

VK3AWS



WANSARC NEWS

April 2008

Western and Northern Suburbs Amateur Radio Club
(WANSARC)
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A7611S

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A WIA Affiliated club

News and views from the Western and Northern Suburbs Amateur Radio Club VK3AWS—APRIL 2008



Frank VK3ZO (left) supervisors Mark VK3PI and Dave VK3FXDX, as they lift the WANSARC marker pole for the 2008 John Moyle Field Day experience.

In the words of Dallas, VK3EB, "We won, we lost, we dunno—who cares it was still fun!"

And that sums up the spirit of the day, in fact hats off to Dallas for his efforts in activating 160 metres portable, with a couple of great contacts just as the sun was setting in the west.

An initial wrap up of the contest commences on Page 5 of this month's magazine, so read on and enjoy, noting that we want your points next year!

NEXT MEETING NOTE CHANGE OF DATE -

The next meeting has been moved to **FRI-DAY APRIL 11, 2008** at the normal time of 1930 hours.

Committee is currently considering an offer from Darebin Council to utilise our old haunt at the Ern Rose Memorial Pavilion, however no decision on a permanent move has been made at this stage.

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PSK31 by Peter VK6YSF formerly VK3YSF

Part 1 of a 2 part article.

PSK31 is a relatively new digital mode that is similar to RTTY (radio-teletype) and many claim that it is in fact the evolutionary replacement of RTTY. The creation of Peter Martinez (G3PLX), and released free to amateur radio operators in the late 1990s, PSK31 is a real time keyboard to keyboard mode based on the popular soundcard interface technique, featuring very narrow band width and high stability in a noisy and busy HF environment.

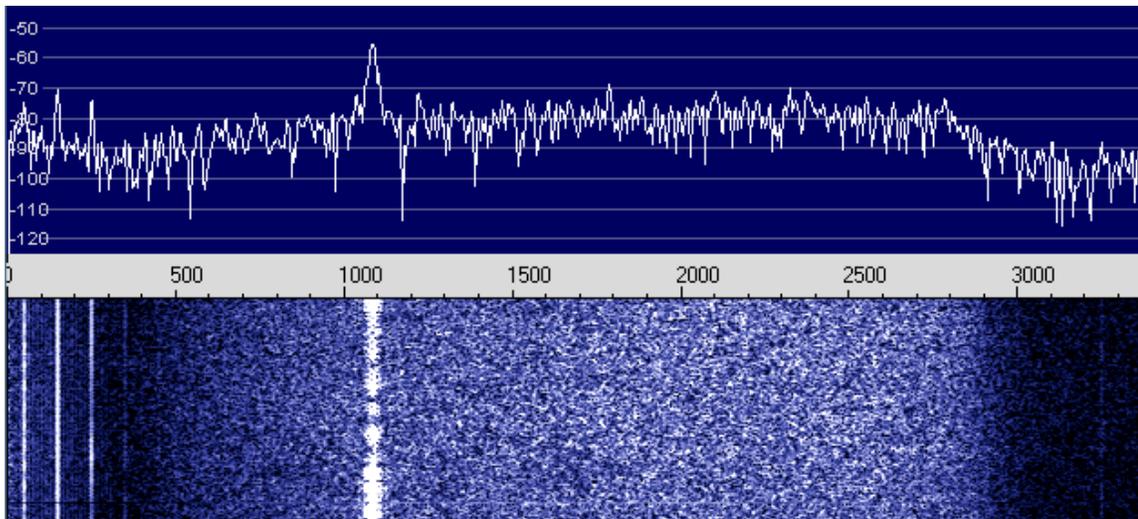
The name PSK31 says it all, Phase Shift Keying at a speed of 31.25 baud.

PSK31 comes in a number variants with BPSK31 being the most commonly used and the other less common variants are BPSK63 and QPSK31. Again it's all in the name **BPSK31** means Binary (shifting 180deg) Phase Shift Keying at 31.25 baud. **BPSK63** is the same as BPSK31 at a speed of 62.5 baud doubling its speed and bandwidth and will in adverse conditions have a higher error rate. **QPSK31** uses four phase angle positions called Quadrature Phase Shift Keying allowing it to achieve some very clever forward error correction that will produce near 100% copy in moderately good conditions and again with a 31.25 baud rate.

BPSK31 is the most used of the above variants and I have to say that in my limited activity with this mode that BPSK31 is the only mode that I have experienced.

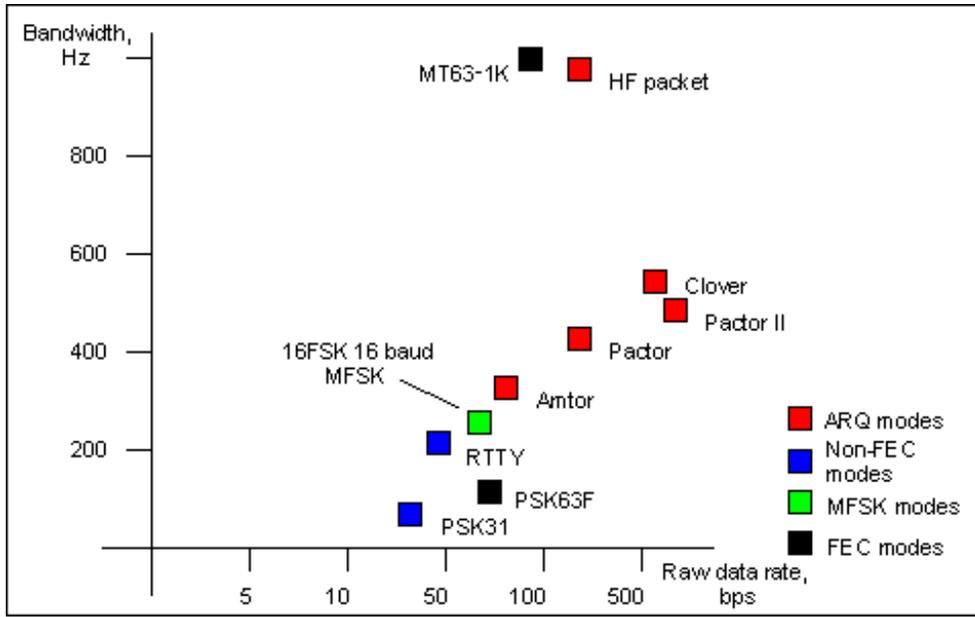
BPSK31's bandwidth is very narrow (31.25 Hz), making it highly suitable for [low power](#) in a crowded and noisy band environment. The below screen dump from Spectran II shows a typical VF (Voice Frequency) channel from 300Hz to about 2800Hz which would be the typical audio output of most amateur radio receivers. The BPSK31 signal can be clearly seen at about 1100Hz occupying a very narrow band of the VF spectrum.

Note also the 50Hz and its third (150Hz) and fifth (250Hz) harmonic generated from my DC power supply transformer!



Screen dump from Spectran that shows a PSK31 signal within a typical SSB receiver's VF channel band-pass.

At 31.25 baud which converts to around 50 words per minute PSK31 is a bit slower than RTTY at 60 words per minute, but with a greatly reduced bandwidth. I find that 50 wpm is quite adequate for what it is meant for, that is conversational keyboard to keyboard contacts. See the below chart from Wikipedia comparing data rate to bandwidth for some of the common digital modes.



I have to say that I love this mode and despite the fact that we are at the low point of the solar cycle and my antenna setup being very basic I have worked some good DX in the last few months with little difficulty. See extract from my log below. It has often been the case that after tuning across the twenty metre band and hearing nothing, that the PSK31 frequency of 14.070MHz is alive.

Listening to the band there is often very little to be heard, just a weak wobbling tone however the PSK software is still able to pull out a useful print.

2/10/2006	ZL3RG	CHRISTCHURCH NEW ZEALAND	RON
3/10/2006	UA0ZK	Elizovo, Kamchatka, Russia	VASILII
22/10/200	UA0LIH	Vladivostok port the Far East Russia	Anatoly
24/10/200	BV4VR	Taichung City, TAIWAN	Eric
25/10/200	BV4VR	Taichung City, TAIWAN	Eric
3/11/2006	JK1UVP	Tokyo	KAZU
6/11/2006	8J1ANT/	TOKYO JAPAN	HISA
8/11/2006	P29SS	UKARUMPA, NEW GUINEA	SCOT
19/11/200	RW0IK	RUSSIA City Magadan	ALEX
8/12/2006	JA8UI	TOKYO JAPAN	MITSU
28/02/200	JA6ATL	FUKUOKA JAPAN	ABE
28/02/200	RA0CA	RUSSIA	Gaikov
28/02/200	UA0STT	ASIATIC RUSSIA	VICTOR
4/03/2007	P29ZAD	PAPUA NEW GUINEA	JERRY
21/03/200	BD4RCS	NANJING, CHINA	

CLUB FEES NOW DUE

If you have paid your club fees for 2008, thanks on behalf of the Committee and members.

If you have not, now is the time to do so.

Fees remain at the same levels as they have for a number of years—in fact it is probably the only subscription you have which has not risen at all in some considerable time.

Pensioners/students and the unemployed pay \$10 and all other pay \$20.

Bring your payment along to the next meeting or post to WANSARC, PO Box 336, Reservoir, 3073.

What do you receive for this meagre amount of annual subscription?

Lectures, tours, free equipment (from time to time), cheap disposals, a magazine, a QSL service, comradeship and the chance to share knowledge and ideas with other enthusiasts.

Have a friend who wants to join? Bring them along to a meeting.

10142.150 kHz USB
 14070.150 kHz USB
 18100.150 kHz USB
 21080.150 kHz USB
 24920.150 kHz USB
 28120.150 kHz USB

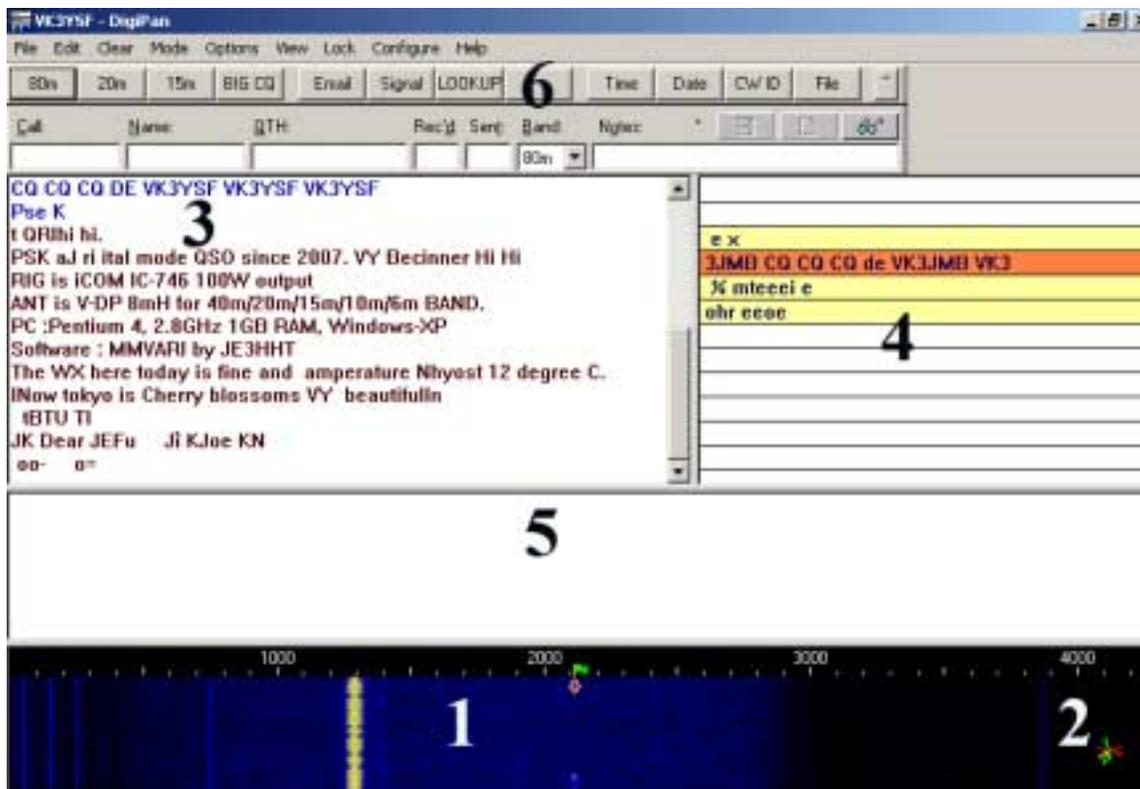
There is a vast array of web sites devoted to PSK31 but the PSK31 official web site is not a bad start. <http://aintel.bi.ehu.es/psk31.html>

Software

There is a lot of software around for PSK31 and it is mostly pretty good and often free.

I have chosen DigiPan 2.0 after trialing a small number of similar packages on offer. DigiPan stands for "Digital Panoramic Tuning" provides a panoramic display of the frequency spectrum in the form of an active scale extending the full width of the computer screen. It is possible to see as many as 30 or more PSK31 stations at one time in the waterfall display. Looks a bit like something out of the movie the Matrix!

Starting from the bottom (1) is what is referred to as the waterfall. The waterfall displays the VF band pass from 0 to 4000Hz. Signals will appear in the waterfall and it can appear quite busy. Selecting with the mouse a spot in the band pass between say 500 and 2800Hz will place a red diamond in that position this is where the print display screen (3) is receiving. It is also the transmit position.



Screen dump from DigiPan

Next month Part 2 of this excellent article from Peter VK6YSF.



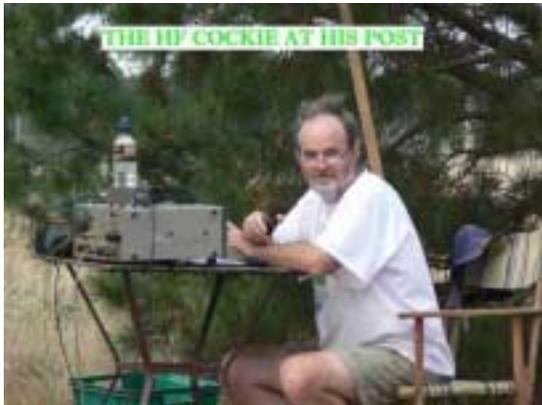
The WANSARC hunters gathered in the rarefied air of the Pentland Hills for the John Moyle Field Day, armed with a variety of tools to gather in stations from far, far away.

Amidst the poles, coax, antennae, switches, power supplies and rigs, Trevor VK3FTDX and Dan VK3DWH set about catering for the hungry hoards of operators.

It was very pleasing to note the response of "F" calls attending the JMFD—in many cases operating in a contest for the first time. Wayne, VK3FTCL, had only received his licence in the preceding week. James, VK3FRES, had only recently attended the club and enthusiastically showed his athletic prowess in scaling tall trees. David, VK3FXDX, managed to leap tall poles in a single bound.

WANSARC again operated in the 6 hour section of the Contest. Logs are currently being collated, however some notable achievements can be listed here:

- *Most number of contacts by an Operator—Frank VK3ZO (went berserk on 40 metres and worked over 100 stations)*
- *Longest distance contact—Frank VK3ZO—PAO in Netherlands. Unfortunately the contact does not count for points but was a great contact from the portable setup.*
- *Longest distance contact—Mark VK3PI—2metres FM simplex into Tasmania*



Clockwise from Left—Dallas VK3EB with a special JMFD hair do, Trevor provides a delivery service for food, the simple VK3PI 6 metre dipole, Frank VK3ZO takes a rest on 40 metres and has a well deserved cuppa and finally the VK3EB portable station consisting of a TS520 and homebrew AMU.



OFFICE BEARERS FOR 2008

Thank you to all club members for their support at the Annual General Meeting, held last month.

Results of the AGM elections are as follows:

President—Graeme VK3NE

Vice President—Tony VK3JED

Secretary—Mark VK3PI

Treasurer—Gordon VK3YOD

Committee:

Bob VK3EL

Dave VK3FXDX

Trevor VK3FTDX

Rod VK3MRT

John VK3FMPB

Magazine producer—Mark VK3PI

WebMaster—Rod VK3MRT

Public Officer—Graeme VK3NE

If you have any issues for discussion by the Committee please email wansarc@wia.org.au or contact an office bearer or Committee member of the club personally.



Clockwise from top left—Bob VK3EL (standing) and Dallas VK3EB show their WANSARC environmental support by protecting a tree, John VK3FMPB gets too hot to handle and strips off, Dave VK3FXDX amazed at his pole handling skills, Dan VK3DWH samples a Trev burger and Wayne VK3FTCL (left) burns some rubber on 70cm with his very well established camper van setup while James VK3FRES takes a break from climbing trees.

WANSARC was active on 160m,80m,40m,20m,15m,10m,6m, 2m and 70cm. Unfortunately no 23cm gear was available on the day. At times contacts were hard to come by but it was pleasing to hear some of our club members giving numbers to the club. Thanks to VK3AOF, VK3BMR, VK3KK, VK3CH, VK3FNIK and VK3FY for their numbers. If I have missed anyone else, my apologies.

The weather on the day was magnificent, the food hot and tasty and the company excellent.

Planning has already begun for next year's JMFD and our anticipated point scores for each band will be published in next months magazine. Thanks to VK3EB, VK3EL, VK3PI, VK3ZO, VK3DWH, VK3FTDX, VK3FXDX, VK3FMPB, VK3FRES and VK3FTCL for their enthusiastic support of this year's event.

POSTSCRIPT— a JMFD debrief was recently held at the "old" Tina's, new Pizza place, which was well attended by VK3EL, VK3FMPB, VK3FXDX, VK3FTDX, VK3EB, VK3PI, VK3MRT, VK3ZO, VK3DWH and VK3FRES. Many thanks to **BOB VK3EL** for his efforts in creating a framed photograph of the master chef, Trevor VK3FTDX, with two of his tasters, Dan VK3DWH and Mark VK3PI.



Photo at left shows **Trevor VK3FTDX** accepting this memento from **Mark VK3PI**.

Thanks again, BOB, an excellent effort at short notice and Trevor, well done! The troops were well motivated to perform!!!

Photo by Rod VK3MRT

BITS AND PIECES

Peter VK6YSF (ex-VK3YSF) has his own website. Check it out at the following URL:

<http://members.optushome.com.au/vk6ysf/vk6ysf/main.htm>

Thanks to **Alan VK3SM** for your contribution to the magazine—Gordon VK3YOD has passed this on to me recently and the article will be in a future magazine.

Rod VK3MRT has acquired himself a new HF rig so look out for Rod on the HF bands. Look forward to hearing you, Rod.

Trevor VK3FTDX and **John VK3FMPB** have been heard recently portable at Bundoora Park. Good signals on both 2m and HF.

Thanks to **Dallas VK3EB** for his Club net re-broadcast on 160 metres. All reports on the AM transmissions are excellent and in reality the 160 metre broadcast is enhancing the coverage of the net. Thanks Dallas!





GET TO IT !!!!

DO YOU HAVE INFORMATION OR AN ARTICLE YOU WANT TO SHARE WITH MEMBERS?

Why not write it up for the magazine in word format, with pictures, and send to the club:

WANSARC, PO Box 336, Reservoir 3073. or via email to vk3pi@optusnet.com.au

It's your magazine!!

Your magazine contributors this month include—

**Peter VK6YSF, Dallas
VK3EB, John
VK3FMPB, Bob
VK3EL, Mark VK3PI,
Mick VK3CH, Dave
VK3FXDX.**

Thanks folks!

WHAT ABOUT THIS ? Contributions from members

From Mick VK3CH

After trying a few different ways of getting back on to HF, with most antenna efforts being 'removed' by strong winds it was decided that placing things on the roof for HF was no good.



Some thicker dual walled 1.3 meter lengths of Aluminium tubing was used, placed at the rear yard via an Icom AH4 auto tuner, fed with 9913 coax (got to watch those dB losses at 160m!), with one radial along the back fence. The first mast length was 9 meters high, which did not tune below 80 meters.

The length was increased to 14.5 meters and 4 more ground radials added, one along next doors rear yard all the way to their front gate (yes I did ask permission!) and viola - 160 meters all the way up to 6 meters, with all in between.

Signal reports from the majority of the crew on the 1843kHz Coffee Club Net are very favourable, but with the modern rigs generating low level AM, the 'talk' power was given as a bit thin. The estimated power level is a carrier of about 25 watts, but stations in VK1, VK4 and VK5 have been worked with good reports both ways - suppose it all depends on the propagation.

So the next project will be completing an audio speech compressor, more on that next month.

I was always told that verticals have a higher noise level, but signals are heard OK, many local 1843kHz AM signals actually need the attenuator on to be heard better with just the noise blanker on, no DSP used at all (on AM mode).

Doing the rounds of the houses about my QTH found none complaining about BCI or TVI, but a few wanting to know what all these bits of 'metal' on the roof did!

If I told you that I put this up with only help from Janice VK3FIRE on a lazy Saturday afternoon in about 3 hours just adding piece by piece of 1.3 meter sections of tube would you believe me?

The location of the mast was a rough choice, but after it was put up, it was found that the rotatable dipole just missed the mast by about a foot - lucky or what! Even the coax run was a guess - 25 meters was a rough guess, so 5 meters was added to be safe, after doing the run through the roof space with the required bends to the tuner near ground level only 6 inches was left! I made the PL259 Connection with bated breath as I knew if I messed up that we would be in trouble.

So it looks like the antenna was meant to be... Now to reacquainted with HF, it's a change to the ears after being 'spoilt' with clear FM most of the time...



From Dave VK3FXDX

Interested in making your own valves at home? Why wouldn't you be? Well, here is a URL which will assist with some very interesting information.

http://blog.makezine.com/archive/2008/01/make_your_own_vaccum_tube.html

I am very interested in valves and valve technology so have a chat some time!



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

MEMBER SPOTLIGHT



No doubting **Nik VK3FNIK** has a taste for food, but he is also a radio enthusiast and passionately plays basketball at every opportunity. Nik is currently playing both Friday night and Saturday afternoons, with **OM Chris VK3FY** playing taxi driver. As a consequence Nik is not able to attend many meetings, however, he is active on air from time to time to talk with other club members. Good on 'yer, Nick.

WANSARC VK3AWS

PRESIDENT: Graeme McDiarmid VK3NE vk3ne@wia.org.au

SECRETARY: Mark Stephenson VK3PI Telephone: 0400 443 218
vk3pi@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 April 11, 2008

AT NMIT Building K, 7.30pm

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