An Amateur Radio publication for the Microwave Enthusiast

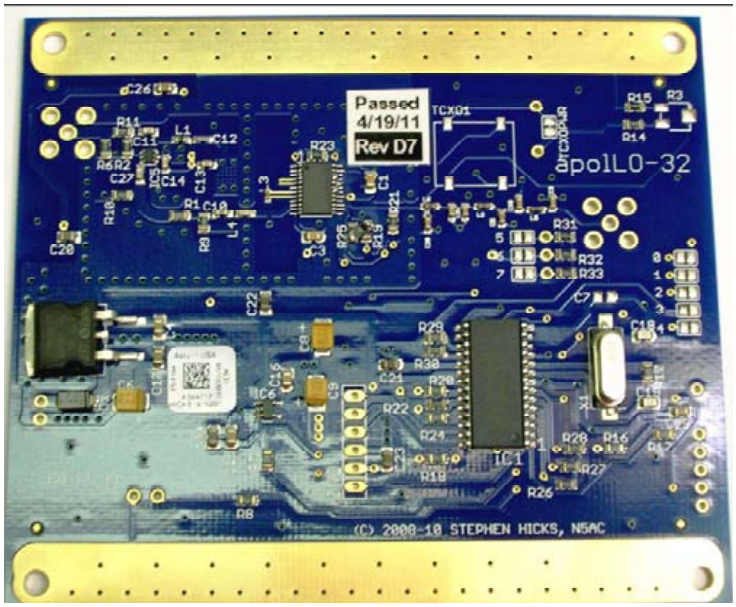
scatterpoint

December 2014

Published by the UK Microwave Group

Using the N5AC apolLO32 for 2300MHz

by Dave Robinson G4FRE



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UK Microwave Group Contact Information

Chairman: TBA
Email: chairman @microwavers.org
Located:
Address:
Home Tel:

General Secretary: G3XDY
John Quarmby
Email: secretary @microwavers.org
Located: Suffolk JO02ob
Address:
12 Chestnut Close,
Rushmere St Andrew
IPSWICH IP5 1ED
Home Tel:
01473 717830

Membership Secretary:
G8DKK Bryan Harber
Email: membership @microwavers.org
Located: Hertfordshire IO91vx
Address:
45 Brandles Road
Letchworth
Hertfordshire SG6 2JA
Home Tel: n/a

Treasurer: G4BAO
Dr. John C. Worsnop
Email: treasurer @microwavers.org
Located: Cambridgeshire JO02cg
Address: 20 Lode Avenue
Waterbeach
Cambs CB25 9PX
Home Tel:
+44 (0)1223 862480

Scatterpoint
Editor: G8BHC
Martin Richmond-Hardy
Email: editor @microwavers.org
Located: Suffolk JO02pa
Address:
45 Burnt House Lane
Kirton
Ipswich IP10 0PZ
NB editor & scatterpoint email addresses go to both Bob and myself

Scatterpoint
Activity News: G8DTF
Bob Price
Email: scatterpoint @microwavers.org

Contest & Awards Manager: G3XDY
John Quarmby
Email: g3xdy @btinternet.com
Located: Suffolk (JO02OB)
Address:
12 Chestnut Close
Rushmere St. Andrew
Ipswich
Suffolk IP5 1ED
Home Tel:
+44 (0)1473 717 830

Beacon Coordinator:
GW8ASD
Tony Pugh
Email: beacons @microwavers.org
Located: Essex (JO01)
Address: Gwersyllt
WREXHAM
LL11 4AF
Wales
Home Tel:
01978 720183

UK Regional Reps

John Cooke	Scotland	GM8OTI	john@marwynandjohn.org.uk
Gordon Curry	NI	GI6ATZ	gi6atz@qsl.net
Chris Bartram	Wales	GW4DGU	

Assistants

Kent Britain	USA	WA5VJB/G8EMY	wa5vjb@flash.net
Dave Powis	Trophies	G4HUP	g4hup@btinternet.com
Noel Matthews	ATV	G8GTZ	noel@noelandsally.net
Robin Lucas	www.beaconspot.eu	G8APZ	
Chris Whitmarsh	24GHz and up	G0FDZ	chris@g0fdz.com
Mike Scott	Chip Bank	G3LYP	

Editor's corner

Please see the latest Ofcom announcement on p5 about frequencies in the 2300 MHz and 3400 MHz ranges.
Season's Greetings to you all from 't Committee & me. Hope the shack isn't too cold for you.
As it's now Christmas, I feel I can mention April matters – the AGM approaches in April at the MMRT, but more of that next year.

73 de Martin G8BHC

Subscription Information

The following subscription rates apply.

UK £6.00 US $12.00 Europe €10.00

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

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

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

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

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

PLEASE QUOTE YOUR CALLSIGN!

Payment can be made by: PayPal to

ukug@microwavers.org

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)

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

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UKµG Chip Bank – A free service for members

The catalogue is now on the UKµG web site at www.microwavers.org/?chipbank.htm *Latest Stock Update was end of October – so do take a look!*

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

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

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

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

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

Mike G3LYP

UKµG Technical support

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

UKµG Project support

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

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

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

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

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

Ofcom Announcement

5 December: Ofcom has today published a decision to update the terms and conditions of the amateur radio licence. This follows a consultation published in September.
These include changes which would provide amateurs with access to some frequency bands previously available only through the variation of individual licences.
The decision is further to changes announced in our April statement on Public Sector Spectrum Release. In that statement, we set out a decision to remove access for amateur radio operators to certain frequencies in the 2300 MHz and 3400 MHz ranges in order to support the release of these bands by the Ministry of Defence.
This document is likely to be of interest to individuals authorised to use the radio spectrum in the UK for the purposes of amateur radio activities.

Proposed Australia (VK) to EU Microwave DXpedition, June/July 2015

Alan Devlin VK3XPD

Following our visit to the popular Friedrichshafen Hamfest in 2014, Australian Amateurs… Alan – VK3XPD and David – VK5KK in conjunction with Wolfgang – OE4WOG and "friends" decided we would participate in a VK – EU, DX Expedition in 2015. This idea was born over Dinner in a local Friedrichshafen Restaurant, June 2014.

So, once again, David and I will be attending the 2015 Friedrichshafen Hamfest over the weekend of June 26 & 27th. This time however, we will also be bringing with us "portable" Transverters for various Microwave and Millimetre Wave Bands. In the week following the Hamfest, it is our desire to work as many EU stations as possible… on as many Bands as possible from OE, DM, F, HB, I and depending on the Propagation, to other more distance countries.

Our Operating "window" will also include the popular "European 3rd Sub Regional Contest"... better known as the VHF Field Day on the weekend of July 4th and 5th, 2015.

By necessity due to our International travel, the Portable RF gear we bring will generally be QRP. We will however have GPS Locked capabilities for our Transverters on 23cm (2 Watts), 10 GHz (1 watt), 24 GHz (1 Watt), 47 GHz (25 mW), 76 GHz and 122 GHz. The latter will be "bare" Mixers feeding a 250mm Dish. We will also have 2 Metres and 70 cms (5 Watts) from our FT-817 IF Radio's. Wolfgang has investigated/suggested several Operating sites. These are both high Mountains in Austria - Pfander Mt in JN47vm, Elevation 1064 metres ASL and Zugspitze Mt in JN57lk, Elevation 2962 metres ASL.

So… to summarise our proposed DX Expedition :

OPERATORS : Alan – VK3XPD and David – VK5KK.

DATES : Monday, June 29th through to Sunday, July 5th, 2015.

BANDS : 2 Metres, 70 cms, 23 cms, 10 GHz, 24 GHz, 47 GHz, 76 GHz and 122 GHz.

OPERATING SITES : Pfander Mt and Zugspitze Mt.

We will be Posting more specific details to the usual Forums and Websites progressively in 2015.

For the latest Updates... I refer you to Alan's Website... rfresale.com

We would welcome any comments or questions you may have regarding our proposed DX Expedition.

Thank you.

Alan – VK3XPD, David – VK5KK, Wolfgang – OE4WOG and friends.

Using the N5AC apolLO32 for 2300MHz

by Dave Robinson G4FRE

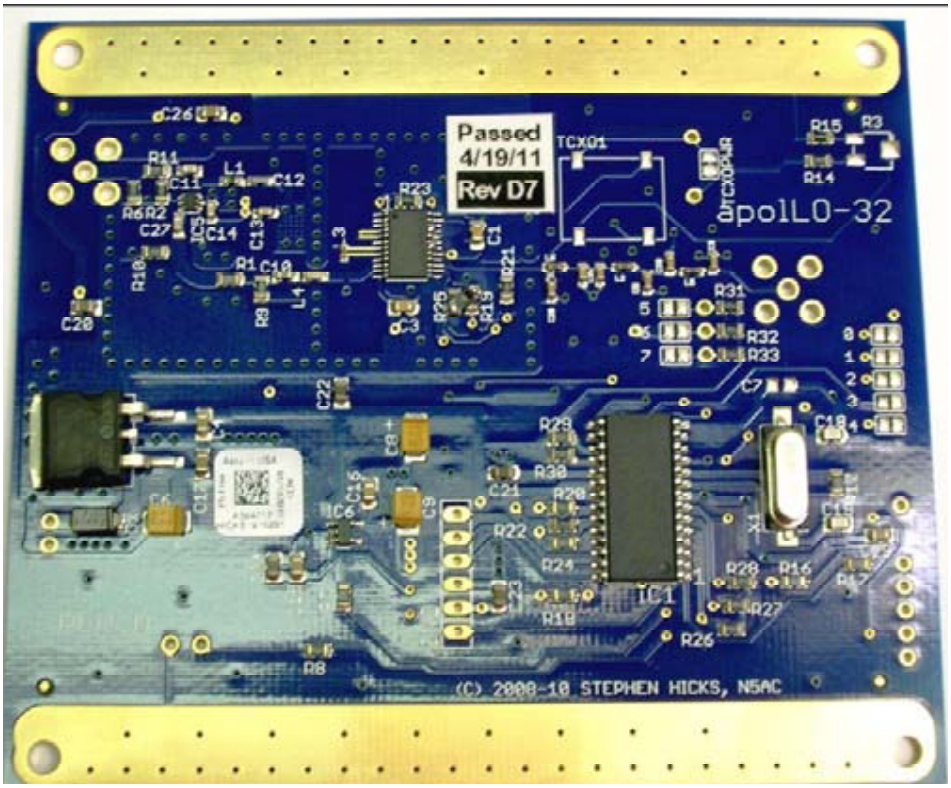
With the availability of 2300MHz NOVs, my attention has recently turned to equipment for the band. One possibility is to use N5AC's Apollo32 source to generate the local oscillator which allows switching between the various 13cm sub-bands used worldwide. I used this method for EME operation from the USA where 2300, 2304 and 2320MHz operation needs to be provided. My Transverter solution is documented at http://g4fre.com/13cm_xv.htm

For others who have the Apollo32 board this document shows how to upgrade the ApolLO32 to cover the extra local oscillator frequencies

Initially the Apollo32 only had 32 frequencies which could be programmed with 5 programming links. As frequencies were added new link locations were added to the board, the later versions had 8 frequency selection pads.

The first action is to determine which version of the Apollo32 board you have. One version just requires a software upgrade, the other requires some additional components.

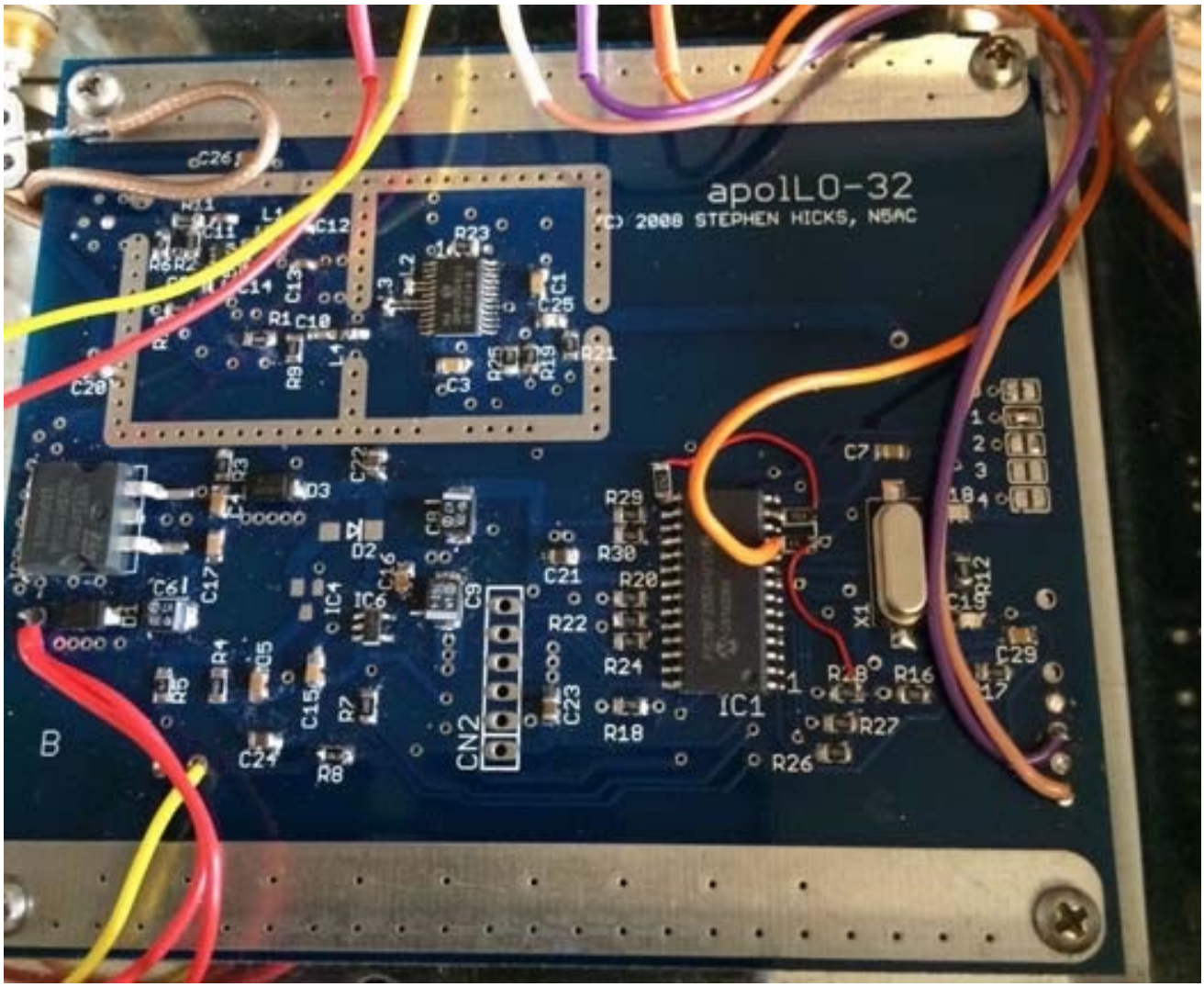
If you see a label with a "REV xx" on the board you have the latest hardware that just requires software upgrade. As a check it also has provision for soldering a 10MHz reference oscillator on the board. An example is shown in photo 1. This board version just requires a software upgrade.



If it has no label (It could have fallen off!), the oscillator provision should be missing and you will only see 5 pads near the PIC chip and this will require hardware additions. An example is shown below in G4DDK's modified board photo. Incidentally if you have an Apollo board with a mini USB connector you have the original Apollo1 board which has no predetermined frequencies, frequency being determined only through the USB port.

Hardware modifications

Three extra PIC pins have to be made frequency selection inputs, however for correct operation they require pull up resistors. 75kohm resistors are used by N5AC so they should be soldered to the PIC pins 11, 13 and 15 with the common connection soldered to +5V (pin 23 is one possible point). Pin 11 will be programming pin 5, 13 will be programming pin 6 and 15 will be programming pin 7. The following is a photo of G4DDK's board after modification



Software Upgrade

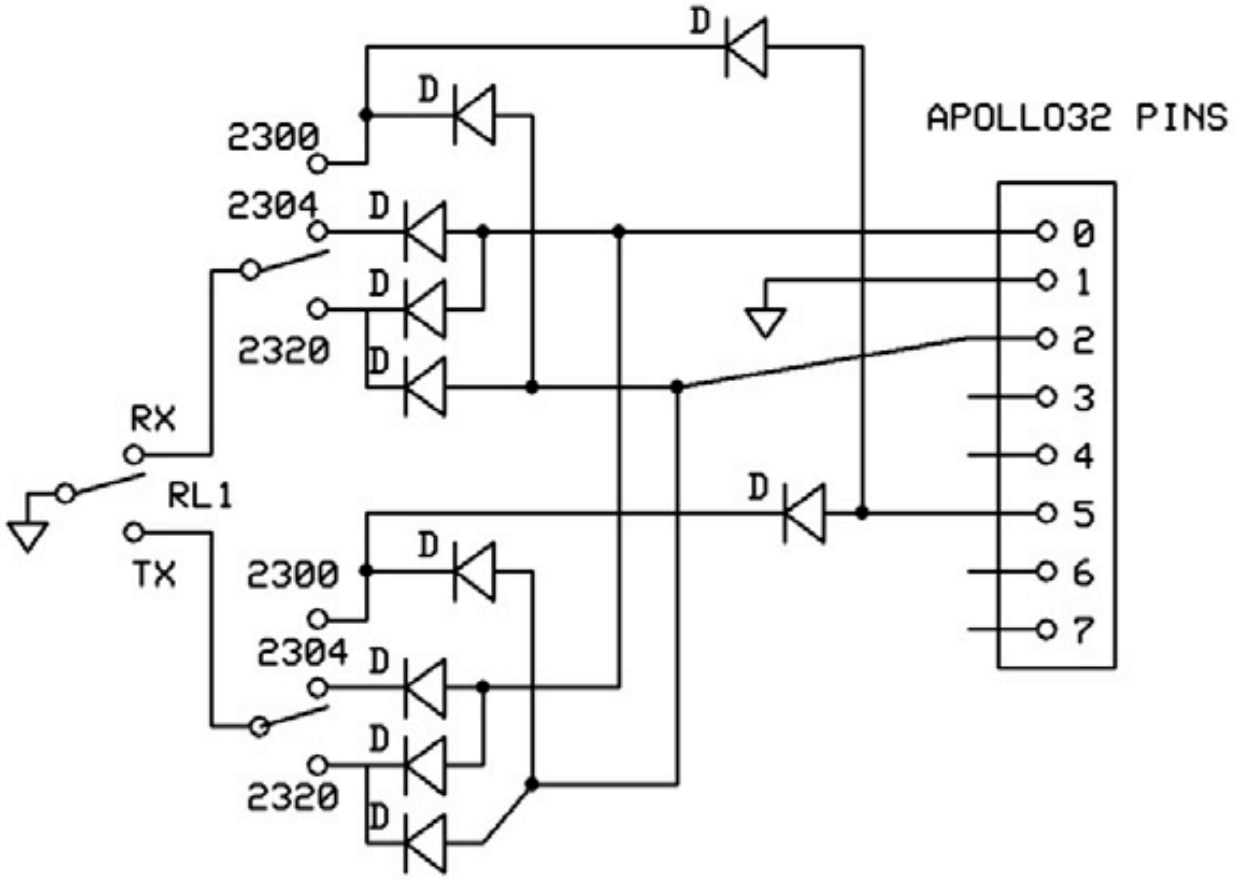
Next the software in the 18F2550 PIC needs upgrading. Luckily the 6 connections for ICSP programming are already on the board. I used the free MPLAB IDE software and a PICKIT 2 programmer to do the programming. . The necessary .hex file to upgrade the board to revision D9 is available from the author. I used a strip of six 0.1" PCB header pins which plug into the PICKIT2 and also to the pads on the PCB. Sideways pressure was applied to the PICKIT 2 to ensure all 6 pins were in contact with the PCB pads. It would also be possible to solder a row of 6 pins to the PCB but this would have meant my extracting the unit from the box. As a check use the IDE to read the existing chips contents. If this fails then programming will fail!

Frequency selection

I use a BFR91 Doubler and helical filter to generate the+7dBm 2GHz signal, therefore the Apollo32 needs setting to half LO frequency. The necessary links needed for 2300, 2304 and 2320 for a 144MHz IF are as follows:-.

	LO/2 (MHz)	0	1	2	3	4	5	6	7
2300/144MHz	1078		X	X			X		
2304/144MHz	1080	X	X						
2320/144MHz	1088	X	X	X					

An "X" in the table means that pin needs to be earthed to select that frequency. It will be noted that for these frequencies pin 1 is always earthed so only 3 other pins need switching 0,2 and 5). To allow Crossband operation I used 1N4148 diodes and two 1p3t switches to do the RX and TX selection:-



Conclusions

I use a BFR91 Hopefully this document will encourage those who have the Apollo32 Boards to get active on the new allocation

Dave Robinson G4FRE 11/2014

VK-EU Microwave DX Expedition in June, 2015

By Alan Devlin VK3XPD.

We would like to think this will be a fantastic opportunity for your UK and other Members to hopefully "work" us ?

This DX Expedition will likely be of special interest to those Amateurs who participate in the popular “European 3rd Sub Regional Contest”... better known as the VHF Field Day on the weekend of July 4th and 5th, 2015.

Our aim is to get maximum EU participation through our/your publicity.

Cheers and thank you,

Alan Devlin

Activity News : October

By Bob Price G8DTF

Please send your activity news to:

scatterpoint@microwavers.org

Introduction

Well the Christmas season is upon us again. No microwave contests until January. I am going to try and get on as many Monday evenings as possible.

This month's reports include one on a new reverse beacon, as well as the normal reports from contests. There are also reports of activity on the new 2300-2302 MHz portion of the band and on 24GHz activity in GM.

Postcard from Lincoln

Beacons and Reverse Beacons

From Lee G4TNX IO93

I have been expanding the webSDR I built up a couple of weeks ago and have put a 10Ghz LNB on the end of it. http://radiogeek.co.uk in IO93XN

The LNB is about 25ft up in the air and is pointing about 120/30 degrees ish in an attempt to see any of the beacons in the Suffolk area. As you would expect there is nothing at all on the waterfall but one rainy day/suitably placed aircraft or with just plain good luck something may pop up.

If anybody is ever lucky enough to see anything or has any comments, improvements, ideas etc. then please give me a shout.

From Bob G8DTF IO83

I have been experimenting with a new antenna on 3.4GHz. Previously I was using a feed from a C band Satellite TV system and my 80cm dish. I had not been convinced that it was working properly and the feed was offset from the primary axis.

I have replaced it with a 20dBi panel array. This seems to be working OK and I am hearing both GB3OHM and GB3ZME at similar strength to the dish.

November 23cm UKAC

From Mike G8CUL IO91

The 1.3GHz UKAC on 18th November seemed to present some of the worst propagation for a long time. Gerard, F8BRK, normally a big signal, was down in the noise, and as usual, Ray, GM4CXM was our best DX (at 525km) out of 53 QSOs (and 15 locator squares), although we had to revert to CW to make it this time with 51/53 reports.

From Martyn G3UKV IO82

My regular Monday evening skeds with Graham G3VKV were blessed with 10 Gig S9++ signals on the 10th Nov, which appeared to be enhanced by a broad NE/SW band of rain coming across from the Atlantic. A similar event took place on the 24th Nov, but this time on 2.3G, again with S9+ signals. So many of these events are missed by anyone only appearing on the 3rd or 4th Tuesday-in-the-month. Regular skeds, plus watching weather maps and forecasts lead to more enjoyable QSOs, and whatever has happened to those regular 23cm QSOs that used to be heard most evenings around 1296.200 MHz?

Anyway, 23cm seemed quite busy on the 18th.

"After last night's interesting propagation and activity on the bands above 23cm, I make it 63 days until the next UKAC microwave (13cm and above) on January 27th 2015.

So, how about reviving the **Monday Evening Activity** Sessions, to include ....

- "Proper" QSOs (not just RST/SN & 73)
- Some talkback and CQing on 144.175MHz (or other freq.) - or even 'KST
- Some experimental QSOs and Tests with different antennas, modes, beacons, bands and whatever else.

Myself and Graham G3VKV have a regular Monday evening sked during the so-called uW activity period on one or two uWave bands, but rarely hear another soul !

From Bob G8DTF IO83

Activity was pretty good for the 23cm UKAC. I manage to work 24 stations in 8 locators (IO83, IO75, IO82, IO92, IO93, IO81, IO91 and JO02) the best DX being with Ray GM4CXM.

First activity with the new 2300MHz NoVs

From John G4BAO JO02

The first QSOs with the new Notice of Variation for 2300MHz took place during November. G4BAO (JO02cg) worked G4DDK (JO02pa) at 2015 on the 20th using SSB for what is believed to be the first QSO on the new band. John then used ISCAT-A to work G4FRE (IO82u) who was pointing his antenna out of an open window! The following morning, G4DDK went on to work G4FRE using JT65c.

G4BAO runs a home designed transverter with a switchable DownEast Microwave "ApolLo" synthesised LO, to a modified 1900Mhz Cellular Amplifier with 90Watts to a 44element G3JVL Quadloop yagi with a "looperiodic" feed. G4DDK also runs a home designed transverter using an ApolLo with a 2100MHz cellular PA running 240 Watts to a 67element Wimo Yagi.

G4FRE was using a Tonna Yagi pointed out of a bedroom window, but he does have an excellent elevated take off to the East!

Hoping to hear more reports of activity on the new band soon

From Dave G4FRE IO82

Having finally got a 2300MHz NOV I decided I needed to use it. I used the multiband Transverter built for international 13cm EME written up at http://g4fre.com/13cm_xv.htm into the driver stage of a Spectrian amplifier giving 12w output.

On Nov 20 evening I tried a sked with G4BAO at 170km. I used a 25 element F9FT Yagi which had a reasonable match at 2300 and 2320MHz pointing out of the bedroom window.

It was suggested to try ISCAT-A digital mode. It took a while to complete the QSO, aircraft reflections were non-existent, but we completed for my first tropo QSO on 2300.2MHz. A quick try was made with G4DDK at 246km, but no two way QSO.

On Nov21 morning I tried again with G4DDK. His ISCAT-A signals were weaker by some 5dB than the previous evening but were there most of the time. It took 10 minutes to get a signal report back Signals were not "bursty" as would be produced by aircraft, so we switched to JT65c, which is good for weak, continuous signals. The QSO completed quickly in 5 periods for my best ever DX on 13cm

The lesson learnt from this activity is that the digital mode used needs to be carefully chosen based on the received signal characteristics

From Bob G8DTF IO83

I had a listen for Andy G4JNT's beacon on 2300.350 MHz, after I had put some brand new LMR600 on my 62 element Yagi. The GB3ZME beacon on 2320.870 was a good 559 so I thought I would try and see if I could hear Andy's beacon by tuning my FT817 to 124.35 MHz. I listened for about 20min to see if I could hear any Aircraft reflections. I heard it twice very briefly, the first time I could hear some tones, the second time I got “NT” in CW, so I am presuming that it was Andy's beacon.

November Low Bands Contest

From The Combe Gibberlets Group, M0HNA/P IO91

The Combe Gibberlets Group, M0HNA/P set off to one of their preferred sites for the November Low Band contest. This is a stud farm near Guildford that has a long cindered track, which then turns into an unmade track-way across two fields to reach the operating point on the top of the North Downs. Unfortunately, after the heavy overnight rain, it soon became clear that most of the vehicles wouldn't make the trip, getting stuck in the mud within feet of the end of the cindered track! As a compromise, we set up where we could, next to tractors, mobile homes and various other farm buildings. The patch of wet grass soon turned into sticky brown mud as we set up but we persevered and managed to work a few stations. On 23cm we couldn't erect the full mast and there was deep QSB and on the higher bands the rain scattering was very noticeable at times. Best DX was GI6ATZ at 507kM on 23cm, G8DTF at 287kM on 13cm and G3UKV at 216kM on 9cm. Thanks to all who were active and made our discomfort worth while!

From Mike G8CUL IO91

Sunday 23rd was the final UKuG Low band contest of the year on 1.3, 2.3 and 3.4GHz and, having said the previous Tuesday’s conditions were bad, the Sunday seemed even worse! I only operated on 1.3 and 2.3GHz (no

3.4GHz equipment yet!) with 24 QSOs on 1.3GHz (best DX F6APE at 475km) and 12 on 2.3GHz (best DX G4KCT at 260km). Activity was poor compared with the Tuesday night microwave UKACs, consequently with poorer best DX QSOs. The Martlesham beacons on 1.3GHz and 2.3GHz were up the day before, but down in the noise ready for the contest. Typical.

After the contest I had an email from F8BRK saying that on Sunday morning, while raising his 1.3GHz 2.6m dish, the winch cable broke, sending the whole dish assembly 23m down to the ground. I understand that the dish, carriage, rail system and rotator are now all scrap. I will no doubt hear more about it when I see him next!

From Martyn G3UKV IO82

On the 23rd for the UKuW Low-band contest, although no real DX was heard or worked on 23, 13 or 9cm. A replacement rotator upset accurate dish azimuth settings, since I find the readout dial, although having markings every 5 degrees, is by no means reliable. Thus, if set to exactly 180 deg (ie halfway round its rotation), there are errors of +/- ten degrees or so in various other directions, and I have found this on every single rotator I've ever used. Rarely noticeable using the average 2m or 70cm antenna, it certainly is a factor when using a 90cm dish on the higher microwave bands. I get used to making a mental offset in various directions, but it takes quite a while to be confident as to where the dish is precisely pointing. I suppose the cause is non-linearity in the 360 deg pots fitted in most rotators. Perhaps someone has found a "fix" for such rotators, without spending £1000 ?!"

From Bob G8DTF IO83

I had a go on all 3 bands this time. I worked 5 stations on 23cm with the best DX being M0HNA/P. 13Cm was little better with just 3 QSOs the best being M0HNA/P again. On 9cm only 1 QSO with G3UKV.

November SHF UKAC

From Mike G8CUL IO91

The next Tuesday (25th) was the SHF UKAC but with no equipment (yet!) for bands above 2.3GHz I was able to concentrate solely on that band while Ann, G8NVI did her bit on 50MHz. Although the Martlesham beacon seemed pretty average before the contest, conditions E-W seemed reasonable as I managed to work both Eddie, PE9GHZ and Simon, PA0S at good signal strengths. Sadly, Frank, PE1EWR was right at noise level so no QSO there. Best DX was Ray, GM4CXM at 525km amongst 24 QSOs and 14 multiplier squares. Other QSOs included G1LPS, G8PNN, G8EOP, G8DTF, G8BUN and of course the JO02 mafia. This was the last SHF UKAC of the year so thanks go to everyone for the QSOs during 2014 and congratulations to Sue, G8SFI(/P) who is almost certainly going to win! Seasons greeting to all and see you in 2015.

From Bob G8DTF IO83

I was active on two microwave bands for the SHF UKAC. On 3.4GHz I did not have any QSOs.

Things were better on 2.3GHz where I worked 17 stations in 8 locators with the best DX being Ray GM4CXM.

Other November Activity

From Alan GM0USI IO75

Just a note to say there is now 24GHz activity up here in GM! Over the last few weeks I have borrowed Brian GM8BJF's /P kit which usually sees an outing during the May contest.

Brian kindly put on a personal beacon which has been very useful for me over a couple of paths - namely the usual IO76xa which is LOS to GM8BJF's qth in Edinburgh, but also a new site I use in the Kilpatrick hills at IO75tw27fm at 750ft asl. Our first 2 way qso took place today with signals on SSB and and FM up to 58 both ways. The path is 74km and not LOS. Equipment was Endwave units running about 1w - Brian using an BSB minidish and I changing between an 18in link antenna and my usual Triax 88cm.

There should be around 5 GM QRV over the next 6 months as well as the 24GHz GB3CSB beacon - I'm hoping to have my own system up and running fairly soon with trips planned to the Solway and looking for QSOs further afield during suitable days. Will keep you all posted

From Graham G3YJR IO93

By way of highlighting activity on 3cm, this is just to say that I'm starting to experiment on this band from Sheffield, IO93FJ.

I have a DB6NT transverter mounted in front of a 60cm old-Sky type dish which is set on a rotator on the chimney, just above the chimney-pots. Peter G3PHO had kindly given me a little horn & some waveguide bits and I managed to mount these on a weather-protective box (not weather-proof, I found!) & it seems to work.

The mounting gives me a reasonable take-off at 235m ASL + 10m AGL to W- N-E. To the South I'm pointing at houses. SE & SW aren't much better, obstructed with houses & trees.

The rotator is an Aiwa which is really for rotating yagis, so it's a bit twitchy with the dish! I also have a rotator for elevation on the dish.

The 2m IF is connected to the K3 (with the internal 2m transverter). Both the K3 & the transverters are locked to a GPS-disciplined reference oscillator. GB3FNY romps in on 10,368.752,080 MHz according to my dials.

Sometimes I can hear GB3MAN via rain-scatter, but quite weak, peaking at S2.

Unfortunately most of the UK stations are to the south of me, so difficult to access.

I have worked Nick G4KUX to the north & I have copied Gordon G8PNN. Peter G3LRP is very strong. Peter G3PHO is nearby in IO93GG, but he is the other side of the hill with no easy points of reflection, so we have yet to work. I was pleased to work Keith G4ODA in the November-2014 SHF UKAC using SSB. He was strong!

I hope to add some amplification on receive & transmit in 2015 & maybe build a waveguide so that I can mount the box of bits behind the dish & balance things up a bit.

Here is an early experiment with the transverter listening to GB3FNY using a little LP antenna that I got from Sam:

I still run the LT23S on 23cm with a "44el" Wimo antenna & a Bob Platts pre-amp.

I sometimes blog a bit on:

http://gm3yjr.blogs.it/

...and finally

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

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

73 Bob Price G8DTF

Contests

John G3XDY, UKuG Contest Manager

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

www.microwavers.org/?contesting.htm

November 2014 Lowband Contest Results

Entry levels improved for the last Low Band contest of 2014, but are still some way below where they once were for these events. Conditions were described as flat, some chose rather more graphic terms in their logs. Continental activity was almost non-existent for this session, whereas the previous sessions all coincided with IARU coordinated events in other countries. Best DX was limited as a result, with GD8EXI achieving the best result by working F6DKW at 762km on 1.3GHz.

On 1.3GHz M0HNA/P came out ahead of GD8EXI after braving the mud and wet weather to get onto their portable site. GD8EXI achieved a high points per contact scoring rate but found activity low. It was pleasing to see several first time entrants taking part.

G8CUL leads by a large margin on 2.3GHz, with M0HNA/P as runner up hampered by some equipment problems. GW3TKH/p worked the best DX at just under 300km, no stations outside England appeared in the logs.

3.4GHz saw M0HNA/P in top position, with GW3TKH/P as runner up. As on 2.3GHz the best DX worked was just under 300km, with no continental contacts reported.

The overall winner was the “Combe Gibberlets” group consisting of G3TCU, G4SJH, and G1EHF. Overall runner up and leading fixed station is Mike Stevens G8CUL who was the winner up on 2.3GHz.

For the first time there were no entries in the radio talkback only category for this event.

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

1.3GHz	M0HNA/P, GD8EXI, G4ZTR (Low Power)
2.3GHz	G8CUL, M0HNA/P, GW3TKH/P (Low Power)
3.4GHz	M0HNA/P, GW3TKH/P

Low Band Championship 2014

In many ways I could re-use last year’s write up for the 2014 Low Band Championship. Activity levels were rather poor, but picked up a little for the last event, and conditions were normal or flat throughout. The move of the session previously held in October to May seemed to be successful.

1.3GHz

The “Combe Gibberlets” now take part under M0HNA/P as their permanent callsign, and won three sessions to claim maximum points and victory on this band. Tony Collett G4NBS repeats his runner up slot from 2013 with one session win and a second place.

2.3GHz

M0HNA/P also won this band with two wins and the runner up spot in the other sessions they entered. Neil Underwood G4LDR claims the runner up position after a close battle with G4BRK .

3.4GHz

Martyn Vincent G3UKV is victorious on 9cm, with two wins and a second place. Runner up is Neil G4LDR with two winning sessions.

Overall

Top of the overall table is the “Combe Gibberlets” group with Neil Underwood G4LDR as runner up. G4LDR was the only entrant active in all five sessions this year.

Congratulations to the winners and runners up mentioned above, who will all receive certificates for their achievements.

November 2014 Low Band Contest						
1.3GHz						
Pos	**Callsign**	**Locator**	**QSOs**	**Score**	**ODX Call**	**ODX km**
1	M0HNA/P	IO91RF	25	4992	GI6ATZ	507
2	GD8EXI	IO74PC	13	4550	F6DKW	762
3	G8CUL	IO91JO	24	4359	F6APE	475
4	G4NBS	JO02AF	19	3198	GI6ATZ	466
5	G4ZTR	JO01KW	15	2934	GD8EXI	445
6	G3UKV	IO82RR	14	2255	G3XDY	265
7	G4RQI	IO93IR	14	2171	M0HNA/P	283
8	GW3TKH/P	IO81LS	10	1806	G3XDY	294
9	2E0NEY	IO81VK	12	1758	G4KCT	289
10	G4BAO	JO02CG	10	1481	GD8EXI	386
11	G3YJR	IO93FJ	6	1035	M0HNA/P	251
12	G4LDR	IO91EC	7	909	G3XDY	223
13	G8DTF	IO83SM	5	892	M0HNA/P	287
2.3GHz						
Pos	**Callsign**	**Locator**	**QSOs**	**Score**	**ODX Call**	**ODX km**
1	G8CUL	IO91JO	12	1653	G4KCT	260
2	M0HNA/P	IO91RF	6	936	G8DTF	287
3	GW3TKH/P	IO81LS	5	801	G3XDY	294
4	G4NBS	JO02AF	7	630	G4KCT	204
5	G8DTF	IO83SM	3	582	M0HNA/P	287
6	G3UKV	IO82RR	4	496	G4LDR	192
7	G4LDR	IO91EC	3	332	G3UKV	192
8	G4BAO	JO02CG	4	249	G8CUL	123
3.4GHz						
Pos	**Callsign**	**Locator**	**QSOs**	**Score**	**ODX Call**	**ODX km**
1	M0HNA/P	IO91RF	5	749	G3UKV	216
2	GW3TKH/P	IO81LS	4	618	G3XDY	294
3	G3UKV	IO82RR	3	507	M0HNA/P	216
4	G4LDR	IO91EC	3	492	G3XDY	223
5	2E0NEY	IO81VK	3	434	G3XDY	246
6	G8DTF	IO83SM	1	89	G3UKV	89

November 2014 Low Band Contest						
Overall						
Pos	**Callsign**	**1.3GHz**	**2.3GHz**	**3.4GHz**	**Total**	
1	M0HNA/P	1000	566	1000	2566	
2	G8CUL	873	1000	0	1873	
3	GW3TKH/P	362	485	825	1672	
4	G3UKV	452	300	677	1429	
5	G4LDR	182	201	657	1040	
6	G4NBS	641	381	0	1022	
7	2E0NEY	352	0	579	931	
8	GD8EXI	911	0	0	911	
9	G8DTF	179	352	119	650	
10	G4ZTR	588	0	0	588	
11	G4BAO	297	151	0	448	
12	G4RQI	435	0	0	435	
13	G3YJR	207	0	0	207	

Low Band Championship 2014

Final results, the best three events count towards the total

Overall

Pos	Callsign	3/2/14	4/13/14	5/4/14	6/8/14	11/23/14	**TOTAL**
1	M0HNA/P	0	2692	3000	2245	2566	8258
2	G4LDR	1833	2245	1083	2174	1040	6252
3	G4BRK	2113	1602	1777	1456	0	5492
4	G3UKV	1788	0	1208	1740	1429	4957
5	G4NBS	1879	0	0	1991	1022	4892
6	GW3TKH/P	0	766	444	0	1672	2882
7	G4KIY	0	697	0	1656	0	2353
8	G4BAO	1456	0	0	0	448	1904
9	G8DTF	0	1233	0	0	650	1883
10	G8CUL	0	0	0	0	1873	1873
11	G8OHM	0	0	1302	0	0	1302
12	G(W)4WLC/P	521	0	299	460	0	1280
13	2E0NEY	0	0	0	0	931	931
14	GD8EXI	0	0	0	0	911	911
15	G4ZTR	0	0	0	0	588	588
16	G0RUZ	0	537	0	0	0	537
17	G3TCT	527	0	0	0	0	527
18	G4RQI	0	0	0	0	435	435
19	G3UVR	0	0	0	405	0	405
20	GM8IEM	0	90	0	201	0	291
21	G3YJR	0	0	0	0	207	207
22	G4DZU	154	0	0	0	0	154
23	GM3HAM/P&GM4BYF/P	0	0	131	0	0	131
24	GD1MIP	0	0	0	73	0	73

Low Band Championship 2014

Final results, the best three events count towards the total

1.3GHz

Pos	Callsign	3/2/14	4/13/14	5/4/14	6/8/14	11/23/14	TOTAL
1	M0HNA/P	0	1000	1000	711	1000	3000
2	G4NBS	1000	0	0	991	641	2632
3	G4BRK	816	498	575	0	0	1889
4	G4LDR	439	436	150	483	182	1358
5	G4KIY	0	305	0	1000	0	1305
6	G3UKV	320	0	152	343	452	1115
7	G4BAO	685	0	0	0	297	982
8	GD8EXI	0	0	0	0	911	911
9	G8CUL	0	0	0	0	873	873
10	GW3TKH/P	0	227	183	0	362	772
11	G4ZTR	0	0	0	0	588	588
12	G8OHM	0	0	577	0	0	577
13	G0RUZ	0	537	0	0	0	537
14	G3TCT	527	0	0	0	0	527
15	G8DTF	0	267	0	0	179	446
16	G4RQI	0	0	0	0	435	435
17	2E0NEY	0	0	0	0	352	352
18	GM8IEM	0	90	0	201	0	291
19	G3YJR	0	0	0	0	207	207
20	G3UVR	0	0	0	171	0	171
21	G4DZU	154	0	0	0	0	154
22	GD1MIP	0	0	0	73	0	73
23	GM3HAM/P	0	0	67	0	0	67

2.3GHz

Pos	Callsign	3/2/14	4/13/14	5/4/14	6/8/14	11/23/14	TOTAL
1	M0HNA/P	0	1000	1000	838	566	2838
2	G4LDR	986	809	232	691	201	2486
3	G4BRK	1000	776	575	558	0	2351
4	G4NBS	879	0	0	1000	381	2260
5	G3UKV	468	0	830	397	300	1695
6	G(W)4WLC/P	521	592	299	460	0	1573
7	G8DTF	0	966	0	0	352	1318
8	GW3TKH/P	0	539	261	0	485	1285
9	G4KIY	0	392	0	656	0	1048
10	G8CUL	0	0	0	0	1000	1000
11	G4BAO	771	0	0	0	151	922
12	G8OHM	0	0	725	0	0	725
13	G3UVR	0	0	0	234	0	234
14	GM4BYF/P	0	0	64	0	0	64

3.4GHz

Pos	Callsign	3/2/14	4/13/14	5/4/14	6/8/14	11/23/14	TOTAL
1	G3UKV	1000	0	830	1000	677	2830
2	G4LDR	408	1000	701	1000	657	2701
3	M0HNA/P	0	692	1000	696	1000	2696
4	G4BRK	297	328	597	595	0	1520
5	GW3TKH/P	0	0	0	0	825	825
6	2E0NEY	0	0	0	0	579	579
7	G8DTF	0	0	0	0	119	119

UKuG Microwave Contest Calendar 2015

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

PLL LNBs for C Band, 3.4-4.2GHz

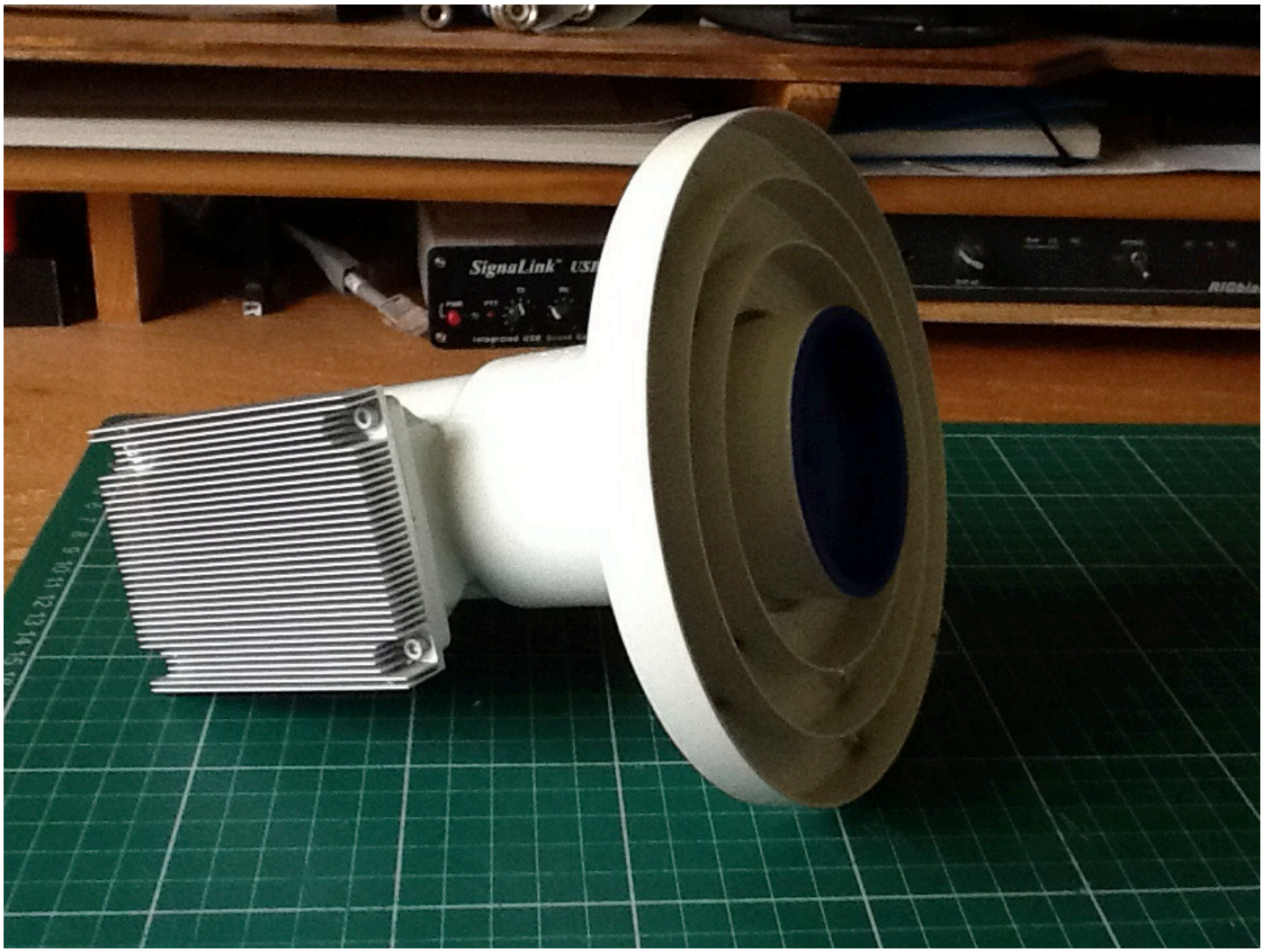
Shaun G8VPG

Many members, including myself, have used the PLL LNB's for the 10GHz band. I recently discovered that similar devices are available for C Band, 3.4-4.2GHz. I bought a Titanium Satellite C1W-PLL wideband C Band LNB from a UK based Ebay supplier. The cost was just £23.50 with free postage and it arrived within two days. It comes with a scalar feedhorn for a prime focus dish and a piece of dielectric to insert in the feedhorn for circular polarisation.

The local oscillator is on 5150MHz. I have done a quick bench test. I set the signal generator to 3450MHz and hooked up the spectrum analyser to the output. I used a bias tee to provide 13V to power the LNB. The output was on 1700.009MHz and seemed fairly stable. My plan is to mount it on a 600mm dish and take it out to a local hill top and see what beacons I can hear, using a Funcube dongle.

Incidently, I used the RF Explorer pocket spectrum analyser and the new matching RF Explorer signal generator, which are available from ML&S. The signal generator goes up to 6GHz and can be set to within 1kHz. When used with the spectrum analyser, it works as tracking generator, up to the spectrum analysers limit of 2.7GHz. I have been very impressed with the combination.

73 Shaun G8VPG



Events calendar

2015

Jan 17	Heelweg Microwave, Westendorp Netherlands	www.pamicrowaves.nl/website/
Feb 21	Tagung Dorsten	http://www.ghz-tagung.de/
Apr 11	CJ-2015, Seigy	cj.ref-union.org/
April 25 – 26	Martlesham Round Table	mmrt.homedns.org/
May 15 – 17	Hamvention, Dayton	www.hamvention.org/
June 26 – 28	Ham Radio, Friedrichshafen	www.hamradio-friedrichshafen.de/
July 11 – 12	Finningley Round Table	www.g0ghk.co.uk/
July tbc	Amsat-UK Colloquium, Holiday Inn, Guildford, Surrey	
Sept 6 – 11	European Microwave Week, Paris	www.eumweek.com/
Sept 11 – 13	60.UKW Tagung Weinheim	http://www.ukw-tagung.de/
Sept 25 – 26	National Hamfest	http://www.nationalhamfest.org.uk/
Oct 9–11	RSGB Convention	http://rsgb.org/convention/
Oct tbc	Microwave Update, San Diego	http://www.microwaveupdate.org/

2016

May 20 – 22	Hamvention, Dayton	http://www.hamvention.org/
Jun 24 – 26	Ham Radio, Friedrichshafen	www.hamradio-friedrichshafen.de/
Oct 3 – 7	European Microwave Week, London	http://www.eumweek.com/
Oct 7–9	RSGB Convention	http://rsgb.org/convention/

Season's Greetings
to all our readers