An Amateur Radio publication for the Microwave Enthusiast

scatterpoint

June 2013

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Dayton Hamvention
By Sam Jewell G4DDK

In this Issue

STOP PRESS!

Those of you attending RAL will have heard a bunch of us made a new UK distance record on Sunday first at 83Km and then for that to be broken two hours later at 95Km. The old record stood at 79km.

I have nailed some videos together to give a flavour of what was achieved. Lots of wind noise so poor audio, particularly where the camera was left on the ground in order to operate.

First video is Ventnor to Ditchling to be found here:

https://docs.google.com/file/d/0B9s-pRG6smmGV0NUMFlnM0tFOGc/edit?usp=sharing

Second video (and apologies to Roger for getting his call wrong) is the 95km Ventnor to Firle beacon record breaking distance:

https://docs.google.com/file/d/0B9s-pRG6smmGRkphZzJVRld1LVE/edit?usp=sharing

Enjoy, hopefully.

73s John, G8ACE

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Editor's corner

Meetings, meetings. It's that season again and we have reports on Orebro, Dayton and RAL.

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

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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

Reproducing articles from Scatterpoint

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Errata (they happen…)

Jan 2013 p10–13

A 2.5 Watt LDMOS Driver for the 1.3GHz band

John C Worsnop G4BAO

I discovered today that two of the component values on the circuit and component list are incorrect. C9 is shown as 12pF should be 6p8, C11 shown as 6p8 should be 4p7.

Thanks (and apologies to) Jim GM3UAG for picking this up. Thankfully it seems like he's the only person to have built one at the moment or I would have had more complaints about it not working!

Revised table follows:

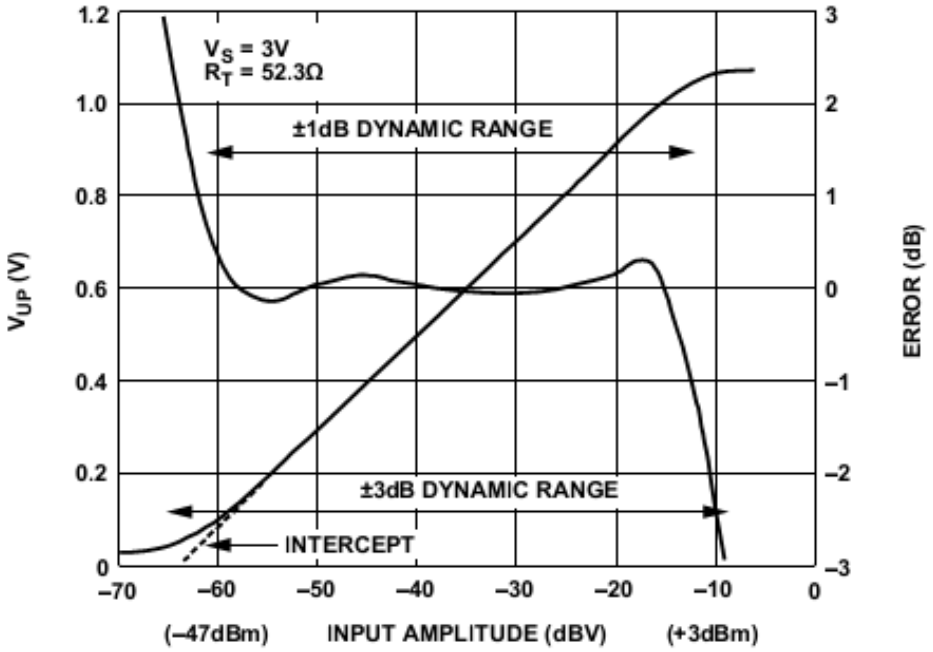
Component	Value	Type
R1, R3	2k7	SMD 0805
R2	10k	SMD preset
C1, C2	120pF	Murata ceramic 0603
C3	1nF	Murata ceramic 0603
C4	10nF	Murata Ceramic 0805
C5	10uF 35V	SMD electrolytic
C6,C7	39pF	Murata ceramic 0603
C8	6p8	Murata ceramic 0603
C9	12pF	Murata ceramic 0603
C11	4p7	Murata ceramic 0603
C12	1p5	Murata ceramic 0603
U$1	PD85004	LDMOS power
L1	12.5nH	Coilcraft 0805 air core
B1, B2	Dual ferrite bead	Panasonic EXCELDRC35C
TL1	50Ω 1.43 mm x 15mm	Microstrip line, matching
TL2	50Ω 1.43 mm x 4mm	Microstrip line, matching
TL3	50Ω 1.43 mm x 7.6mm	Microstrip line, matching
TL4	50Ω 1.43 mm x 8.2mm	Microstrip line, matching

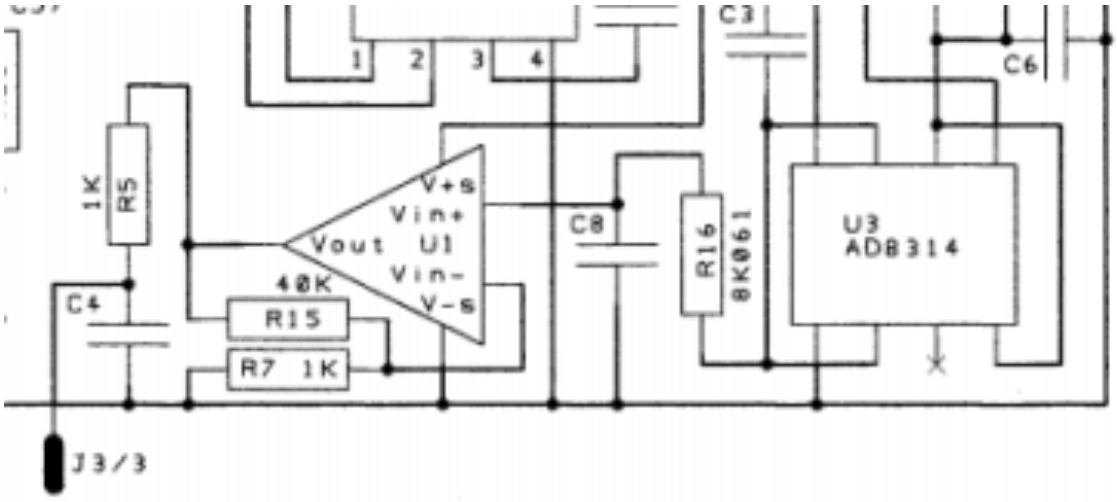
May 2013 p 16–18

Modifying Andrews 13cms Amplifiers: 2

By Mike WIllis G0MJW

A couple of figures got omitted from Mike Willis's article.





2013 Swedish EME meeting at Örebro

By Peter Blair G3LTF

There were 32 attendees at the 2013 Swedish EME meeting at Örebro on 25–26 May who enjoyed a fascinating set of presentations about detailed aspects of EME as well as enjoying the opportunity to meet, greet and discuss with old friends. These notes summarise the presentations but the intent is that they will all soon be available on the www.moonbouncers.org website. The thanks of everyone go to Lars SM4IVE for organising the event and to all the presenters and supporters, especially Mart SM0ERR and Leif SM5BSZ who supplied and manned the measurement suite.

Ingolf SM6FHZ described a suite of Kumar (VE4MA) feeds with 5 step septum polarisers, carefully optimised for f/D ratios 0.32 to 0.42 for 23, 6 and 3cm. This is focussed on optimum amplitude and flat phase across the aperture and low cross polarisation. The measured performance of return loss (RL) and isolation shows excellent agreement with the modelling results. The W1GHZ feed efficiency programme is used for evaluation so direct comparisons can be made with other work. All dimensions are given for 23, 6 and 3cm. See www.2ingandlin.se/SM6FHZ.htm hopefully, in time, Ingolf will add 9 and 13cm dimensions. With this suite and the septum fed W2IMU described by Marc N2UO (see www.ok1dfc.com/EME/emeweb.htm) we now have for 23cm a set of optimised feeds covering 0.32 to 0.6 f/D. Ingolf cautioned against scaling between frequency bands so we probably need some more work on the septum fed W2IMU for 13-3cm. For those who play with feeds and dishes Ingolf's slides 13-16 are of great interest because they show that, because of the variation of cross polar response with choke position it is possible to maximise sun noise (randomly polarised) but then find yourself with sub-optimum coherent signal performance.

Hannes SM6PGP described the manufacture of the new design Kumar feeds for 6 and 3cm using his home workshop and for those who build feeds I strongly recommend looking at his slides for some useful tips on manufacture and assembly / alignment. The designs use standard pipe sizes which is a big advantage. Both Hannes and Ingolf have used these feeds in their systems with excellent results.

Leif SM5BSZ outlined the several potential error sources when making accurate total power measurements of moon (or radio star) noise as a means of evaluating system noise temperature. Very small Y factor ratios are involved. For example because most LNAs gain values are very sensitive to input source impedance a small change in feed position relative to the dish surface could induce an error. A more accurate measurement of moon noise can be made by injecting a small stable signal into the front of the system and making a SINAD measurement instead using LINRAD. Leif was also making a set of precision NF measurements using a special set up described on his webpage www.sm5bsz.com/lir/loss/1296/hp8970a/hp8970a-auto.htm

Mart SM0ERR described how accurate measurements of very small losses in components like adaptors and relays can be made. The magnitude S11 of the item to be assessed is measured using precision open and short circuit terminations at its output terminals. By taking the average and dividing by 2, the loss can be measured. This is best done by using an automatic network analyser. (But it can be done manually). Some actual results were presented. Note that at 23cm with NFs now in the 0.2dB region these items have even more effect on Tsys. Mart also measured the Noise Figure of a large number of preamps and the results will be on www.moonbouncers.org

Jurgen DJ8FR demonstrated the use of a highly portable VNA made by SDR kits www.sdr-kits.net/Webshop/products.php?14&cPath=5 to measure the RL and isolation of a 23cm RA3AQ feed.

Sergei RW3BP described the progress with his 76GHz system, the essentials are a 60W twt (that requires 31kV), a 2.4m offset dish, and several 4db LNAs. But that is just the start! Sergei described a long and painstaking process of finding the correct

focal point of the dish; and similar efforts in all other areas of the system. The reduced radar cross-section of the moon, libration and atmospheric absorption add extra losses of 25dB in summer, reducing to 19dB in winter (that's a Moscow winter) He showed clearly visible echo results using stacked up echoes on Spectran. This is a unique set up involving serious engineering and Sergei hopes that someone in NA will soon construct a similar set up for the first 76GHz EME QSO.

There is a YouTube video in English here: www.youtube.com/watch?v=2En_W2EaJFw

Dmitry RA3AQ presented the results of modelling using the OM6AA full dish simulation of some of his feed designs in various dish sizes. With the low sky temperatures at 23 and 13cm especially, and very low noise figures in the 0.2dB region there is much to be gained from careful feed and f/D choices. A lot of very interesting data is available from his presentation and if there is one clear message it is this. Looking at the W1GHZ curves of dish efficiency versus f/D ratio, be sure to stay on the lower (smaller f/D) side of the peak.

Dick PA2DW brought us up to date on the PI9CAM Dwingeloo dish project, he showed the fascinating film that was shown at EME2012 and emphasised the use of the dish for educational outreach. An enormous amount of repair and restoration work has been done by volunteers as well as professionals and the hope is that the dish will be back in operation in November/ December this year. Many hundreds of QSOs were made on 70 and 23cm before the re-build began, hopefully with the dish profile improved from the repairs (with new magic mushrooms!) there will be some more operation on the bands above 23cm.

Ingolf SM6FHZ and Hannes, SM6PGP described a novel 23cm feed for small dishes (1.8 and 2.4m) comprising a patch housed in a cavity with a beam-forming ring in front. Ingolf modelled this comprehensively and optimised its performance for two variants one with the ring covering f/D 0.34 to 0.43 and a second 0.3 to 0.38. Detailed dimensions and construction details are given on his webpage, quoted earlier. There are two orthogonal feed points which can be fed with a 90 degree hybrid to produce the required CP and with SSPAs spatial combining can be utilised, saving a high power combiner. Hannes has used this on his 1.8m dish to make both CW and JT65 QSOs and has copied LX1DB and OK2DLon ssb.

Dominique HB9BBD showed a fascinating film detailing the obtaining, restoration, installing and then re-installing (to get an improved window) of his 10m dish. This involved substantial amounts of steel and concrete and the use of helicopters and large cranes, definitely not for the faint-hearted! With its hydraulic control system it is a beautiful piece of engineering. The film was also very entertaining and the on-air results speak for themselves.

Michael DL1YMK and Monika described their 2012 EME dxpedition to Corsica. For the first time they added 6cm operation to the bands worked on the 4m stress dish and also (another first) used 10GHz with a separate 1.8m solid dish. For details of QSOs made on 70, 23,13,6 and 3cm see www.ok1dfc.com/peditions/ymk2012/dl1ymk2012.htm 9cm is not available in French territories. Michael concludes that the stress dish is not good enough for 6cm, although he did make 5 contacts, and that a 1.8m dish is too small for 10 GHz CW contacts so his plan is to find a way to take a 2.4m dish on future expeditions for those two bands. It has to be both light and transportable in sections. (He is considering offset following discussions after the presentation!) We could not determine the location of this years (possible) planned expedition but were told that a complete absence of small biting insects inside the house is now an essential for the logistics manager.

Michael DL1YMK described the design and construction of the two 30W SSPAs that he made for the Corsica expedition. These used devices from ELISRA TV links combined with ring hybrids and needed a significant amount of "snow-flaking" to tune then up. Michael emphasised the need to protect the eyes while doing his as there is a significant radiation from the strip line discontinuities Useful device numbers are FLM1112-8F, FLM1112-12F and TIM 1112-8,

SM2CEW moderated the Round-up session After thanking everyone who had contributed to organisation and presentation he emphasised three things we needed to do to increase EME activity. Inspiration, Information and Focus. Inspiration came from the excellent technical and operating work that we had heard about at this meeting. Information comes from the distribution of this which will be done by publishing on the www.moonbouncers.org/

website and by distributing a summary (this) to the appropriate newsletters and interested groups, and Focus comes from ensuring that there is a solid presence of CW activity in addition to digital operation.

DUBUS Contests Joe CT1HZE, who organises the DUBUS contests asked that there be a discussion on timings, dates etc. Points made were: Please continue to organise the contests. One suggestion made was to have one day only per band and a pairing of bands for the weekend chosen, for example 144 and 432 on Saturday – Sunday. There is of course the risk of bad weather if we go for only one day per band.

There was also a call for the weekends chosen to be lower loss (i.e. closer to perigee) but several disagreed citing horizon blockage. (This will be a problem for at least 3 years until high moon declination and perigee get back into synch) In order to get dates into diaries and maximise activity then it's essential to have the contest dates announced in DUBUS by October at the latest.

Activity Weekends Yes, continue, as they are noticeably increasing activity on the bands above 13cm. We will have to change the date of the 2013 9cm weekend as it clashes with the 9cm DUBUS contest. We will move it to share the 6cm AW, 3-4th August.

CP on 3cm With the availability of the 10.368 / 10.450 GHz septum polariser Kumar feed described by SM6FHZ there was a strong feeling expressed that CP should become standard there as well as on the lower bands.

Encouraging cross-mode contacts Suggestions were: replying to JT CQs on 23cm using SSB and, on 70cm, calling CQ on 432.060 (which has worked) but both require the JT audio to be switched on! PI9CAM reported considerable interest in CW operation among young visitors to the big dish, seeing it done on a screen was more commonplace for them.

Peter G3LTF

UKuG member's loan equipment - update

By John Worsnop G4BAO

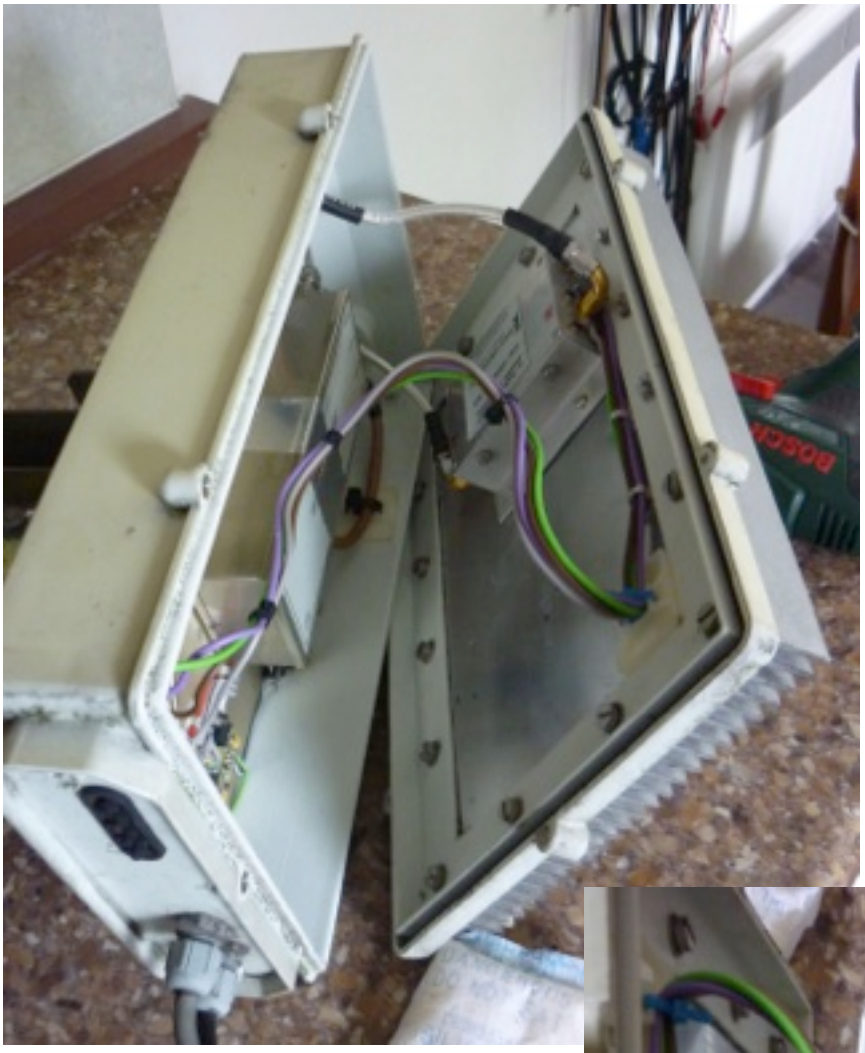
Since our last Committee meeting, where we agreed to buy some microwave equipment for members to borrow, things have moved along nicely.

The group has purchased a complete 6cm transverter from Russ G4PBP's estate and a set of GW4DGU boards (at a healthy discount, thanks Chris!) to build a 10GHz transverter. We have also bought a surplus 10Watt MICOM 10GHz PA unit and waterproof box, from Sam G4DDK and have been donated 60cm and 45cm sky dishes by John, G4BAO.

We are now looking for / planning to build, feed horns for both bands.

As G4BAO has already built a DGU unit for himself, he is going to build the DGU 3cm transverter, check out Russ' 6cm unit and make up dishes. It is planned to make this equipment available for free of charge loan in due course. Loanees will have to make arrangements to collect them from the last loanee, and provide an FT817 as driver and a tripod/mast to use them on.

The 3cm parts



The 6cm loan equipment

Dayton Hamvention visit

By Sam G4DDK

Dayton part 1

This was my eighth visit to Dayton. For the first time I flew directly to Dayton (via Newark) rather than via Dallas and a long drive!

After a 2½ hour delay at Heathrow I arrived at Newark to be met by a 1hour immigration queue and the surliest immigration officer I have met in over 20 years of regular visits to the USA!

I then arrive at the United Express Jet gate for Dayton to within one minute of the scheduled departure time ..... only to find out, to my relief that the flight had been delayed by "59 minutes". In fact it was delayed 1½ hours. So I arrived at Dayton an hour and a half late. Fortunately, I had been able to call WA5VJB on his cellphone and let him know about the delay. At the airport I used 146.54MHz FM to call Kent and we met up at his minivan.

Although late, Kent whisked me off a few miles to the SE VHF Group dinner at a local BBQ restaurant. It was good to see so many old friends again, from across the VHF spectrum. I didn't get any photos at this event.

After the meal we set off for our accommodation at the University of Dayton.

Photo below, shows the outside of the Kettering Halls of Residence at UoD.

Note that the students had already completed their educational year, so the Uni was pretty quiet apart from all the radio amateurs who were staying there.

The student accommodation consisted of a dorm with two bedrooms, lounge/study, bathroom, toilet and shower. All pretty basic but low cost, so acceptable!

Thursday morning dawned foggy, but warm. I really was surprised when I ventured outside and found that it was well into the 60s F in spite of what I expected to be cold weather.

After stopping at the local United Farmers Dairy to grab a coffee and Donut it was off to the Hara Arena in Trotwood. Trotwood is on the north side of Dayton whilst the UoD is on the south side. We took the I75 north to avoid going through Dayton. I am always amused to see that we pass through the evocatively named Dayton suburb of Shiloh on our way to the arena.

At the arena we joined the queue to enter the site. Flashing our badges we were straight in and round to the pitch booked for the North Texas Microwave Society (NTMS). Pitches 2765 to 2768.

Shown opposite in photo 2

Fortunately the fog cleared by lunchtime and it warmed up into the 80s (F). I have to admit it was getting a bit warm for me and I hadn't put my hat on so I burnt the top of my head ...

Photo 4 shows the fog on Thursday morning.

I spent a lot of time helping Kent set up the stand and selling items from Kent's extensive offerings. in fact just about all of Kent's test equipment items were sold in the first hour after opening. It was probably priced too low.

We shared the pitch with Rich Osman, also from Dallas. Rich had a lot of components etc to sell.

After a good walk around the flea market that took a few hours I had covered about 10% of what was on offer and had yet to go inside the many halls.

I found it more comfortable inside, with air conditioning, during the warm afternoon.

Two views inside the halls.

Friday finished with Kent and I going to the Weak Signal Banquet, held at the Dayton Grand Hotel in downtown Dayton. There is a story about how we got there, but that is for another day!

My thanks to Brian Justin, WA1ZMS, who kindly paid my entrance fee. I owe you, Brian.

This annual banquet is one of the highlights of Dayton for me and many other visitors to the Hamvention.

After dinner the speaker Jeff Klein, K1TEO, VHF contester extraordinaire!

Jeff explained all about his VHF site in Trumbull, Connecticut and his description of his station, operating technique etc was quite enthralling.

After Jeff's talk we had the **contest trophy presentations from John, K9JK.**

The next photo shows one of the plaques, this one awarded to the K9NS contest group as winners of the 2012 USA multi operator contest.

After the presentations it was time for the prize draw and with over $5000 worth of prizes on offer, this was a much anticipated part of the dinner.

I'm sorry to say I didn't win anything. I did contribute one of the prizes. Kent won a rather nice Bengali key. The top prize was a Yaesu transceiver.

As we left the Dayton Grand it was pouring with rain. This was a sign of things to come!

Saturday & Sunday

Saturday morning we departed from the Uni about 06:30. It was overcast with 50% rain in the forecast.

After the usual stop for breakfast we arrived early enough to beat the flea market trader queues. Kent parked the van and set off for his usual early tour of the flea market. This is often when the bargains are found, there are few 'punters' around to compete with, and the other traders have time to talk.

I helped Rich set up his two gazebos and tables. Still no sign of Kent so I decided to set up our own gazebo and get the table out. As we were joined by Lloyd, NE8I, we were able to use several of his more substantial tables. It was a good job we did.

Then the rain came ..... Several hours of heavy rain meant we had to move everything under cover and even put some stuff back into the van to keep it dry. All the while we sheltered under the gazebos, progressively moving towards the centre to avoid the run-off from the gazebo roof.

Eventually the rain stopped, the sun came out and everything dried off. Several traders had already decided to leave early, but there wasn't a mass exodus.

Trade picked up, but we were able to take it in turns to leave the booth and wander the market or the halls. During this time I purchased the spares for my damaged K3 and an SVGA board for the P3 from the Elecraft stand.

I also continued my search for remote operation products and found several new ones that have either recently hit the market, or are about to.

One of the recent additions to the market was the Remoteshack unit and I watched a demo showing access to a TS2000 from a cellphone and listened carefully to glimpse what might be coming.

At 5pm we packed up and Kent went off to a business meeting whilst Zack, W9SZ, kindly drove me to the Spaghetti Warehouse for dinner with the Mount Greylock Expeditionary Force (MGEF) consisting of Brian, WA1ZMS; Dick, WA2AAU; Doug, K2AD; and Bob, KI2L. We were joined by Dave, KB0BE (G5BQE when he was in the UK).

Left to right, Brian, Bob, Dave, Doug, Zack and Dick. Me behind the camera!

Dick and Doug enjoy a pint and pasta.....

Return Home

At least on Sunday morning we were able to have a 'lie in' before departing for the Hara Arena.

Time to return the room keys to the University reception, head for the car park, 'breakfast' and the arena.

We arrived about 8am and parked the van in our usual spot before going off to have a last look around. No trading for us on the Sunday, but the chance to pick up some las minute bargains....

Most but not all the Fleamarket and hall traders had already departed. But here was still enough to see and do before departing for the airport. Rich had already departed for Dallas early on the Sunday morning, before Kent and I were even awake.

After a quick look round at what was left of the Fleamarket I went into the hall area. In there I bumped into Justin of Innovantennas and had a chat. Later we were joined by Kent, WA5VJB and an earnest discussion on antenna ensued.

Justin and Kent in deep conversation.

You can see that the North Hall wasn't as busy as usual on the Sunday morning. The Elecraft stand, behind Kent, was as quiet as I had seen it all weekend!

Not much left in the Fleamarket

After saying cheerio to Lloyd, NE8I and a few other other guys, I was back at Dayton Airport about 11am and ready for my flight to Chicago on the Embraer 145 jet. Kent went back to the Hara Arena to pick up Douglas, his co-driver for the long drive back to Dallas, and then set off to cover the 1150 miles through Ohio, Kentucky, Tennessee, Arkansas and into Texas.

An uneventful flight for me and we touched down at Chicago O'Hare airport after about one hours flying time. O'Hare airport seems to be bigger every time I see it! The last time I was here was at least 10 years ago.

The flight into O'Hare, over the south end of Lake Michigan, was close to Gary, Indiana, and I was able to see just how desolate this old American industrial area has become. It was easily recognisable from the air. Fascinating!

Lake Michigan is a well known American microwave area and I previously wrote about amateur microwave contacts over the lake in my column in Radcom. It was nice to see it from the air. I had already been driven through it by Mike, AA9IL, in his pick up truck some years ago (on our way to the Sandusky Microwave Update event).

A few hours later (another delay on United Airlines) and it was off on the trans Atlantic leg home to Heathrow. Justin and I were in adjacent seats, so we were able to chat about 'ham' things before the day's exertions got the best of us!

We touched down at 06:00. I was completely disoriented by the fact we were in Terminal 1 whereas we had left from T4! A short underground ride later and I was back on familiar territory and ready to collect my car from the T4 long term car park and the 2 hour drive home.

It was a great trip to Dayton. I really enjoyed visiting again after my several years absence. I would like to go back at least one more time. I really don't know why as the Hara Arena is becoming quite dilapidated and must be nearly ready to be pulled down. The Friedrichschafen Messe is much, much, cleaner and the food and beer is so much better. And the flight there is a lot cheaper than it now costs for long haul flights.

But, there is something about Dayton that keeps drawing me back. It has more to do with the social aspects of the event than suffering the inadequate facilities of this old establishment.

My thanks to Kent, Brian, Rich, Lloyd, Dave, Tony, Dick, Zack, Ed and all the other American amateur radio guys who helped to make my visit so successful. Thank you.

Dayton, I will be back again!

Sam G4DDK

Noise Figure Results
Martlesham Round Table

By John Quarmby G3XDY

Noise figure results					
Martlesham Microwave Round Table 2013					
28-Apr-13			T_{cold} =	300	
Band	**Callsign**	**System**	**Gain (dB)**	**NF (dB)**	
432MHz	G4BRK	G4DDK VLNA Preamp	40.9	0.39	
	G4HQX	Icom AG35 Preamp	18.2	2.33	
1.3GHz	G4HQX	SHF Electronics MVV1296	18.4	1.20	
	G3AAF	SBA1250-1450 VLNA	33.52	0.41	
1.42GHz	G3AAF	SBA1250-1450 VLNA	31.68	0.43	
2.3GHz	G4DDK	Test Transverter	19.53	4.93	
	G4KUX	Scatter Microwave Transverter	13.45	3.02	NF drifts down from 5dB at switch on then back up to 7.6dB
3.4GHz	G4DDK	Test Transverter	8.93	4.96	
	G3LTF	Preamp ATF36077 W5LUA Design	14.93	0.62	
	G3LTF	VLNA G4DDK	26.72	0.50	
5.7GHz	G4DDK	Test Transverter	16.07	2.36	
	G3LTF	Preamp W5LUA ATF36077	9.75	0.66	
10GHz	G4DDK	DB6NT MKU10G3	23.78	1.24	
	G3LTF	LNB with matching section	30.43	1.06	
	G1IKV	GW4DGU Transverter board	-1.67	15.46	
	G3LTF	LNB without matching screws	28.64	1.14	

The latest EME calendar is available from DL7APV's website

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

RAL Round Table 2013

By John Worsnop G4BAO

The Annual RAL Microwave Round table organised by the Harwell Amateur Radio Club and assisted by UKuG members G0MJW and G8CUL was hosted at Rutherford Appleton Labs at Didcot, Oxfordshire on Sunday the 9th of June.

There was the usual "Flea market" along with Chris GW4DGU demonstrating and selling his new 10GHz transverter PCBs. The flea market was made exceptional this year by the presence of Sam G4DDK who has been tasked with the "silent key sale" of the contents of Russ G4PBP's workshop to raise money for the Hospice where Russ spent his last weeks. Both Russ and his XYL Hasmitta, wanted the parts to be used and appreciated rather than ending up in loft somewhere or on EBay, so attendees got some real bargains with much high quality kit, and the Hospice benefitted with a fine donation!

The three talks were lively and well attended, starting with Ron, G7DOE telling us about "The joys of (free) electromagnetic simulation packages." Always popular and entertaining, Paul, M0EYT updated us on his activities in the area of Deep Space Network

Monitoring. The meeting was wrapped up by UKuG Ofcom liaison Murray, G6YJB with a talk and open forum entitled "Valued Wavelengths" preparing everyone for the upcoming Ofcom consultation paper on the upcoming auction of frequencies in the 2.3 and 3.4GHz bands. One thing was quite clear from this talk, whether you are active on 13 and 9cm or not, EVERY MEMBER OF THE UKuG needs to respond to this consultation and let Ofcom know in the strongest possible terms that the UK Microwave community cares about these bands and we want a fair deal to be able to continue to be able to use them. Make no mistake, the pressure is on.

John G4BAO

April 2013 Lowband Contest Results

By John Quarmby G3XDY

Entries were down for this event compared with 2012, particularly on the upper two bands. Conditions seemed fairly normal and the weather was not a factor, so it is something of a puzzle when activity in the RSGB UKAC events is still increasing.

Once again activity outside the UK was very low, with just a couple of 2.3GHz contacts with PE9GHZ appearing in the logs.

M0RJA/P had a substantial lead on 1.3GHz ahead of runner up G4NBS, with a score that exceeded last year's winning entry. GM4CXM was the best DX for many entrants on this band. M1MHZ was the leading low power station.

On 2.3GHz the tables were turned, with G4NBS ahead of M0RJA/P, although by a smaller margin. GM4CXM provided some good DX aircraft reflection for entrants on this band too.

3.4GHz was won by G3UKV this time, with M0RJA/P in the runner-up position not far behind. There was little in the way of real DX to work.

The overall winner was the "Combe Gibberlets" group consisting of G3TCT, G3WBQ, G4SJH and G1EHF, with a win on 1.3GHz and runner-up positions on the other two bands. Overall runner up and leading fixed station is Martyn Vincent G3UKV who was the band winner on 3.4GHz. Third place is taken by Tony Collett G4NBS, the leading station on 2.3GHz and runner up on 1.3GHz.

Certificates go to the overall Winner M0RJA/P and Runner-up G3UKV and to the following winners:

1.3GHz M0RJA/P, G4NBS, G8AIM (Radio talkback leader), M1MHZ (Low Power)

2.3GHz G4NBS, M0RJA/P

3.4GHz G3UKV, M0RJA/P, G8AIM (Radio talkback leader)

John G3XDY

UKuG Contest Manager

Activity notice

From June 22 to 29, F1FIH and F2CT will be QRV from TK/JN43QA/JN42QX on 144, 432 , 1296 MHz , 2,3 , 5,7, 10, 24 and 47 GHz.

QRG; 144,243 ; 432,243 , 1296,243 MHz ; 2320,143 ; 5760,143 ; 10368,143 ; 24048,143 ; 47088,143 MHz

- KST + email for test

Kind regards
Cordialement
73 Guy F2CT
"always further outdistances , always higher in frequency !"

06 08 17 40 82

F2CT@wanadoo.fr

April 2013 Low Band Contest Results

Overall

Pos	Callsign	Talkback	1.3GHz	2.3GHz	3.4GHz	Total
1	M0RJA/P	Unlimited	1000	828	916	2744
2	G3UKV	Unlimited	380	515	1000	1895
3	G4NBS	Unlimited	557	1000	0	1557
4	G4LDR	Unlimited	480	303	680	1463
5	G4BRK	Unlimited	246	218	315	779
6	G8AIM	Radio Only	140	0	367	507
7	M1MHZ	Unlimited	286	0	0	286
8	G8CQA/P	Unlimited	99	0	0	99
9	GW3TKH/P	Radio Only	11	0	77	88
10	G7SKR	Unlimited	29	0	0	29

1.3GHz

Pos	Callsign	Talkback	Locator	QSOs	Best DX	Points
1	M0RJA/P	Unlimited	IO91RF	29	GM4CXM 582km	6053
2	G4NBS	Unlimited	JO02AF	20	GM4CXM 503km	3370
3	G4LDR	Unlimited	IO91EC	14	GM4CXM 568km	2904
4	G3UKV	Unlimited	IO82RR	15	GM4CXM 377km	2302
5	M1MHZ	Unlimited	IO92WV	11	G4LDR 225km	1733
6	G4BRK	Unlimited	IO91HP	11	GM4CXM 517km	1491
7	G8AIM	Radio Only	IO92FH	4	GM4CXM 444km	846
8	G8CQA/P	Unlimited	IO81WU	5	G3XDY 230km	600
9	G7SKR	Unlimited	IO83RI	4	G4KCT 119km	178
10	GW3TKH/P	Radio Only	IO81LS	1	2E0NEY 69km	69

2.3GHz

Pos	Callsign	Talkback	Locator	QSOs	Best DX	Points
1	G4NBS	Unlimited	JO02AF	14	GM4CXM 503km	2396
2	M0RJA/P	Unlimited	IO91RF	11	PE9GHZ 309km	1983
3	G3UKV	Unlimited	IO82RR	5	GM4CXM 377km	1234
4	G4LDR	Unlimited	IO91EC	5	G3XDY 223km	725
5	G4BRK	Unlimited	IO91HP	5	G8JVM 134km	522

3.4GHz

Pos	Callsign	Talkback	Locator	QSOs	Best DX	Points
1	G3UKV	Unlimited	IO82RR	6	G3XDY 265km	897
2	M0RJA/P	Unlimited	IO91RF	7	G4CBW 237km	822
3	G4LDR	Unlimited	IO91EC	5	G3XDY 223km	610
4	G8AIM	Radio Only	IO92FH	2	G3XDY 190km	329
5	G4BRK	Unlimited	IO91HP	3	G3UKV 145km	283
6	GW3TKH/P	Radio Only	IO81LS	1	2E0NEY 69km	69

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

Activity News

By Bob Price G8DTF

Please send your activity news to:

scatterpoint@microwavers.org

Introduction

We have a really good variety of activity reported this month including those from the May UHF contest, millimetre bands, EME, 23cm UKAC, 5.7/10/24GHz contest and the SHF UKAC.

I was particularly surprised by John GM8OTI/P low power QSOs. It just shows what can be done with low power from a good location.

May UHF

From Tony G4NBS

The May UHF Contest was nothing like Tuesday evenings, but I still made quite a few contacts on both 23cm and 13cm. Conditions were nothing special, but I could hear DF0MU and DL0GTH most of the time on 23cm. It felt like few other continentals were beaming our way as band seemed empty for long periods.

I seem to have sorted the feeder issues out now thanks to the "better" weather in April, now using mix of ECO 15 and FSJ 4-50. I will wait and see how long they last in the rotator loop…

I have also now got a 2m aerial up so I can see for myself if there is any use as a talk back channel. So far I have only found G4ALY that way in the May UHF contest. I know I'm a Luddite based in the 80's (from my previous activity), but whilst acknowledging KST as a fantastic aid, I can't help thinking it has replaced CQ and S&P a bit too much. I am glad to report though that I appear to be able to rely less on it on 23cm now that more of my RF is getting to the aerial – just over 75% of QSO's in May UKAC were made without using KST. Unfortunately the reverse is true on 13cm – without KST I would make very few contacts.

On 23cm I managed 47 QSO covering G (21), GD (2), GI, GM (2), GW(3), DL (7), F (2) and PA (9).

Best QSOs were DR9A (JN48), DF4IAO (JN49), DF2VJ (JN39), DL0GTH (JO50) at 765km for best DX

Total of 24 LOCs worked. I tried twice with GM4HAM/P, but failed both times (suspect my RX issue?).

13cm gave 18 QSOs – G (10), GD, PA (6) and DF0MU (JO32) at 495km for best DX.

Nice Dutch activity, but G0BWC/P only UK /P found?

Millimetre Bands

From Chris G8BKE

G8ACE, G8KQW and G8BKE have been activating the 47 and 76GHz bands twice
recently, testing new kit and antennas over a 32 km path from the New
Forest to near Winchester. The weather was sunny both times and the path is
LOS thus one could use mirror flashing to confirm beam headings!!
Excellent signals were exchanged in both directions.

EME

From Peter G3LTF

On May11/12 in the DUBUS 23cm EME contest I worked 47 stations in 24 countries and in all heard 60 stations. On 9cm on 5th May I worked SP6OPN #41and 9A5AA #42(first G-9A and DXCC number 24), and LX1DB, and on 15th May I worked HB9Q on SSB for Dan's first QSO on 9cm. I had a couple of QSOs on 13cm with SM6CKU and SM2CEW, but the main activity on the middle bands was in the DUBUS 6cm contest on May 18/19th. I worked SV1BTR, SQ6OPG, ES5PC, OK1CA, F2CT, F1PYR, OK1KIR, G100RSGB (G4NNS), PA3DZL, OH2DG, F1PYR, PA0BAT, WW2R (Operating K5GW's big dish) G4CCH # 40, K2UYH, W5LUA , CT1DMK, SP6GWN, IK2RTI, F2CT worked again but on SSB and VE4MA. I also heard and called JA6CZD, SM6PGP and ON5RR. Total QSOs 19. Equipment on 6cm is HB 6m dish with 22W at the feed and 0.66dB NF preamp built to W5LUA design.

May 23cm UKAC

From Tony G4NBS

Progress has been made on the 23cm preamp issue, in that I have reverted to my >25yr old one reconfigured for single feed use since May UHF contest! Problem appears to be Digital TV from Sandy hitting my TS790. Unfortunately the "noise" peaks at 210 and 310 with me so GI and GU are a tad difficult to hear at the moment. At least I can now hear things around most of the compass whilst the new preamp I

was trying could only be used when beaming East. Hopefully a BPF might now resolve the problem fully. To be continued……

Unusually for me I found a lot of stations to my SW (maybe masked by my “noise” previously?) but poor conditions to IO83 with very deep QSB. Made 45 QSO’s in 19 LOCs (17 mult). GW8ASD called me at the end, but not enough time for a contest QSO – that would have beaten my previous best score made under lift conditions. Not sure why the marked improvement unless the aerial work has paid off, time will tell. QSO’s included GU6EFB (IN89), G3YPQ/P (IO70), GI6ATZ & GD8EXI (IO74), GM4CXM (IO75), 5 stations in IO81, 2 in IO82 (rare for me!), 5 in IO83 (6 If I include GW8ASD giving a pile up of 4 in last 5 minutes), G4DHF/P (IO84), GM4JR (IO85), G7RAU & G0PEB/P (IO90), G0EHV/P (IO94) and G8PNN (IO95), quite an amazing number of multipliers for flat conditions. Only continentals worked were PA0S and PA0EHG.

From Eddie G0EHV

Very still, but damp weather allowed me to get the 55 element Tonna out /P. Usual location in IO94 square.

Poor conditions made most of the contacts difficult – headphones were essential, but I still managed 30 contacts in 15 squares to give me an all time UKAC high score.

7 new stations worked including 2E0MDJ/P (IO81), G4DHF/P (IO84) GI4SNA (IO64 a new one for me) and GM4ZUK/P, GM0VTL/P (Both in IO86).

I was using “KST2ME” and found it very unstable, at times it just didn’t respond needing to be re-started to get it to work. I wonder if anyone else has this problem?

I had a good 3G signal and the laptop was tethered to my portable phone. No other equipment issues thankfully!

May 5.7/10/24GHz Microwave Group Cumulative Contest

From John GM8OTI

The first UK Microwave Group 10GHz contest of the year gave me a chance to try out my home brew 10GHz transverter under real /P conditions from a hilltop. I chose Cairnharrow in South West Scotland (IO74UV) as it has an excellent take-off over the Irish Sea, and is also a SOTA (Summits on the Air) summit.

I managed three 10GHz contacts from Cairnharrow, and it was only when I got back down that I realised I'd also qualified the summit for SOTA (needing 4 contacts) because I had another contact with the 2m talkback station of another station (G3ZME/P) I'd not

completed a 10GHz contact with. Only four contacts in three hours then - but hey, it was worth it.

The weather forecast earlier in the week had been looking good for the weekend, and indeed Saturday was glorious. Unfortunately the UK Microwave Group 10GHz contest was on the Sunday, and the forecast was looking increasingly poor. However, the morning was fine, and I got to my parking spot in glorious sunshine, loaded up (and it was a load) and set off up the hill. I took the 40cm dish hanging on the rucksack

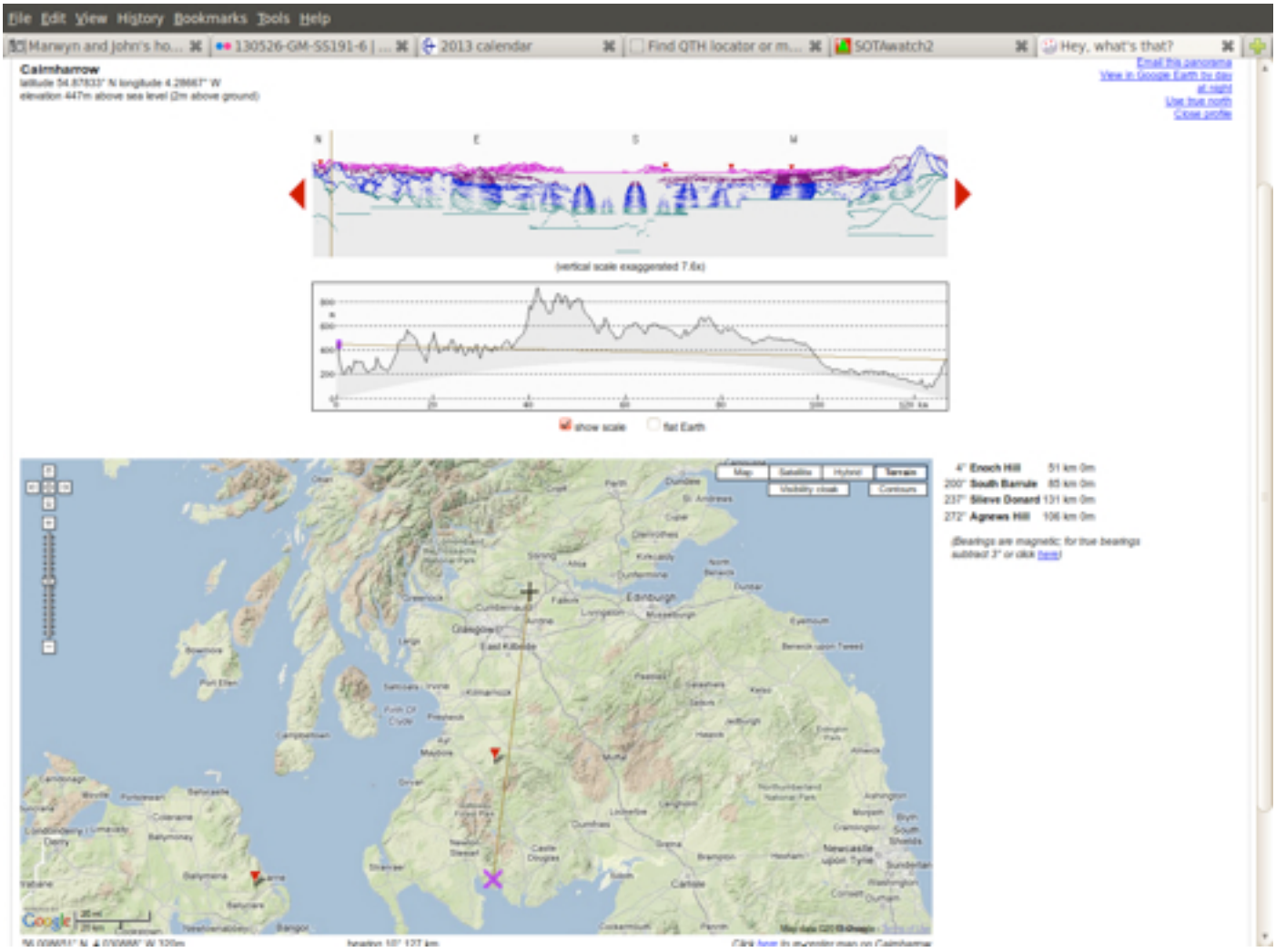
as I'd envisaged when I picked it up in Friedrichshafen a couple of years ago.

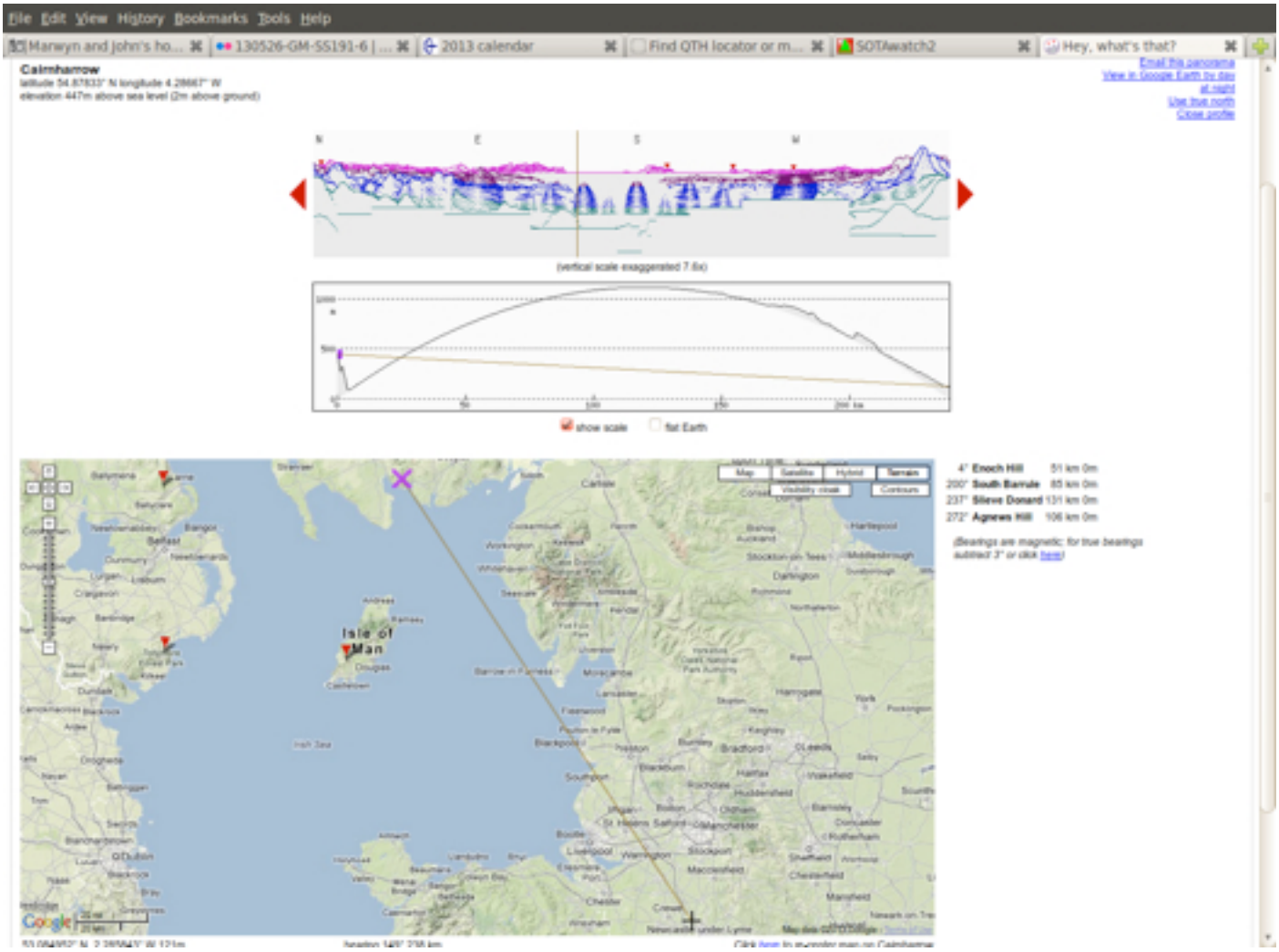
We had checked out the path between Cainharrow and the high perch on the Kilsyth hills (IO76XA) where Alan GM0USI frequently operates from, and although significantly obstructed we thought it might work, based on previous tests with other paths. In fact it was no problem at all - only 126km (previous best was 149km using my meagre 30mW) though over some significant hills (like Cairnsmore of Carsphairn) South of New Cumnock. Alan runs considerably more power - 8 or 9W - so I can pretty well guarantee to hear him!

The next successful contact was with Geoff GI0GDP/P who was near Carrickfergus (IO74CR); only 98km, and line of sight.

Contacts on 10GHz were attempted with three other stations, but I could barely hear the carrier from two of them (Brian GM8BJF/P running 1W and Mike at G3ZME/P with 5W - though about 290km away), so they were not likely to hear me, and unfortunately I could hear nothing from Eddie G0EHV/P - examining this path later I found it is very obstructed by many hills.

However, the highlight of the day was definitely my last 10GHz contact with Tony G4CBW near Stoke-on-Trent (IO83UB). He also runs a lot of power - more than 10W I





think - to a sizeable dish. It was a struggle, but he eventually managed to copy a full contest exchange through the QSB on SSB; I could hear him easily, and we exchanged 56 / 51. I'm very grateful to Tony for his perseverance! That was a distance of 242km - my best DX yet on 10GHz. I think it's probably close to the limit of what I'll manage with only 30mW, so I will need to get on with building the 1W PA.

I'd been operating in the mist for some time, but it cleared as I was packing up, and the walk back down was very pleasant. The pack felt a lot lighter after some successful contacts!

What really pleases me is that this 10GHz stuff can be done with what is really minimal (and very cheap) equipment. My 10GHz receiver is an almost unmodified satellite LNB (as far as the mixer) which I picked up for a pound at Norbreck a few years ago, and the transmit side uses amplifiers off surplus boards from Franco Rota, which cost me a total of three Euros! The dish cost me 4 euros I think. The most expensive bit is the local oscillator, which has a few new components (including a tiny 20MHz TCXO module which gives a few hundred Hertz stability at 10GHz), but probably only cost about 10 or 15 pounds altogether. The coaxial relay was picked up at the Irvine rally some years back for a couple of pounds, it was faulty but I took it to bits and repaired the contact!

Currently the transverter is all built into a box which originally held a video and DVD recorder. My FT-817 is the IF rig (and 2m talkback rig) though one day I hope to build a home brew driver for my microwave transverters!

As I'm currently demonstrating, you can get started really well on 10GHz with very little TX power indeed.

I've added these new contacts to my other 10GHz ones on a map at

www.marwynandjohn.org.uk/GM8OTI/10GHzContacts.html

From Bob G8DTF

The first try was with G4ALY and I could hear Ralph via some AS, with nothing the other way.

I then tried with GW4DGU/P in IO71SW and heard CW & SSB at 569/56. I received a report of 419001 from Chris, but failed to get all the details across.

I had a solid QSO with Graham G3VKV in IO81. I then tried with G8KMH/P weak carrier heard, but nothing the other way.

Another solid QSO with Tony G4CBW followed.

I then tried with G4WLC/P in IO81 who was very strong initially, but could not hear me. We were successful a short time later with good signals both ways.

The best QSO of the day was with G4SJH/P in IO91 with good signals both ways.

An attempt with Neil G4LDR failed. I was getting good signals from Neil, but signals from me were marginal and Neil did not get my SN correctly.

I had an attempt with Alan GM0USI/P and I heard a few brief A/S pings, Alan could not hear me the other way though.

The final QSO of the day was with G3ZME/P with good signals both ways.

From Eddie G0EHV

As it was a fine day I decided to take along 3cms to IO84XT to have a try before the 70 MHz cumulative.

The site is not a good microwave site, having ridges and adjacent hills but is electrically silent so great for low VHF!

Only 3 QSO's, the best being Alan GM0USI/P at 185Km.

A good test of the system – FT-817, DB6NT transverter with a WDG power amplifier (1W), preamp and Sky minidish.

From Tony G4CBW

In the May Cumulative I worked Alan GM0USI/P IO76XA and John GM8OTI?P IO74UV using just 30mw from a backpack portable system.

We had two attempts that day, the second was successful with me copying John's 30 mw at 51 over a non-LOS path of 242km, making this John's best DX so far with his backpack portable system. John is hoping to increase power to around 1 watt soon which should make a huge difference. Thanks to John for his patience and persistence in making this very nice QSO.

I understand that Alan is keen also to make-up a backpack 10g system. Maybe we'll be seeing lots more activity from the Scottish mountain tops before too long. Roll-on the GM activity and those new #.

From Alan GM0USI

The good WX made such a difference this time after the torrential downpours of the previous Saturday.

First contact was with John GM8OTI/P in IO74UV Cairnharrow a remarkable 56 with his 30mW, after which a test with Chris GW4DGU/P from IO71 gave a 10sec AS burst at 539 no 2 way though.

Tony G4CBW was slightly louder than usual at 58/9 on SSB. It was nice to work Eddie G0EHV/P in IO84 for the first time on 3cm - a good 56 on peak with his 1W.

It was great to hear another GM out /P GM8BJF in IO85 who was very loud with some wind turbine scatter.

After a QSO with Nick G4KUX IO94 - I could hear another station calling [which is very unusual up here!] Once I peaked up the dish M0DTS/P was a huge 59+ signal from IO94 - probably the strongest G station [/P] I have heard from IO76. Rob could also just hear GM4CXM/B albeit very weakly.

The best DX of the day was Neil G4LDR in IO91 - we were lucky with the aircraft activity over the path with many intense reflections - Neil couldn't quite get the serial number, but still a good contact at about 570km.

A test with G4EAT John - sadly gave no reflections, and finally a test with G3ZME/P failed as I could only copy fragments of the signal although appeared to copy me fairly well - not sure why that should be!

It seemed to be busiest around 15-1600local - it was certainly an enjoyable day with plenty to keep me busy hi!

PS I will be QRV from Isle of Cumbrae IO75MS for about a week from 23rd June.

May SHF UKAC

From Tony G4NBS

The May 13cm UKAC was little better condition wise, but with several regulars missing just 12 QSO's were attempted, all successful. This time I succeeded with G8PNN and probably had the easiest A/S QSO so far with GM4CXM. PA0S is now regularly just workable here and PE9GHZ also, but somewhat easier. To the North G0EHV/P is a regular QSO now, as are you (G8DTF) and G3UVR albeit marginal at times.

From Eddie G0EHV

I was out /P again IO94. Very poor conditions, all QSO's difficult bar local station G8PNN.

Seven contacts, best DX G3XDY at 359 Km. Activity poor, didn't work own square – maybe holiday period effect?

On a positive note my 28V Andrew amplifier worked fine, 70 W out and only needed 2 batteries to run rather than 4 with the 50V amplifier.

Again I had problems with KST2ME, next time I may try just using KST.

...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.

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.

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