December 2005
Volume 6, Issue 5

ANODE

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Editor's Comments

December 2005
Volume 6 Issue 5

This last month saw me cancel my Mweb subscription and join the upper crust Internet users on "Broadband" with Telkom. This has meant losing the storage on the Mweb 'mysite' and as a side effect, my ability to host the club's Anode, pictures etc. I am not going to host the clubs website and cannot afford the extortionate rates that the single supplier want to charge. [Also the West Rand Committee has had long enough to prepare for this]

['BroadBand' used to mean an all women group of musicians.]

Credit card fraud
Edith's credit card was cloned last week and maxed out. Watch out for people who take your credit card to a machine out-of-view.

Sony-BMG and the anti-piracy methods used.
The CD's you buy for Christmas might be 'tainted' with the new anti-piracy measure. Beware of the Sony-BMG ones as they have an installation of a player that cannot be de-installed without great effort. It also 'opens' your pc to the Internet for further destruction of your peaceful life.

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Special points of interest:

- Contact details on back page (updated)
- New email address for Anode and ZS6WR. See back page

UK Repeater Woes

(and you think we have problems)
[From the Newsgroup.]

From: "Samuel Hunt" <shunt010@hotmail.com>
Subject: Resignation from Leicestershire Repeater Group
Date: 04 December 2005 21:19

Below is copied a letter from myself to the Chairman of the Leicestershire Repeater Group. I do not suppose it will ever be made public domain, so I'd better do the job for them.

4 December 2005

Dear Mr. Chairman,

Unfortunately I feel it is necessary to write you a letter of resignation from the Leicestershire Amateur Repeater Group Committee. I feel that I am unable, considering the current situation and past events, to continue in my current role within the committee.

As you will recall, when we had our first conversation on the air and subsequent telephone conversation on 30th May 2004 regarding the LRG, I indicated to yourself that my interest with the repeater group rested solely with GB3UM, and not with GB3CF. I also said that I was only assisting with GB3CF to restore service to this repeater, for many of my fellow radio amateurs use this repeater, and that by doing so it was simply a gesture of goodwill, as

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Editors Comments & News

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The Printer port Analogue to Digital converter

My spare time, a phrase that brings a smile to my face, has recently been spent on acquiring some high quality test equipment. However the week before last saw me complete the A2D unit for the pc's printer port. The hardware now works satisfactorily. The article I am writing will tell you of my trials and tribulations. The software is only at the test phase at the moment. Maybe I shall get some time to work on it over the holidays.

The Club beacon.

The club 2m fox/beacon is still resident here at the shack/ office. Doesn't someone in the club want to run a foxhunt? Transmitting morse on 144.500/144.550, it needs a new crystal to get it onto the FM part of the band. Suitable crystals would be around 145.500 / 2 or 144.500 / 3. If anyone has one out there, please let me know if you would be prepared to part with it for a nominal sum.

Philip's emails

Dear Mr. Editor.

Here are a few good web sites to visit. The first is a site compiled of link to all interesting antenna web sites. The second is the official site for WJST.

I have down loaded both site and saved this to disk. I will cut it onto CD for the members at the first Monday night meeting. Will you spread the word please? * Please bring your own disk.

http://www.ku4ay.net/antenna.html

http://pulsar.princeton.edu/~joe/K1JT/

73's Phillip De ZS6PVT

Some news for the anode

Bulletin readers: For December and January

4 Dec ZS6CJB 11 Dec ZS6CRW 18 Dec ZS6AGF 25 Dec Social meet and great.

01 Jan Social meet and great. 08 Jan ZR6WWJ 15 Jan ZS6OUN 22 Jan ZS6PVT 29 Jan ZR6AOC

[* Sorry Philip, I can't be a club email distribution system. That's the secretary's job. I can no longer be a club website either. See above. So guys its time to get your website up and running.....]

HamComp

There will be another HamComp meeting at the clubhouse on the 17th of December at 13:00.

For those who wish to read up on Linux and Amateur Radio:- http://www.radio.org/linux/HAM-HOWTO.html

The use of 'recent' in articles

This is a relative term like "just now" and should not be used without a reference date. The article could be dated and thus the word recent would have some meaning.

Best wishes for all of you. Have a blessed Christmas and an interesting New Year. JB

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UK Repeater Woes

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is the sprit of amateur radio.

Unfortunately since that time, and despite me having to remind the committee of this on several occasions before and after the recent EGM, no action has been taken to resolve this issue, and I have continued to maintain GB3CF simply on goodwill rather than having an active interest in the running and operation of the repeater.

Recently, however, events have occurred which have caused my goodwill to become strained. As you are aware, I have complained of sabotage to GB3CF for some time now, which is something that the committee has chosen not to investigate. This culminated in unauthorized retuning of the new cavities for GB3CF, which in turn caused the reciever to be damaged. Little assistance was offered by other members of the committee to attempt to source a new reciever - even when they were made aware that I was having difficulties sourcing a new reciever myself. This caused me to have to install one of my own preamps, taken from my amateur radio station at my house. This then restored service to a degree, but this was followed by the theft from site of over £100 of my own equipment, once again reducing the service provided by the repeater.

I find this situation, whereby the time and effort that I am putting into GB3CF is being wasted, completely unacceptable. I find that every time I attempt to make GB3CF work properly, someone is always trying to stop it doing that. I feel this is further compounded by the fact that my interest does not lie with GB3CF anyway. In the past when I have offered to assist with GB3UM or to make my wishes known, I am met with hostility and threats of violence.

However, the final action that has prompted my resignation is that without my permission it was decided to remove my access to the site. As you will be aware, it is a requirement of an amateur radio repeater for there to be 4 people with access to the site at all times who can switch off the repeater. At the moment, there is only 1 such person with direct access. During the committee meeting which the decision was made to remove my access to the repeater, I voiced my concerns about not being able to shut it down, and requested that a switch was installed on the outside of the bunker to facilitate such a process. However, this reasonable request has since not been complied with, and as such all repeaters and beacons installed on the site at Markfield are actually outside of their licensed conditions. Since they are not complying with the terms they are therefore unlicensed, which is in violation of Section 1.1 of the Wireless Telegraphy Act. I am not prepared to be part of a committee that is aiding and abetting a criminal offence.

Furthermore, people appear to feel the need to act as a person of official importance to inspect the equipment. As you are aware, it is only someone acting on the behalf of the Secretary of State who has the authority to demand an inspection of the GB3CF repeater. I also have only to comply with the licence conditions as set out in my NoV, and the Leicestershire Repeater Group does not have the authority to impose new licence conditions or vary the existing licence conditions. I therefore am at a loss as to why exactly the committee is inventing licence conditions which do not exist, and why the committee is demanding to inspect the repeater with regards to power output and suchlike. I interpret this as the committee feeling that they know better than myself how to install and maintain this particular amateur radio repeater, and I am not prepared to work within these conditions.

As you will also be aware, members of the committee of the Leicestershire Repeater Group have been circulating the rumour that I am deliberately sabotaging GB3CF to make GB3NF appear better, and to "steal" users. I find these rumours extremely abhorrent. As you are aware, during the time that I have been involved with GB3CF, GB3UM and the Leicestershire Repeater Group, I have been involved with

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UK Repeater Woes

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many other repeaters, such as GB3TO in Northampton, GB3XX in Daventry, GB3CV in Coventry, GB3ME in Rugby, GB3HT in Hinckley, GB3CN in Northampton, GB3CT in Northampton, GB3NH in Northampton and GB3TA in Tamworth. I have also been involved with setting up a 10ghz beacon in Northampton. All of these repeaters that I have been involved with could be considered as being in competition with repeaters that are maintained by the LRG, and some even are openly in direct competition. Why, therefore, accusations of competition have not been raised previously and why GB3NF is being victimized is a mystery to others and myself. Furthermore, as you are aware, the GB3NF group has loaned to the LRG several pieces of equipment in the past, including over £1000 of cavity filters, and has not requested and will not request any form of reimbursement. The LRG has not even bothered during this time to write to the group responsible for GB3NF and to thank them for their efforts that have assisted them greatly during such a time of need, but instead has decided to repay them by circulating rumours about competition between the two groups. I would ask you please to lay this matter to rest by writing to the Secretary of the Midlands Amateur Repeater Group, thanking him for the loan of the cavities, and to stop this rumour that is being circulated about competition between the groups. The two groups have a great deal to offer each other, but if committee members of the LRG are to continue to circulate false rumours, then we both cannot benefit from each other's resources and experiences. Unfortunately, as you are no doubt aware, the siting of GB3NF naturally will give far better range than GB3CF, and this has never been more obvious than at the moment, when GB3CF is running exactly 4 times the effective radiated power of GB3NF, so it is extremely futile to argue about the point anyway.

Considering the facts which I am aware of, and which I have detailed in this letter, I feel that I have been pressurized into resigning so others can take my place. Although at this stage it is unclear to me what the motives for this are, I feel over the coming months these will become clear, and in due time I feel that justice will be served and these people will be, as I have been myself, pressurised into resigning and I may at that point feel I can return to serve once again on the committee of the LRG.

During my time with the Leicestershire Repeater Group, I have donated several items, such as a Logic board for GB3UM, dehumidifier, preamp for GB3CF, water pump and many plugs and connectors for the repeaters. As I have said at the time that I donated them, if the group does not have any further need for them at a time in the future, then I would appreciate it if I was offered them before they disposed of in any other way.

I would like to think that the work that I have done for the members of the LRG during my time has been appreciated, and that it has gone towards furthering the group and the hobby. If the group wishes to consult me about any technical matters, or about GB3CF as it is currently, I am happy to offer advise to the committee, as any other ordinary member of the LRG would.

It may be some time before I consider becoming part of the committee of the LRG again, if indeed I ever do consider becoming part of the committee again, but I am sure that I will observe from a distance the proceedings with profound interest.

Many thanks,

Samuel Hunt M1FJB

More Woes.....

From: "Tombo" <eneffarr@hotmail.co.uk> Subject: GB3NF - WTF does a repeater group do ? Date: 06 December 2005 01:39

GB3NF has been keyed up for 2 DAYS now... TX is on constantly ! yet another fault ! So, what DO a repeater group DO ? Arnt they supposed to be able to fix these things, or at least be able to turn them off ? or IS it

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UK Repeater Woes

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all about money ? if so the contributers must be feeling pretty ripped off by now. I thought you HAD to have several members of the group able to access the repeater ? guess this is why samantha surrounded herself with cber puppets ? both the "chairman" and "treasurer" have both been heard to admit that they know NOTHING about how a repeater works.... so why are they involved ?

"Tombo" <eneffarr@hotmail.co.uk> wrote in message news:1133830400.465528.18010@o13g2000cwo.googlegroups.com...

> ....also, I would volunteer to turn it off..... how much is petrol > these days ?

Well it would be a 44 mile round trip for me and I usually claim about 12 pence per mile so lets call it a fiver for cash!

-- Regards Dominic G7NPW MB7IDC-L Derby Echolink Gateway. Number 92369 www.derby-radio.co.uk

I didnt mean to put the petrol in the car !!! LOL As the repeater is now in breach of its license, I urge readers to contact OFCOM.... the RMC cant give a toss, they are in breach because :

There should be facilities to close down the repeater .... I think 5 people is the figure that is on the licence... The repeater has not sent its ID for DAYS .....

The repeater group are a bunch of idiots, amateur radio would be well shot of them ! In message <auadnZHGjf9VQgnenZ2dnUVZ8t2dnZ2d@eclipse.net.uk>, Dominic G7NPW <dominic@derbyDASHradio.co.uk> writes >It does raise concerns that an unattended transmitter on a prime hill top >location could be allowed to run in a fault condition for so long. What if >it should go off freq and go up to say the ambulance freq.'s or maybe drop >low onto the civil air band. The consequences do not bare thinking about.

Hopefully the filters, cavity, that you have will be more than sharp enough not to allow any appreciable power through at such frequencies. I know of one repeater recently that did just this but due to the filtering no RF escaped out into the wild. -- Bill In message <1133825986.040047.280670@f14g2000cwb.googlegroups.com>, Tombo <eneffarr@hotmail.co.uk> writes >GB3NF has been keyed up for 2 DAYS now... TX is on constantly ! yet >another fault ! >So, what DO a repeater group DO ? Arnt they supposed to be able to >fix these things, or at least be able to turn them off ? or IS it all >about money ? if so the contributers must be feeling pretty ripped off >by now. >I thought you HAD to have several members of the group able to access >the repeater ? guess this is why samantha surrounded herself with cber >puppets ? both the "chairman" and "treasurer" have both been heard to >admit that they know NOTHING about how a repeater works.... so why are >they involved ?

Repeaters are the work of Satan. Go back to working direct like God intended.

Brian -- Brian Howie According to form, it's a low powered device thats holding the repeater open.

Oh and I've contacted OfCom and they are having trouble contacting any of the repeater shut down operators, which has gone down like a lead brick.

Tisk Tisk

-- JM

"Tombo" <eneffarr@hotmail.co.uk> wrote in message news:1133830400.465528.18010@o13g2000cwo.googlegroups.com... > .... also, I would volunteer to turn it off..... how much is petrol > these days ?

Or to put it another way in the repeater keepers defence it is at least a 120 mile round trip for him so I guess he is not one of the people listed for close-down unless he drives at 120MPH to get there in the 30 minutes required.

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UK Repeater Woes

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So who is the closedown person? -- Regards Dominic G7NPW

MB7IDC-L Derby Echolink Gateway. Number 92369

www.derby-radio.co.uk

In message <f5edne9RbOGCfgnenZ2dnUVZ8t2dnZ2d@eclipse.net.uk>, Dominic G7NPW <dominic@derbyDASHradio.co.uk> writes > >"Tombo" <eneffarr@hotmail.co.uk> wrote in message >news:1133830400.465528.18010@o13g2000cwo.googlegroups.com... > >> .... also, I would volunteer to turn it off..... how much is petrol >> these days ? > > >Well it would be a 44 mile round trip for me and I usually claim about 12 >pence per mile so lets call it a fiver for cash!

I'm not sure he meant it for his car!!!!!!!!!!!1 > >

-- Bill ....also, I would volunteer to turn it off..... how much is petrol these days ? ...too true, but you would have thought at least ONE of the local CBing repeater group would know how to switch it off !!!!! this gets the amateur community a bad name.....

"Tombo" <eneffarr@hotmail.co.uk> wrote in message news:1133825986.040047.280670@f14g2000cwb.googlegroups.com...

> GB3NF has been keyed up for 2 DAYS now... TX is on constantly ! yet > another fault !

And probably in breach of its licence as it has not given a single ID for the duration it has being in TX.

> So, what DO a repeater group DO ? Arnt they supposed to be able to > fix these things, or at least be able to turn them off ? or IS it all > about money ? if so the contributers must be feeling pretty ripped off > by now. > I thought you HAD to have several members of the group able to access > the repeater ? guess this is why samantha surrounded herself with cber > puppets ? both the "chairman" and "treasurer" have both been heard to > admit that they know NOTHING about how a repeater works.... so why are > they involved ?

Not necessarily members of the group or even radio hams. I had to provide details of at least 3 people including myself that could close down my Echolink Gateway within 30 minutes of a telephone call. They do not have to know anything about it just how to pull the plug.

In the case of GB3NF I would imagine the site owner (The Farmer) would be able to isolate power to it and would be an ideal person to add to the closedown list if he was willing.

To make things better for my closedown people. I have built a remote DTMF controlled switch that is coupled to a PAYG mobile phone. So from receiving the call I can from anywhere isolate power to my Link transceiver.

Another thing I looked at when applying for unattended 2m operation was to use a transceiver that was man enough to cope with the stress and strain unattended operation could pose. I opted for a Nokia Repeater for this job.

It does raise concerns that an unattended transmitter on a prime hill top location could be allowed to run in a fault condition for so long. What if it should go off freq and go up to say the ambulance freq.'s or maybe drop low onto the civil air band. The consequences do not bare thinking about.

Anyway enough said. If they are stuck for someone to go to the site and shut it down I will be willing to do it myself tomorrow evening.

-- Regards Dominic G7NPW

MB7IDC-L Derby Echolink Gateway. Number 92369 www.derby-radio.co.uk

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Antenna Impedance Measurement

[From the newsgroup]

I am trying to measure antenna impedance. For this I intend to us a directional coupler to isolate reflected signal. After using the coupler for a while I believe that it introduces a phase shift, that shift seems to be related to frequency. This creates a bit of a catch 22. Antenna resonance is defined as the frequency where there is no reflected complex component. If the tool to measure this is also frequency dependent how can this be accomplished? Is this even the best method?

Do bi-directional couplers automatically compensate for frequency shift?

Thanks - Dan kb0qil

Hi Dan
Normally you would calibrate your test gear against a known resistive load first. If your coupler creates a phase shift that can be compensated for either in the test equipment or by varying the feedline length.

(ouch!) All the network analysers I have used allow you to calibrate 50r, open or short.

You can further test your setup by measuring known lengths of coax "stubs" that would present a reactive load.

I imagine a directional coupler would introduce a phase shift as it has an electrical length that must be allowed for.

I saw a real impressive antenna impedance-measuring device that used coaxial cable as the tuned reference elements. It was of course frequency dependent. It was made for 2M but I guess the design would be easy to replicate for other frequencies given. It has about 10% usable bandwidth. I was going to make one for HF with BNC terminated coax lengths for each band, but never did!

Go to http://www.vhfdx.oz-hams.org/and Measurements
or

http://www.vhfdx.oz-hams.org/docs/ZMeterVK2ZAB.pdf

Apologies for not answering your exact questions.
Cheers Bob W5/VK2YQA

Network analyzers incorporate a concept called a "reference plane". This is a theoretical point at which the measurement is actually made. It's desirable to have this point be at the DUT connector.

(In precision and/or extremely high frequency measurements, the point within the connector becomes important, and even a sex-change adapter can't be tolerated between calibration and measurement.) Software in the network analyzer is told where the reference plane is to be by means of a rather involved calibration procedure, then the network's software corrects for the phase shift and impedance magnitude transformation of the cable between the reference plane and the analyzer itself. It effectively makes the reference plane the point being measured, rather than the analyzer input terminal.

When you make manual measurements, you have to do the correction yourself. So what you need to know is the impedance and length of the line between your point of measurement and the DUT. This can be determined in the same way as it's done for some network analyzer calibrations -- by measuring the impedance with the DUT replaced with a short circuit, an open circuit, and a known load impedance, then solving the resulting set of simultaneous equations. Once you know the impedance and length of the cable between where your measurement is correct and the DUT, you can calculate the actual DUT impedance from your measured value. I do this routinely at HF, when I measure antenna impedance at the input end of a transmission line. Accuracy is best when the impedance being measured isn't far from the Z0 of the transmission line, and the transmission line is short. The longer the line and the greater the difference between line Z0 and DUT impedance, the greater the sensitivity to measurement error in both the measured DUT impedance and the line Z0 and length. A surprisingly small amount of line loss can also skew the measurements quite badly if Z0 and DUT impedance are quite dif-

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Antenna Impedance Measurement

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ferent. If you need accurate results, you should do an error analysis to see how far off your calculated result can be, given the estimated accuracy of your measurement and calibration.

As I mentioned in my earlier posting, most people overestimate their ability to make accurate RF measurements. It's not at all trivial. Be sure to check your results frequently by measuring known load impedances close to the values being measured. How do you find the values of those "known" load impedances? Well, welcome to the world of metrology!

Roy Lewallen, W7EL

What you are measuring with a directional coupler is the complex reflection coefficient. If the measurement is for low frequencies (i.e. less than 30 MHz), and the load is at the input of the directional coupler, then you will probably obtain a realistic figure for complex "Gamma". Ideally you need a short circuit, open circuit, and 50-ohm load to determine if the system is calibrated.

Short circuit Gamma = 1 < 180
Open circuit Gamma = 1 < 0
50 Ohm Gamma = 0

If the load is at the end of a length of coaxial cable you have to compensate for the phase shift error at every measurement frequency.

Since you are dealing with complex numbers it is tedious to determine the actual load impedance. The following app. note should help:

http://www.maxim-ic.com/appnotes.cfm/appnote_number/742

HP's app. note at http://www.sss-mag.com/pdf/hpan95-1.pdf is also very helpful.

Regards,
Frank

Happy Christmas to all our readers

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[NEW EMAIL ADDRESS]

Bulletins (Sundays at …)
11h15 Start call in of stations
11h30 Main bulletin start

Frequencies
439.000MHz 7.6MHz split
(West Rand Repeater)
145,625 MHz (West Rand Repeater)
10,135 MHz (HF Relay)

Radio Amateurs do it with more frequency!

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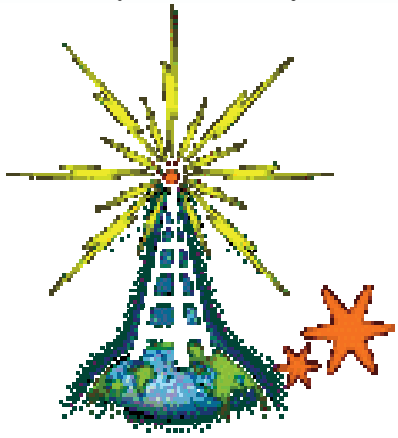
Member	Anton	ZR6OST	953 5564 (H)	
Member	Craig	ZR6CRW	795 1550 (H)	craig.woods@absamail.co.za

West Rand members - we need your input!

To make this the best ham radio magazine in South Africa we need your input. Please submit articles, comments, suggestions etc.

Please send plain text with no formatting to the email address below.

In July 2003, we re-published an Anode Compendium on CD. It has the issues from July 2000 until June this year. This included the new Adobe reader. It has been updated, check with the chairman for details.



We need your input! Email us articles, comments and suggestions please.
john.brock@pixie.co.za