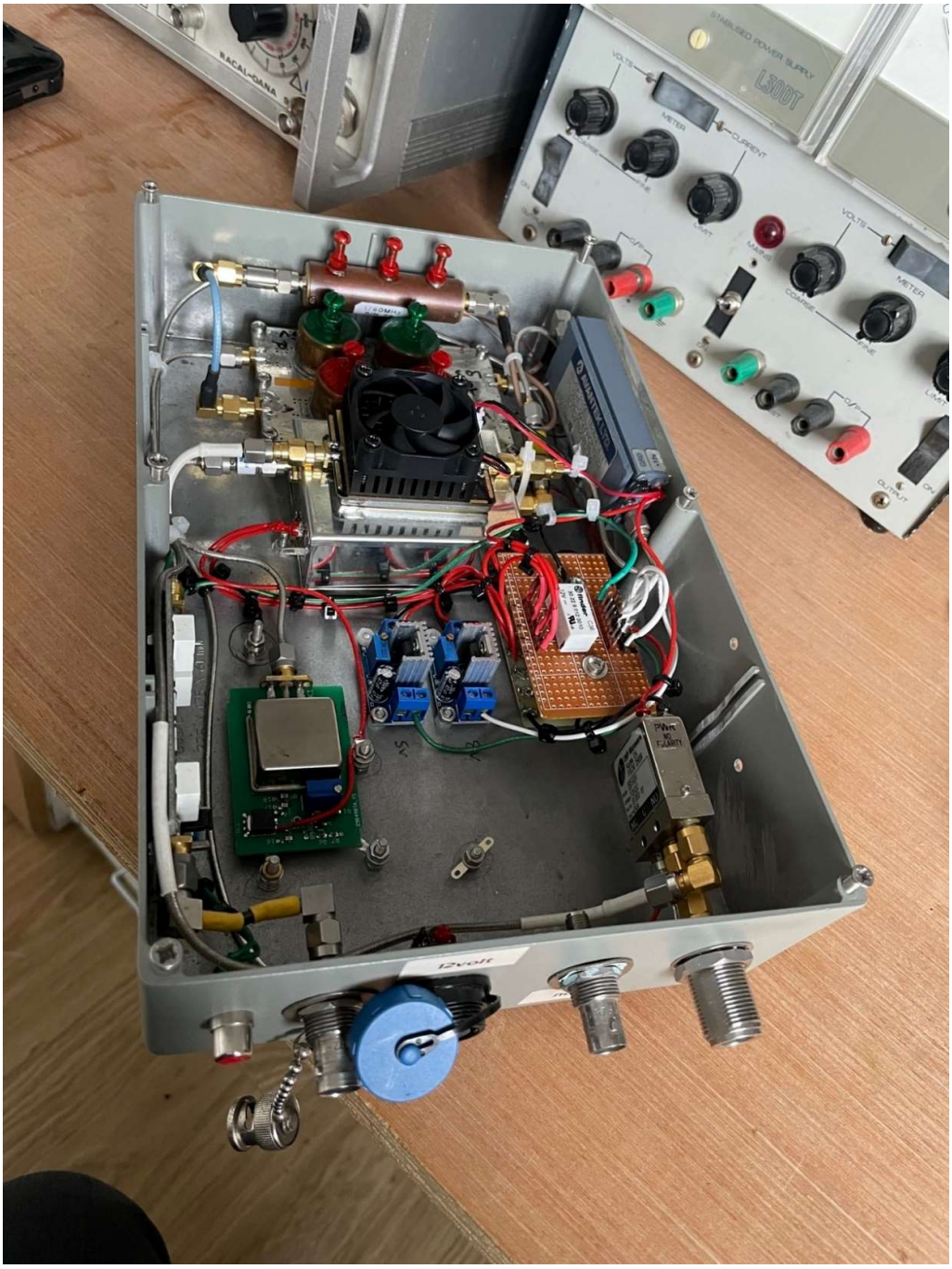
I'm QRV on 23cm EME again running about 150W to a 2.3m dish and a VLNA23. Work on the W6PQL QRO PA is progressing nicely, meaning progress towards 10 GHz EME has taken a back seat for now.

On 23cm I managed a few Q65 QSOs this month, including SP5GDM KO02 -17 -18. G0LBK JO03 -13 -18 N6RZJ CM99 -15 -20 W7JW EN82 -19 -24 VE6TA DO33 -11 -15 OJ0EME JP90 K6RA -18 -22 / and OK2AQ JN89.

## From Paul GW0MDQ

This month I have completed a 5.76GHz transverter based on the popular design by W1GHz, it seems to be working fine and I hope to be in the position to have a few contacts on one of the Monthly UKAC contests initially and then perhaps some Rain Scatter from home. The design can be used on its own with a few milliwatts output or as I have arranged with a cheap eBay amplifier set to 1 Watt (kindly donated by G7MHF). The circuit took a bit of time to fix a few dry solder joints on the microwave Oscillator and the 10MHz reference along with some fun tuning the pipe cap filters but I got there in the end. I have recently acquired an HP Microwave power meter capable of measuring down to 30uW which helped to tune up the transmit stages and for the receive side I used one of the cheap microwave oscillators from eBay set to a 2nd harmonic. I will probably add a low noise LNA at some stage to enhance the receive side.

Line up on TX is a 10MHz reference into a DF9NK Oscillator on 5616MHz, MiniCircuits mixer followed by 3 MMIC gain stages on the PCB (same devices for TX side) using a 144Mhz IF. Output from the transverter board of approximately 2mW goes through a G3YKI 3 pole comb line filter, suitable attenuator and lossy cable to under drive a commercial Avantek amp to 26mW feeding a drone 5.8GHz amp also under driven to 1 watt. This set up shows about 50uW of LO leakage, so the filter is working nicely. RX front end is an MGA-86576 providing around 3dB overall noise figure.



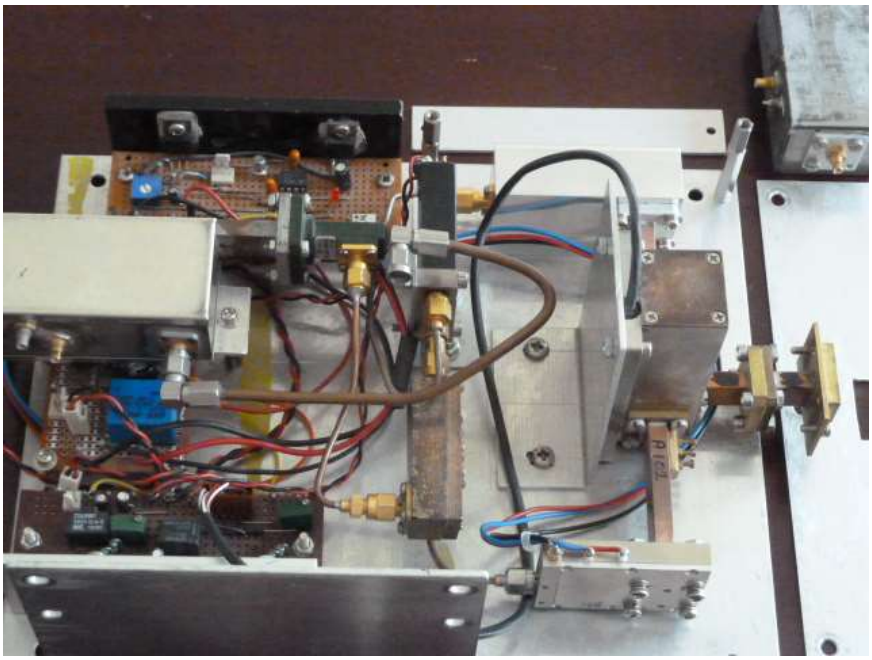
## From Barry G8AGN

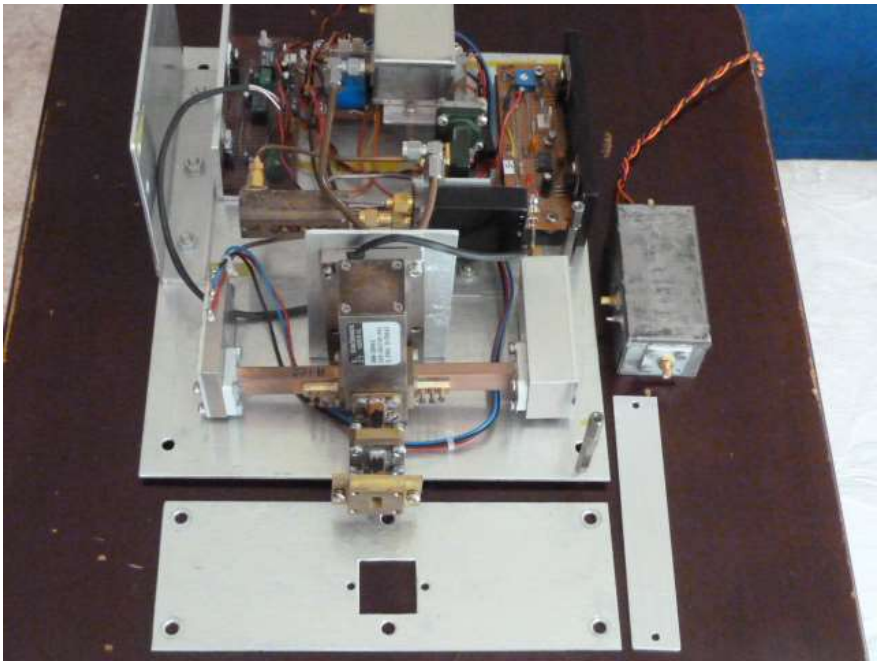
On 21 July 2023, Bob G4APV and I had a successful 30THz (long-wave infra-red) test over a path length of 320 metres at Bent's Green in Sheffield, UK. The Tx was based on a 4 blade chopper wheel and 2 x MCH heater sources and the modulation was 2-PSK-CW QRSS1 (1 sec dots, 3 sec dashes) using a 4Hz sub-carrier. The Rx was based on a M0LRH SDR configuration, with a PIR sensor and NAU7802 24 bit ADC followed by an on-line digital bandpass filter (4Hz CF, 2Hz BW) and off-line digital phase-sensitive detector. Signals were only a few dB above noise when using a 76mm Celestron Firstscope receiving aperture and some QSB was also evident. Alignment of the Firstscope was achieved using a normal optical eyepiece fitted with crosshairs before swapping to a PIR sensor.


## From Bryan G8DKK

I have now rebuilt my 24GHz transverter, and so here are some photos taken after a recent modification to add a "bridge" over the LNA to fit in a tinplate box containing the 432MHz PTT switch/Tx input attenuator.
Here is a brief of the unit. It uses a waveguide input/output rescued from an old ex-BT 18GHz link by Harris Farinon and a Relcom WG switch with mods described by Kent WA5VJB. To the left of the WG switch is the Toshiba Tx PA and to the right is a
Kuhne WG input LNA (the only really expensive part). The image filter is connected via 0.085" semi-rigid to a Flann SMA to a WG adapter to interface with the transverter module behind. The transverter module is an original Mk 1 Kuhne 24GHz unit built around 1996 and used with a previous attempt at a 24GHz transverter while G3PYB (SK) was living in Letchworth. The transverter module is "bridged" over a relay switching board that also contains a 12V to 23V

DC supply using a 555 + totem pole transistors. 23V off load and 19V on load, more than enough to switch and hold in the Narda relay. Either side of the transverter + switching board are two DC conditioning units with heatsinks. The left one is for the Relcom WG switch and LNA
while the right one is for the Toshiba PA. Not shown in these photos is the Elcom LO on 11.808GHz that is bolted to the large rectangular plate on the left side. The 0.141" semi-rigid cable to it can be seen attached to the 24GHz transverter module.





The transverter is now completed (3rd Photo) so I plan to take it to Therfield IO92XA to listen for the GB3CAM beacon with my recently acquired IC-705.

## Crawley Microwave Round Table

Sunday 17th September. Hut 18 Tilgate Forest, RH10 5PH.
Info when available https://carc.org.uk/

## Scottish Microwave Round Table

Registration is now open for the Scottish Microwave Round Table which will be held in Burntisland on Saturday 11th November.

Visit https://gmroundtable.org.uk/about/ for more details.

73, Martin
GM8IEM – IO78HF

## Midlands Microwave Round Table

Saturday 2nd December Lectures, Antenna Test Range, Test Equipment, Junk Sale and Hot Lunch.
Sunday 3rd December Continuation of some activities and other stuff depending on demand.
Accommodation available 1st, 2nd and 3rd subject to confirmation.

Contact Paul Nickalls G8AQA to book or discuss
paulnickalls@btinternet.com
01694 772 441

## Editors Comments

I had an enjoyable day at Finningley on the Saturday. Then a quick trip back to Wiltshire, for the 24/47/76 contest on the Sunday. I went with Doug VK4OE to Hackpen for the contest. He operated at M/VK4OE/P on 24 & 47. Making seven contacts on 24, and a couple of one ways on 47 (I had connected a relay incorrectly – sorry Doug).
Thanks to the contributors this month. I am looking forward to seeing many of you at the next round table at Crawley on 17th September. Roger G8CUB.

## Notices

OFCOM have recently changed the website address where we validate our licences.

It is now: https://ofcomlive.my.site.com/licensingcomlogin

This might be a good to time to validate your callsign if you haven't done so recently.

## Beaconspot

beaconspot.uk has been asked how to accomplish DX Cluster spotting using a /P callsign.
Most DX Cluster sites will not accommodate a login with a "/" in the call; either as suffix or prefix. Neither will beaconspot.uk.

As far as beacon spotting is concerned, beaconspot.uk does allow the use of a "/P" call in the "Back dated beacon spot" facility though the "/" character may NOT be entered as a login. There is a tick box to append "/P" to the user's call. Should a user spot a beacon in this way, then the 6 character locator for the portable location MUST be entered too, otherwise the registered home locator for the logged-in user will be used.
Access this feature from the button at the bottom of the page accessed via the "Spot Beacon" menu item on the LHS.

from Dave G1OGY

## Zello

It looks like the Zello SHF Chat channel was used quite a bit during recent contests. That's exactly what it was set up for. However as the administrator for the channel I would like to emphasise a couple of points...

Please don't forget that when you are using the SHF Chat channel you are not in a one to one conversation, everyone connected can hear you. If you need to have a longer private conversation you can set up a direct connection outside of the SHF Channel.

During a contest there may be many people trying to use the channel, so please try to keep any conversations as short as possible. I did observe a few 'overs' today that were several minutes long.

If things become too busy for one channel we could always set up one or two alternates. I don't think we have quite got to that point yet but it might be worth considering in the future. Maybe a calling channel and a couple of working channels?

from Colin G4EML

## Latest 122 / 134GHz 'VK' Boards

Please be aware of the last two sentences before the chart on page 11, of the information on the new boards.

"Operation above 134.100 GHz cannot be guaranteed under all temperature and operating conditions. Operation close to 134 GHz is advised."

As the normal UK operating frequency is 134.400. This could represent a problem. The frequency in UK use came about from an easy multiple of Elcom synthesisers on 13.340 or 11.200GHz.
The limitation is from the chip manufacturer Silicon Radar.
Maybe a frequency of 134.000,100 could be paired with 134.144,200 or similar? Noting that the second frequency is still above 134.100.

From Chris G0FDZ

# 30THz

I have just upgraded my 30THz Rx to use a 130mm reflecting telescope instead of the 76mm demonstrated at Finningley on Saturday at the FARS round table. See the following photos.

73 Barry, G8AGN

G8AGN Rx with 5 inch telescope

# For Sale


A HP431C power meter minus measuring head. Or has anyone got a homebrew circuit to replace measuring head unit ? If not. £20. Plus postage at cost.

Cash, Card, or PayPal.

Best regards .
Mike G4GUG

Stroud , Glos.

07808 471276

## Correction

Paul G4KZY/P has pointed out an error in the overall table for the Lowband Championship. He should appear in fourteenth place, and G4LPP (24th) and GM4BYF (28th) are also missing. Apologies for the errors. John G3XDY.

## 10GHz May 2023

Well done to Open winner John G4ZTR and runner up Pete G4CLA who also had the best DX with F6DKW.
Well done to Restricted winner Adrian M0PAI
73 Chris G0WUS

### 10GHz Contest May 2023

### Open Section

| Pos | Callsign | Locator | QSOs | Score | ODX Call | ODX Kms |
|---|---|---|---|---|---|---|
| 1 | G4ZTR | JO01KW | 18 | 3994 | G0HIK/P | 371 |
| 2 | G4CLA | IO92JL | 18 | 3140 | F6DKW | 478 |
| 3 | G4LDR | IO91EC | 17 | 2883 | F6DKW | 378 |
| 4 | M0GHZ | IO81VK | 16 | 2210 | G0HIK/P | 314 |
| 5 | G0HIK/P | IO84JE | 7 | 1881 | G4ZTR | 371 |
| 6 | G8GTZ/P | IO91GI | 14 | 1825 | G0HIK/P | 337 |
| 7 | M0EYT/P | IO80WP | 11 | 1601 | ON/PA0MHE | 385 |
| 8 | GW0MDQ/P | IO82KW | 10 | 1500 | G4ZTR | 294 |
| 9 | G4MBS/P | IO90LV | 5 | 555 | G4CLA | 177 |

### Restricted Section

| Pos | Callsign | Locator | QSOs | Score | ODX Call | ODX Kms |
|---|---|---|---|---|---|---|
| 1 | M0PAI/P | IO93AD | 7 | 706 | G4ZTR | 235 |
| 2 | GW0JSB/P | IO83JF | 5 | 447 | G4CLA | 159 |

## 5.7GHz May 2023

Entry levels and conditions seemed about normal for this band. Well done to Telford & DARS G6ZME/P were the winners and also worked the best DX at 265km with G3XDY. Runner up was Pete G4CLA
73 Chris G0WUS

### 5.7GHz Contest May 2023

| Pos | Callsign | Locator | QSOs | Score | ODX Call | ODX Kms |
|---|---|---|---|---|---|---|
| 1 | G6ZME/P | IO82QL | 11 | 1406 | G3XDY | 265 |
| 2 | G4CLA | IO92JL | 8 | 1112 | M0EYT/P | 214 |
| 3 | G1EHF/P | IO91GI | 9 | 820 | G3XDY | 200 |
| 4 | M0GHZ | IO81VK | 8 | 791 | G3XDY | 246 |
| 5 | G4LDR | IO91EC | 7 | 666 | G3XDY | 223 |
| 6 | M0EYT/P | IO80WP | 6 | 655 | G4CLA | 214 |
| 7 | G4BRK | IO91HP | 6 | 415 | G6ZME/P | 127 |
| 8 | GW0MDQ/P | IO82KW | 1 | 62 | G6ZME/P | 62 |

## June 5.7GHz Contest 2023

Entry levels, activity and conditions were poor for this session. Telford & DARS G6ZME/P were the winners and also worked the best DX at 265km with G3XDY. Runner up was David M0GHZ.
Hot day with some rain throughout gave some good RS opportunities.

## June 10GHz Contest 2023

Hot day with some rain throughout gave some good RS opportunities.

Well done to Open winner John G4ZTR and Neil G4DBN as runner up. Best DX goes to Pete G4CLA who worked F6DKW.

Well done to Restricted winner Mike G7AQA/P

73 Chris G0WUS

## 5.7GHz Contest June 2023

| Pos | Callsign | Locator | QSOs | Score | ODX Call | ODX Kms |
|---|---|---|---|---|---|---|
| 1 | G6ZME/P | IO82QL | 5 | 685 | G3XDY | 265 |
| 2 | M0GHZ | IO81VK | 6 | 671 | G3XDY | 246 |
| 3 | G4CLA | IO92JL | 5 | 652 | G3XDY | 171 |
| 4 | G4BRK | IO91HP | 3 | 284 | G6ZME/P | 127 |

## 10GHz Contest June 2023

### Open Section

| P | Callsign | Locator | QSOs | Score | ODX Call | ODX Kms | Power |
|---|---|---|---|---|---|---|---|
| 1 | G4ZTR | JO01KW | 16 | 3706 | F6DKW | 365 | 10 |
| 2 | G4DBN | IO93NR | 10 | 2502 | G4UVZ | 342 | 10 |
| 3 | G4CLA | IO92JL | 15 | 2435 | F6DKW | 478 | 5 |
| 4 | M0GHZ | IO81VK | 13 | 2204 | F6DKW | 433 | 5 |
| 5 | GW4MBS/P | IO71XW | 12 | 2124 | G4DBN | 292 | 12 |
| 6 | G4ASR | IO81MX | 15 | 2107 | G3XDY | 286 | 5 |

### Restricted Section

| P | Callsign | Locator | QSOs | Score | ODX Call | ODX Kms | Power |
|---|---|---|---|---|---|---|---|
| 1 | G7AQA/P | IO93CV | 6 | 1381 | G4UVZ | 337 | 1 |
| 2 | M0PAI/P | IO93AD | 9 | 1266 | G4UVZ | 254 | 1 |
| 3 | G4TNX/P | IO93UK | 2 | 235 | G4CLA | 123 | 0.2 |

## 5.7/10GHz Championship Tables

Positions after two events, best three count to the total

### 5.7GHz

| Pos | Callsign | 28/05/2023 | 25/06/2023 | TOTAL |
|---|---|---|---|---|
| 1 | G6ZME/P | 1000 | 1000 | 2000 |
| 2 | G4CLA | 791 | 952 | 1743 |
| 3 | G1EHF/P | 583 | 0 | 583 |
| 4 | M0GHZ | 563 | 980 | 1543 |
| 5 | G4LDR | 474 | 0 | 474 |
| 6 | M0EYT/P | 466 | 0 | 466 |
| 7 | G4BRK | 295 | 415 | 710 |
| 8 | GW0MDQ/P | 44 | 0 | 44 |

### 10GHz Open

| Pos | Callsign | 28/05/2023 | 25/06/2023 | TOTAL |
|---|---|---|---|---|
| 1 | G4ZTR | 1000 | 1000 | 2000 |
| 2 | G4CLA | 786 | 657 | 1443 |
| 3 | G4LDR | 722 | 0 | 722 |
| 4 | M0GHZ | 553 | 595 | 1148 |
| 5 | G0HIK/P | 471 | 0 | 471 |
| 6 | G8GTZ/P | 457 | 0 | 457 |
| 7 | M0EYT/P | 401 | 0 | 401 |
| 8 | GW0MDQ/P | 376 | 0 | 376 |
| 9 | G(W)4MBS/P | 139 | 573 | 712 |
| 10 | G4DBN | 0 | 569 | 569 |
| 11 | G4ASR | 0 | 675 | 675 |

### 10GHz Restricted

| Pos | Callsign | 28/05/2023 | 25/06/2023 | TOTAL |
|---|---|---|---|---|
| 1 | M0PAI/P | 1000 | 917 | 1917 |
| 2 | GW0JSB/P | 633 | 0 | 633 |
| 3 | G7AQA/P | 0 | 1000 | 1000 |
| 4 | G4TNX/P | 0 | 170 | 170 |

## 24GHz/47GHz/76GHz Contest July 2023

Poor weather and propagation were the order of the day, although entry levels on 24GHz were good with several new stations using Wavelab systems appearing in the logs. No entries were received for 76GHz on this occasion.
Congratulations go to the following:
24GHz Winner Roger G8CUB /P Runner up Martyn G3UKV/P
47GHz Winner Dave G1EHF/P Runner up Roger G8CUB/P
John G3XDY
UKuG Contest Manager

## 24GHz Contest July 2023

| Pos | Callsign | Locator | QSOs | Score | ODX Call | ODX Kms |
|---|---|---|---|---|---|---|
| 1 | G8CUB/P | IO91CL35 | 8 | 503 | G3UKV/P | 123 |
| 2 | G3UKV/P | IO82QL83 | 5 | 368 | G8CUB/P | 123 |
| 3 | G1EHF/P | IO91GI44 | 8 | 340 | G4FRE/P | 74 |
| 4 | GW4HQX/P | IO81KR73 | 4 | 338 | G8CUB/P | 94 |
| 5 | GW3TKH/P | IO81KR73 | 4 | 337 | G8CUB/P | 94 |
| 6 | G4FRE/P | IO81XW90 | 6 | 332 | GW4HQX/P | 79 |
| 7 | M0GHZ/P | IO81FD19 | 2 | 142 | GW3TKH/P | 71 |
| 8 | G4LDR/P | IO81WG22 | 4 | 141 | G8ACE/P | 52 |
| 9 | G1DFL/P | IO91NM78 | 2 | 91 | G1EHF/P | 47 |
| 10 | G8ACE/P | IO91GC68 | 2 | 78 | G4LDR/P | 52 |
| 11 | GW4MBS/P | IO71XW37 | 1 | 70 | GW3TKH/P | 70 |
| 12= | GW0MDQ/P | IO82KX55 | 1 | 67 | G3UKV/P | 67 |
| 12= | GW7MHF/P | IO82KX55 | 1 | 67 | G3UKV/P | 67 |

## 47GHz Contest July 2023

| Pos | Callsign | Locator | QSOs | Score | ODX Call | ODX Kms |
|---|---|---|---|---|---|---|
| 1 | G1EHF/P | IO91GI44 | 5 | 221 | G4FRE/P | 74 |
| 2 | G8CUB/P | IO91CL35 | 4 | 203 | GW4HQX/P | 94 |
| 3 | G4FRE/P | IO81XW90 | 3 | 176 | G1EHF/P | 74 |
| 4 | GW4HQX/P | IO81KR73 | 1 | 94 | G8CUB/P | 94 |
| 5 | G4LDR/P | IO81WG22 | 2 | 54 | G1EHF/P | 49 |
| 6 | G8ACE/P | IO91GC68 | 1 | 26 | G1EHF/P | 26 |

# 24/47/76GHz Championship Tables 2023

Positions after two events, best three count to the final total

**24GHz**

| Pos | Callsign | 14/05/2023 | 09/07/2023 | TOTAL |
|---|---|---|---|---|
| 1 | GW3TKH/P | 1000 | 670 | 1670 |
| 2 | G1EHF/P | 819 | 676 | 1495 |
| 3 | G8CUB/P | 427 | 1000 | 1427 |
| 4 | G3UKV/P | 629 | 732 | 1361 |
| 5 | M0GHZ/P | 666 | 282 | 948 |
| 6 | G4FRE(/P) | 52 | 660 | 712 |
| 7 | GW4HQX/P | 0 | 672 | 672 |
| 8 | G4LDR/P | 371 | 280 | 651 |
| 9 | G8ACE/P | 385 | 155 | 540 |
| 10 | G1DFL/P | 328 | 181 | 509 |
| 11 | GW4MBS/P | 363 | 139 | 502 |
| 12 | G8GTZ/P | 443 | 0 | 443 |
| 13 | GW0MDQ/P | 0 | 133 | 133 |
| 14 | GW7MHF/P | 0 | 133 | 133 |

**47GHz**

| Pos | Callsign | 14/05/2023 | 09/07/2023 | TOTAL |
|---|---|---|---|---|
| 1 | G8CUB/P | 1000 | 919 | 1919 |
| 2 | G1EHF/P | 189 | 1000 | 1189 |
| 3 | G4LDR/P | 601 | 244 | 845 |
| 4 | G8GTZ/P | 818 | 0 | 818 |
| 5 | G4FRE/P | 0 | 796 | 796 |
| 6 | G8ACE/P | 358 | 118 | 476 |
| 7 | GW4HQX/P | 0 | 425 | 425 |

**76GHz**

| Pos | Callsign | 14/05/2023 | 09/07/2023 | TOTAL |
|---|---|---|---|---|
| 1 | G8CUB/P | 1000 | 0 | 1000 |
| 2 | G4LDR/P | 465 | 0 | 465 |
| 3 | G8ACE/P | 314 | 0 | 314 |
| 4 | G8GTZ/P | 221 | 0 | 221 |

## UKuG MICROWAVE CONTEST CALENDAR 2023

| Dates, 2023 | Time UTC | Contest name |
|---|---|---|
| 30 -Jul | 0600 - 1800 | 3rd 5.7GHz Contest |
| 30 -Jul | 0600 - 1800 | 3rd 10GHz Contest |
| 27-Aug | 0600 - 1800 | 4th 5.7GHz Contest |
| 27-Aug | 0600 - 1800 | 4th 10GHz Contest |
| 10-Sep | 0900 - 1700 | 3rd 24GHz Contest & 24GHz Trophy |
| 10-Sep | 0900 - 1700 | 3rd 47GHz Contest |
| 10-Sep | 0900 - 1700 | 3rd 76GHz Contest |
| 24 -Sep | 0600 - 1800 | 5th 5.7GHz Contest |
| 24 -Sep | 0600 - 1800 | 5th 10GHz Contest |
| 15 -Oct | 0900 - 1700 | 4th 24GHz Contest |
| 15 -Oct | 0900 - 1700 | 4th 47GHz Contest |
| 15 -Oct | 0900 - 1700 | 4th 76GHz Contest |
| 12 -Nov | 1000 - 1400 | 5th Low band 1.3/2.3/3.4GHz |

# UKuG MICROWAVE CONTEST CALENDAR 2023

| Month | Contest name | Certificates | Date 2023 | Time GMT | Notes |
|---|---|---|---|---|---|
| Jan | 1.3GHz Activity Contest | *Arranged by RSGB* | 17-Jan | 2000 - 2230 | RSGB Contest |
| Jan | 2.3GHz+ Activity Contest | *Arranged by RSGB* | 24-Jan | 1930 - 2230 | RSGB Contest |
| Feb | 1.3GHz Activity Contest | *Arranged by RSGB* | 21-Feb | 2000 - 2230 | RSGB Contest |
| Feb | 2.3GHz+ Activity Contest | *Arranged by RSGB* | 28-Feb | 1930 - 2230 | RSGB Contest |
| Mar | REF/DUBUS EME 3.4GHz | *Arranged by REF/DUBUS* | 4-Mar to 5-Mar | 0000 - 2400 | REF/DUBUS EME 3.4GHz |
| Mar | Low Band 1296/2300/2320/3400MHz | F, P,L | 5-Mar | 1000 - 1600 | First 4 hours coincide with IARU |
| Mar | 1.3GHz Activity Contest | *Arranged by RSGB* | 21-Mar | 2000 - 2230 | RSGB Contest |
| Mar | 2.3GHz+ Activity Contest | *Arranged by RSGB* | 28-Mar | 1930 - 2230 | RSGB Contest |
| Jun | REF/DUBUS EME 2.3GHz | *Arranged by REF/DUBUS* | 25-Mar to 26-Mar | 0000 - 2400 | REF/DUBUS EME 2.3GHz |
| Apr | Low Band 1296/2300/2320/3400MHz | F, P,L | 2-Apr | 1000 - 1600 | |
| Apr | 1.3GHz Activity Contest | *Arranged by RSGB* | 18-Apr | 1900 - 2130 | RSGB Contest |
| Apr | REF/DUBUS EME 1.2GHz | *Arranged by REF/DUBUS* | 22-Apr to 23-Apr | 0000 - 2400 | REF/DUBUS EME 1.2GHz |
| Apr | 2.3GHz+ Activity Contest | *Arranged by RSGB* | 25-Apr | 1830 - 2130 | RSGB Contest |
| May | *432MHz & up* | *Arranged by RSGB* | 6-May to 7-May | 1400 -1400 | RSGB Contest |
| May | *10GHz Trophy* | *Arranged by RSGB* | 7-May | 0800 - 1400 | Sunday, to coincide with IARU |
| May | Low Band 1296/2300/2320/3400MHz | F, P,L | 7-May | 0800 - 1400 | Aligned with IARU event |
| May | 24GHz/47/76GHz | | 14-May | 0900-1700 | |
| May | 1.3GHz Activity Contest | *Arranged by RSGB* | 16-May | 1900 - 2130 | RSGB Contest |
| May | REF/DUBUS EME 10GHz & Up | *Arranged by REF/DUBUS* | 20-May to 21-May | 0000 - 2400 | REF/DUBUS EME 10GHz & up |
| May | 2.3GHz+ Activity Contest | *Arranged by RSGB* | 23-May | 1830 - 2130 | RSGB Contest |
| May | 5.7GHz/10GHz | F, P,L | 28-May | 0600-1800 | |
| Jun | Low Band 1296/2300/2320/3400MHz | F, P,L | 4-Jun | 1000 - 1600 | Aligned with some Eu events |
| Jun | 1.3GHz Activity Contest | *Arranged by RSGB* | 20-Jun | 1900 - 2130 | RSGB Contest |
| Jun | 5.7GHz/10GHz | F, P,L | 25-Jun | 0600-1800 | |
| Jun | 2.3GHz+ Activity Contest | *Arranged by RSGB* | 27-Jun | 1830 - 2130 | RSGB Contest |
| Jul | VHF NFD (1.3GHz) | *Arranged by RSGB* | 1-Jul to 2-Jul | 1400 - 1400 | RSGB Contest |
| Jul | 24GHz/47/76GHz | | 9-Jul | 0900-1700 | |
| Jul | REF/DUBUS EME 5.7GHz | *Arranged by REF/DUBUS* | 15-Jul to 16-Jul | 0000 - 2400 | REF/DUBUS EME 5.7GHz |
| Jul | 1.3GHz Activity Contest | *Arranged by RSGB* | 18-Jul | 1900 - 2130 | RSGB Contest |
| Jul | 2.3GHz+ Activity Contest | *Arranged by RSGB* | 25-Jul | 1830 - 2130 | RSGB Contest |
| Jul | 5.7GHz/10GHz | F, P,L | 30-Jul | 0600-1800 | |
| Aug | ARRL Microwave EME | *Arranged by ARRL* | 12-Aug to 13-Aug | 0000 - 2359 | ARRL EME 2.3GHz & Up |
| Aug | 1.3GHz Activity Contest | *Arranged by RSGB* | 15-Aug | 1900 - 2130 | RSGB Contest |
| Aug | 2.3GHz+ Activity Contest | *Arranged by RSGB* | 22-Aug | 1830 - 2130 | RSGB Contest |
| Aug | 5.7GHz/10GHz | F, P,L | 27-Aug | 0600-1800 | |
| Sep | ARRL Microwave EME | *Arranged by ARRL* | 9-Sep to 10-Sep | 0000 - 2359 | ARRL EME 2.3GHz & Up |
| Sep | 24GHz/47/76GHz | | 10-Sep | 0900-1700 | |
| Sep | 1.3GHz Activity Contest | *Arranged by RSGB* | 19-Sep | 1900 - 2130 | RSGB Contest |
| Sep | 5.7GHz/10GHz | F, P,L | 24-Sep | 0600-1800 | |
| Sep | 2.3GHz+ Activity Contest | *Arranged by RSGB* | 26-Sep | 1830 - 2130 | RSGB Contest |
| Oct | *432MHz & up* | *Arranged by RSGB* | 7-Oct to 8-Oct | 1400 - 1400 | IARU/RSGB Contest |
| Oct | *1.3 & 2.3GHz Trophies* | *Arranged by RSGB* | 7-Oct | 1400 - 2200 | RSGB Contest |
| Oct | 24GHz/47/76GHz | | 15-Oct | 0900-1700 | |
| Oct | 1.3GHz Activity Contest | *Arranged by RSGB* | 17-Oct | 1900 - 2130 | RSGB Contest |
| Oct | 2.3GHz+ Activity Contest | *Arranged by RSGB* | 24-Oct | 1830 - 2130 | RSGB Contest |
| Oct | ARRL EME 50-1296MHz | *Arranged by ARRL* | 28-Oct to 29-Oct | 0000 - 2359 | ARRL EME Contest |
| Nov | Low Band 1296/2300/2320/3400MHz | F, P,L | 12-Nov | 1000 - 1400 | |
| Nov | 1.3GHz Activity Contest | *Arranged by RSGB* | 21-Nov | 2000 - 2230 | RSGB Contest |
| Nov | ARRL EME 50-1296MHz | *Arranged by ARRL* | 25-Nov to 26-Nov | 0000 - 2359 | ARRL EME Contest |
| Nov | 2.3GHz+ Activity Contest | *Arranged by RSGB* | 28-Nov | 1930 - 2230 | RSGB Contest |
| Dec | 1.3GHz Activity Contest | *Arranged by RSGB* | 19-Dec | 2000 - 2230 | RSGB Contest |

# EVENTS 2023

| | | |
|---|---|---|
| August 6 | BATC Convention, Midlands Air Museum, Coventry | www.batc.org.uk |
| September 8-10 | 68.UKW Tagung Weinheim, Germany | www.ukw-tagung.de |
| September 17 | Crawley Round Table | carc.org.uk |
| September 17-22 | European Microwave week, Berlin | www.eumweek.com |
| October 21 | BAT Online Convention (CAT 23 Part 2) | http://batc.org.uk/live |
| November11 | Scottish Round Table | www.gmroundtable.org.uk |
| November 20 -Dec 15 | ITU WRC 23, Dubai | rsgb.org/wrc-23 |
| December 2 | Midlands Roundtable, Eaton Manor, SY6 7DH | eatonmanor.co.uk/midlands-round-table-event/ |

## 80m UK Microwavers net

### Tuesdays 08:30 local on 3626 kHz (+/- QRM)

**73 Martyn Vincent G3UKV**