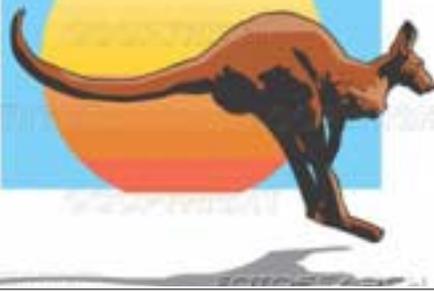


VK3AWS



WANSARC NEWS

September 2007

Western and Northern Suburbs Amateur Radio Club
(WANSARC)
Incorporated in Victoria
A7611S

Volume 38
Number 9

September 2007



A WIA Affiliated club

News and views from the Western and Northern Suburbs Amateur Radio Club VK3AWS—SEPTEMBER 2007

ANOTHER MULTIBAND ANTENNA IDEA— AMATEUR RADIO STYLE



So here is a novel idea from **KF4BWG**. Want to build a portable inverted vee able to work on multiple bands.....yes. Well, here it is.

Two tape measures are used to form the sides of the inverted vee, with an added advantage at all times you will know what length the antenna is and hence the band that the vee will resonate on!

Not saying this is a perfect antenna but it is a novel idea and one which is not expensive to make. Not sure what the impedance is at the centre of the vee, but why not build one and let other members of the club know how well it works.

NEXT MEETING FRIDAY

SEPTEMBER 7
2007

Tony VK3BZT and his good lady **Carleen** have travelled the world in style, exchanging houses and cars in the UK, Europe and US.

Come to our next meeting and learn of the benefits of this method of seeing the world, and without the hotel bills!

Don't miss this presentation!!

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The Restless Sun PART 1 *Past and Future of the Solar Cycle* by Peter VK3YSF

We all find comfort with the cyclical and predictable events in nature like sunrise, the seasons and for radio hams the solar cycles. The solar cycle is one of those natural rhythmic cycles that has reliably peaked every eleven years or so. The cycles may vary in intensity and have been as short as nine years to as long sixteen, but they always eventually arrive and that is the truth for anyone giving them attention.

What are the affects beyond radio propagation and how reliable are these cycles, what if they stopped or dramatically changed in their intensity or duration, what would it mean?

The solar cycle

The solar cycles are generally thought of as the cyclical rise and fall in the calculated sunspot number over time. The sunspot number is calculated by multiplying the number of groups of sunspots by ten and then adding this product to the total count of individual spots.

The sunspot number is a way of gauging the level of solar activity or solar radiation which has a direct effect on the degree of ionization in the upper atmosphere and ultimately determines the degree of path refraction of high frequency radio waves. Solar radiation, acting on the different compositions of gasses at various heights of the atmosphere, generates layers of ionization and therefore it follows that the number of sunspots can help predict conditions on radio HF bands.

The point of highest sunspot activity during this cycle is known as **Solar Maximum**, and the point of lowest activity is **Solar Minimum**.

The sunspots will appear in pairs in a more or less east-west alignment, the eastern sunspot of the pair will be of one magnetic pole say north and the other western sunspot of the pair will be magnetic south. In the other hemisphere of the Sun the opposite will be true. This situation will reverse from one solar cycle to the next. Also sunspots will be near the solar equator towards the end of a given cycle and towards the poles at the beginning of the next.

The detection of the first opposite magnetic polarity sunspots compared to proceeding cycle's sunspot polarity and the observation of high solar latitude sunspots will indicate the beginning of the new cycle, cycle 23 ends cycle 24 begins.

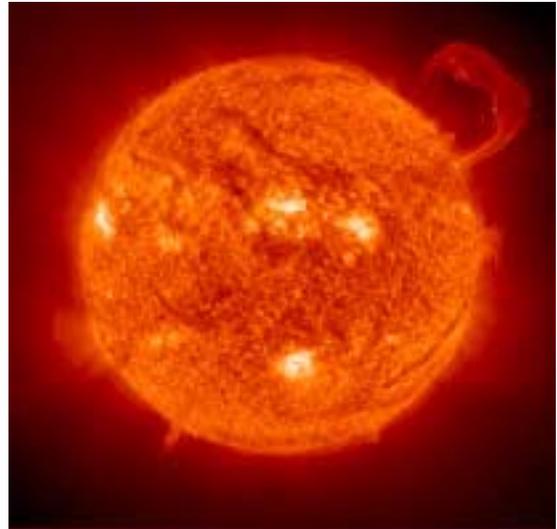
A key indicator that the solar maximum has arrived is that the sun's magnetic poles flip from north to south that is the Pole that is magnetic north becomes magnetic south and the Pole that is magnetic south becomes magnetic north. What this means is that a complete solar cycle, when the Sun's poles are back to their original magnetic pole is in fact about 22 years in length.

11,400 years of sunspot history

A really neat piece of research gives a view of what the sun has been doing over more than 11,000 years or as far back as the last major ice age event.

The Earth is constantly being irradiated by cosmic rays from deep space and these rays produce in the atmosphere a material known as carbon 14 which is absorbed by trees among other things. Trees even dead trees retain a record of the levels of carbon 14 being produced over a very long period of time. Charged particles from the Sun which are greater during periods of high sunspot activity repel the cosmic rays and therefore the more sunspot activity there is the less carbon 14 is recorded in the tree rings.

Using the carbon 14 level records the sunspot number estimates have been pushed back as far as 11,400 years into the past and reveal that the current high level of solar activity has not occurred for well over 8,000 years. See figure 1.



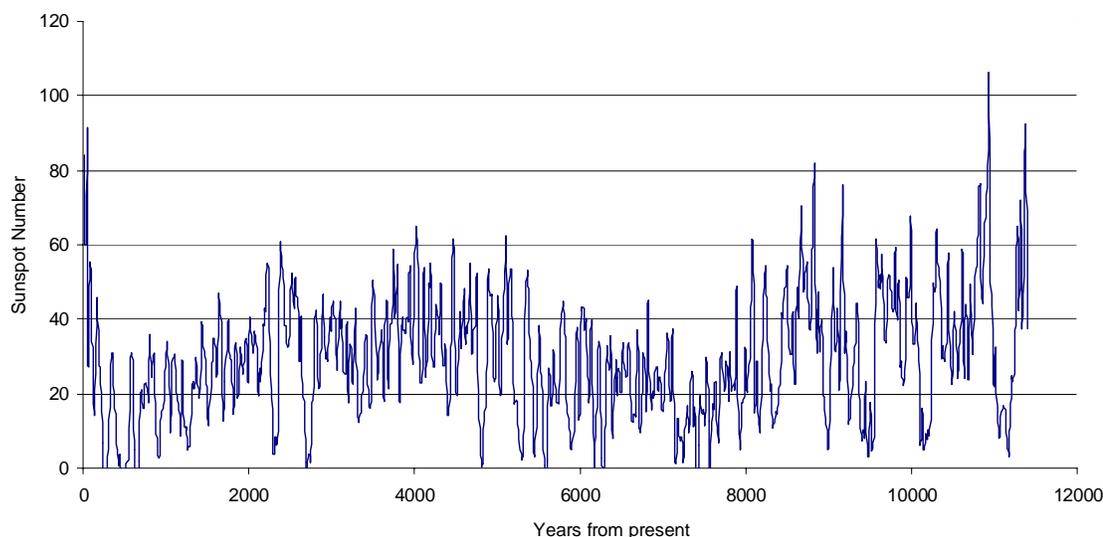


Figure 1: The data for the 11,400 Year Sunspot Number has been graphed using an Excel spreadsheet. 11,000 Year Sunspot Number data can be found courtesy of the NOAA Paleoclimatology Program and World Data Center for Paleoclimatology, Boulder.

ftp://ftp.ncdc.noaa.gov/pub/data/paleo/climate_forcing/solar_variability/solanki2004-ssn.txt

More Sunspot Number data: -ROYAL OBSERVATORY OF BELGIUM

<http://www.sidc.be/index.php>

The solar activity during the last 80 to 100 years is by far the exception. A 2003 study found that there had been more sunspots since the [1940s](#) than in the previous 1150 years. The fact that this period of high activity coincided with the invention and development of radio is not lost on me! Who knows how a world craving communication may have develop if the twentieth century was one of the dead periods of solar activity.

Subtle changed in their intensity

A period known as the **Maunder Minimum** from about 1650 to 1715 suddenly saw very few reports of sunspots. The Maunder Minimum coincided with the coldest part of the period known as the Little Ice Age. While there appears to be a connection there is generally no agreed mechanism that would have low sunspot numbers connected with the Earth's climate in such a dramatic way. It may have at least been contributing factor, but how much of factor is not clear.

The effect of sunspot activity in relation to climate change is a very controversial issued at the moment with a complete spectrum of views being voiced. Generally from what I have read and heard it's for the most part regarded as minor factor.

Nobody can deny climate change as the only constant when it comes to the Earth's climate is change. The relationship between sunspots and the Earth's climate is far from understood, which means to me that we can not be certain if sunspot activity has a minor or more significant role on our climate.

The **Dalton Minimum** was also period of low [solar activity](#), lasting from about [1790](#) to [1820](#). Like the [Maunder Minimum](#) it coincided with a period of lower than average global temperatures.

The cooler temperatures were exasperated by the eruption in 1815 of Mount Tambora on the island of Sumbawa, in what is now Indonesia. This made the winter of 1816 one of the most miserable and deadly on recorded. The volcanic eruption clearly made things worse, but the cold spell was well underway from about 1810.

Editor comment—congratulations Peter, excellent article. Look forward to Part 2 next month.

IN BRIEF.....

President Graeme VK3NE and Secretary Mark VK3PI met with representatives of Rotary Reservoir and Darebin Council to discuss the potential for community groups again utilising the Ern Rose Memorial Pavilion.

WANSARC was one of three community groups who were forced to leave these premises when Darebin Council decided to convert the rooms into a café.

After many years and a failed tender process the Ern Rose Memorial Pavilion has remained vacant, certainly a waste of valuable community resource for such a long time.

The meeting was very positive. Council is considering a request by a third community group to utilize the Pavilion.

Darebin Council will be in contact with Graeme or Mark in the next two weeks, at which time the WANSARC committee will be fully appraised of Council's views on sharing this community resource.

UNDERSTANDING "MOVING PICTURES" Part 3 contributed by Graeme VK3NE

3. Pixel Visibility

In video the visibility of pixels can interfere with your enjoyment of the image. In all cases XGA with its 64% pixel density advantage will have less visible pixels than the SVGA counterpart. A 100" image on a VGA projector has 64 pixels per inch, SVGA has 100 and XGA gives 164 pixels/inch. This difference greatly reduces the screen door effect on LCD projectors.

Once again, screen size and viewing distance are relevant factors. Let's replay the demo we just discussed. At a distance of 10 feet, you won't see any pixel structure. On both the pixel structure is too small for your eye to resolve. But when each projector is blown up to the full 8-foot width of the screen, you will find that the SVGA unit has much more visible pixilation than does the XGA.

Example: on a modest projection screen of 2 metres width, from an SVGA projector each pixel is going to be a quarter of a centimetre wide, whereas with an XGA projector the image is going to be under a fifth of a centimetre wide, and over 60% more pixels are displayed. This means the image is going to be sharper and less 'blocky' when projecting with an XGA projector.

4. Colour definition

For any given image size XGA machines give you 64% more pixels. That means there is more capability to define shadings and nuances of colour. For any given image size if you focus on colour quality alone in a side by side demo, you will see colour tends to look a bit more refined or elegant on an XGA unit than it does on SVGA.

Conclusion

XGA resolution projectors are usually capable of delivering sharper images with less pixilation and better colour for any given screen size than their SVGA counterparts. The notion that since video has only 480 lines, you only need SVGA to display everything in the signal is a simplistic and erroneous way of thinking about the issue.

SVGA offer a cost advantage over XGA so if price is a major issue consider a used projector with XGA resolution rather than a new SVGA the difference is huge!.

Resolution and Computers

You should also consider the longer-term investment you are making in a projector. Most computers sold today run in XGA resolution as standard, and SVGA is used less commonly. If you start using computers that run using XGA as standard in the future, you may find you are limited with an SVGA projector.

Can't I just change my resolution setting and buy an SVGA projector?

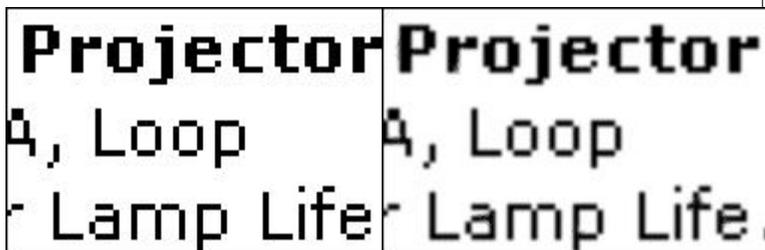
Yes you can, but the payoff is that you will lose sharpness and will have the inconvenience of having to make sure your computer is always in SVGA mode for presentations.

What is compression?

Most projectors will accept a resolution higher than their native resolution, but will **compress** the computer's image into fewer pixels. The result is that some of the computer's pixels are shared across the same pixel that the projector displays. This is less important with photos and video, because you don't notice it so much, but with text it's a different story ? especially small text, as illustrated by the picture below.

The projector will automatically convert the incoming 1,024 x 768 signal to its native 800 x 600 output. However, there is always a loss of sharpness and detail in the process, so you will end up with a picture that is not quite as sharp as if the incoming signal had been the same format as the projector's native resolution.

This loss of sharpness also happens if you plug an SVGA computer into a higher-resolution XGA projector. You will usually get a decent image, but the conversion from the 800 x 600 input to a 1,024 x 768 output will produce some fuzziness that you may not appreciate after having spent the money for an XGA projector.



Native (True) Resolution
Computer and projector matched.
(Simulated Image, Enlarged 300%)

Non-Native Resolution
Computer is at a higher resolution
than the projector (compression).
(Simulated Image, Enlarged 300%)

FROM THE WIA.....Dates Set For Spring VHF-UHF Field Day 2007.

The Spring VHF-UHF Field Day for 2007 will be held over the weekend of November 17 and 18. This is a week later than in past years. The change of dates avoids clashes with some club activities that will taking place earlier in the month.

There are two minor changes in the rules:

1. Stations may enter both the 24 hour and 8 hour sections, but only if the station actually operates for more than 8 hours.
2. Changing locations: It is not in the spirit of the contest for grid-hoppers to set up more than one station and move between them. The rules now make it clear that not only the operator but also the station must be moved when operating locations are changed.

Please note also the rule on the use of DX calling frequencies. Where possible, contest activity should focus on the recommended contest calling frequency.

Dates

Saturday and Sunday November 17 and 18, 2007.

Duration in all call areas other than VK6: 0100 UTC Saturday to 0100 UTC Sunday.

Duration in VK6 only: 0400 UTC Saturday to 0400 UTC Sunday.

Full rules can be obtained from www.wia.org.au

QSL CARDS WANTED.....

In 2009 WAN-SARC will celebrate its 40th birthday and our Secretary Mark VK3PI is collating information to produce a history of WAN-SARC.

This history will focus on the people who have made WAN-SARC what it is. To assist in compiling this history 2 blank QSL cards would be appreciated (one spare in just in case).

So if you have a QSL card, please provide a couple to Mark VK3PI.

Similarly if you have any photo's from WANSARC of old, we would love to see them and scan these for the history.



Sense of humour at the Hong Kong Ship naming department (left) and (right) "Did you say we may have some shallow water ahead?"

GARMIN NAVIGATOR NUVI 310

by Tony Saunders VK3BZT

One of the most useful devices I have used for car navigation is the GPS navigator. I purchased a unit from Harvey Norman, a navigator I call 'Nuvi' and use it everywhere, especially useful for overseas driving.

I had to buy European maps software on a DVD disc, load it into my computer, and then download the areas I wanted (Germany, France and England) on to the navigator. Although the software is expensive, \$550.00 Australian at the Garmin shop in St Kilda, it is worth every cent. My SD card in the navigator holds nearly 2 gigabytes of data for every street in the whole of Germany, France and U.K. A lot of data that will give clear oral and visual driving guidance.



The photo at left shows how I strapped 'Nuvi' with a rubber band around the antenna to a teddy bear stuck on the dash board by the car owner. Nuvi was able to accurately navigate me down this small street in a small town in Germany with minute detail and then back to my home a hundred kilometres away.

Germans drive like crazy on the outer lane of their autobahns.

It didn't take me long to join them. I had to see legally what the 12 year old Mercedes Benz would do flat to the floor. The speedo needle reached **200 kph** but the navigator showed the car speedo read 6kph high (right) and true speed was only 194kph (120mph). That



was fast enough for me, I pulled over and two following cars raced past well over 200kph. Most sit on about 130kph and trucks are limited to 80kph but usually do about 90 to 95kph. I respect truck drivers more than I do car drivers—car drivers have little respect for speed restrictions. Poms, who only occasionally indicate change of direction, are even worse. Don't let anyone tell you European drivers are better than Australians, they are not.

*******Footnote—Tony and Carleen have had many wonderful adventures swapping houses and cars in the UK, Europe and the United States. Come and hear of these adventures at our next club meeting FRIDAY SEPTEMBER 7, 2007. 1930 hours sharp.**

**J.O.T.A
October
2007**

Jamboree of the Air (JOTA) is run each year to support the Scout, Girl Guide and Venturer movements in their endeavours to attain communication badges, contact other groups and generally have a great activities weekend.

Club member and Scout leader Ian VK3JQ is again seeking assistance from club members for the GOLDEN JUBILEE JOTA on Saturday October 21 and Sunday October 22, 2007.

If you have some time to spare and would like to contribute to spreading the "amateur radio word", contact **Ian VK3JQ** via email at:

vk3jq@yahoo.com.au



**GET
WELL
SOON**

Graham

VK3FTTG has recently suffered and injury which precludes driving at night. Get well soon Graham and look forward to seeing you back at the club meetings.

Many members have had a bout of the flu, or similar strains. Good to hear most have shaken it off!

Your magazine contributors this month include—
Tony VK3BZT,
Graeme VK3NE,
Peter VK3YSF,
Mick VK3CH,
Dan VK3DWH,
Ian VK3JQ

Thanks folks!

WHAT ABOUT THIS ? Contributions from members

EMDRC CELEBRATES 40 YEARS

On Sunday 26 August, I was listening to the weekly EMDRC broadcast and discovered EMDRC was holding a 40th anniversary dinner, celebrating 40 years of EMDRC as a formal club.

A quick look at their website and an invite was found, but with an RSVP of 2 weeks prior! A phone call later I found that 1 seat was spare, so I said "I'll take it!".

One shower and 30 minute drive later I arrived 7 minutes before the formal luncheon was about to start. An excellent 3 course meal held at the Knox Club, with many tables full of some new, but many familiar faces. I also got to meet up with the voice behind the weekly Net, Carl VK3EMF.

A big 40th birthday cake was sung to, with candles being extinguished by EMDRC club president Bryan VK3HXR (right). The quote of the day must go to Bryan VK3HXR, who said, "... after getting my license I was looking for a club to join and found the EMDRC. I was telling a friend who told me, and to my regret foolishly believed him when he said, '.. Oh don't bother joining the EMDRC, they are quite a cliky club...'" about a year later I did join and I have been made welcome ever since..." Well Bryan, I can echo your sentiments, I am yet to find ANY Melbourne club that would make any ham feel unwelcome, a great additional benefit of the hobby, one that should be pushed and advertised much more, be it EMDRC, NERG, WANSARC or any other club.



Congratulations EMDRC on 40 years from all of us at WANSARC.

Microphone information

We have all been there—searching for the circuit diagram for our favourite rig or our microphone test jig.

No more—here is a link to a website which has a plethora of information on microphones and connectors:

<http://homepage.ntlworld.com/rg4wpw/date.html>

Here is a typical example of information from this site.

KENWOOD-T599S-TS120S-120V-700G-700S-130S-130V-490-520S-530S-820S-830S-TR2300-TR2200-TR2200GX-TR3200-TR7010-TR7200-TR7200G-TR7400A-TR7500-TR7600-TR7625



PIN1 MIC

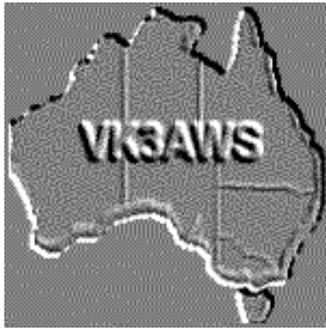
PIN2 PTT

PIN3 PTT/EARTH

PIN4 SCREEN AND EARTH

From Mick
VK3CH

From Dan
VK3DWH



WANSARC is at
www.wansarc.org.au
Or www.wansarc.org



Who is this? This is the club mascot.....one of the most recognisable symbols of Australia utilized by WANSARC since 1969. Represents the spirit of WANSARC—the humble KAN-GAROO.



This month browse through the “ODDS AND SODS” box of bits and pieces. You too could take home a treasure for the cost of a gold coin donation—all proceeds to the club

WANSARC VK3AWS

PRESIDENT: Graeme McDiarmid VK3NE yk3ne@wia.org.au

SECRETARY: Mark Stephenson VK3PI Telephone: 0400 443 218
yk3pi@optusnet.com.au

All correspondence to be addressed to the **SECRETARY: PO Box 336**

RESERVOIR 3073

WANSARC CLUB PROFILE

History

The Western and Northern Suburbs Amateur Radio Club (WANSARC) was first formed in 1969 and since then has served the needs and interests of amateur radio operators, short wave listeners and those interested in hobby radio and electronics. The club is not gender specific, having both female and male members. Members come from all walks of life with a mix of experience, young and mature, novice and technical. The most important aspect of the club is the willingness of all members to share their knowledge for the benefit of others. Members mainly reside in the west and north of Melbourne; however membership is encouraged from all interested.

Meetings

Building K, Northern Metropolitan Institute of Technology (NMIT), St. Georges Road, Preston (Western side between Bell Street and Cramer Street) Melway 18 E12 *PARKING at NMIT-Members please note that parking adjacent to the club room building K is illegal and NMIT staff WILL book any cars which are parked in that area. ALL members must park cars in the main car park to the WEST of building K. Just look for vehicles with lots of aerials!* Meetings held on the 1st Friday of each month (excluding January) commencing at 7.30pm local time.

Talk in on 146.450MHz FM—call club station VK3AWS.

Benefits

Free technology and related presentations, sponsored construction activities, discounted (and sometimes free) equipment, network of like minded radio and electronics enthusiasts, excellent club facilities and environment plus an informative monthly newsletter for members to post articles, news, classifieds for all radio, test equipment, etc, featuring Amateur Radio news from WANSARC, WIA, ACMA, Melbourne Clubs, VK and Worldwide.

Club Nets

146.450MHz FM each Tuesday evening commencing 7.30pm local time. Also monitor 28.470MHz on 10 metres USB.

More Information: **Website:** www.wansarc.org.au **Email:** wansarc@wia.org.au

Postal: WANSARC PO Box 336 RESERVOIR 3073

NEXT MEETING FRIDAY SEPTEMBER 7, 2007

Tony VK3BZT on overseas holidays where you swap your house and car.



If not delivered within 7 days please return to

WANSARC PO Box 336 Reservoir 3073