

VK7 REGIONAL NEWS BROADCAST

FOR SUNDAY 30TH DECEMBER 2007

OPTICAL NEWS

Cloudbounce up to 66km

<http://reast.asn.au/optical.php#20071222>

On the evening of 22 December 2007 signals from Rex, VK7MO to VK7XDY's QTH reached -6 dB on the WSJT scale, which is close to the best achieved to date.

This suggested conditions were right to extend the optical cloudbounce distance beyond the 48 km reported earlier on 22 November.

Ken went portable to locations which were 54 km and 66 km from Rex's QTH.

The transmitter was 2 bays of 30 Luxeons with individual collimating lenses running at 10 amps per bay and the receiver was 35 photodiodes behind a 400mm square fresnel lens.

At 54km voice communication was weak but just sufficient to allow an unknown word to be identified by using phonetics.

At 66km the WSJT level was -10dB with 2 bays of 30 Luxeons running at 10 amps per bay and -24 to -27 dB with 1 bay of 30 Luxeons running at 3 Amps. Voice was attempted and a whistle could be heard as well as evidence of voice but nothing could be identified.

While we need much more data to understand the variation in conditions the results of these tests do indicate that cloudbounce has the potential in the right conditions to allow WSJT communication well beyond 66 km.

(Rex, VK7MO & Ken, VK7DY)

ATHOL JOHNSON CONTEST

<http://reast.asn.au/events.php#AJContest>

After an absence of some 25 years, the Athol Johnson Contest will make a return on the third weekend in February. The Athol Johnson Contest is a VHF Contest promoting VHF Mobile Operation, lasting for 8 hours during the daylight hours. Following consultation with previous contesters and interested parties, Ben VK7BEN has re-written the rules to

follow the old contest rules as close as possible, as well as modernising some of the rules.

VK7BEN is also pleased to announce the inaugural John Grace Perpetual Trophy, to be awarded as part of the Athol Johnson Contest, to the Foundation Licensee with the most points.

Stay Tuned! Official Rules, Log Sheets will be available early in the new year. It is hoped that we'll even have a electronic logger available for this contest, courtesy of the VK Contest Logger developers.

Pencil this one in your diaries now, this should be a fun days contest.

(Ben VK7BEN, Contest Manager)

VK7 EVENTS DIARY

The VK7 events diary provides a quick summary of VK7 club happenings over the next couple of months:

NWTARIG – Saturday 2nd February – Annual General Meeting.

REAST – Sunday 10th February 11am Domain – Annual General Meeting with Special Antenna Draw.

NTARC – Wednesday 13th February – NTARC Annual General Meeting

VK7 - Athol Johnson Contest – Third weekend of February

And a quick reminder of the weekly club events and broadcasts:

NWTARIG broadcasts in the NW with a different program on Monday, and Wednesday on VK7RMD. Check the website for details.

<http://www.vk7ax.ausport.net/>

REAST – Every Wednesday evening from 7:30pm is the ATV Experimenter's Night and we will be running throughout the holiday period so, why not come up and see what we get up to. Check the website for details.

<http://reast.asn.au/>

VK7 NON-COMMERCIAL FOR SALES AND WANTED

Jack VK7IL is looking for a TH3 Junior HF beam or similar to improve his DX. If you are able to help Jack then please contact him on 6272 5623.

(Jack, VK7IL)

Wanted a PM 5390 User Manual

Vernon VK7TVF is looking for an Operator/User Manual for a Philips PM 5390 RF Synthesizer 0.1MHz to 1GHz Signal Generator.

If you can help with a copy of this manual please contact Vernon VK7TVF at email: Vernon.irene@clearmail.com.au or Tony VK7AX email: nwtarig@vk7ax.id.au Telephone 64 252923.

(Vernon, VK7TVF)

NORTH-WEST NEWS

North West Tasmanian Amateur Radio Interest Group (NWTARIG)

<http://www.vk7ax.id.au/nwtarig/>

Next Meeting of NWTARIG.

The next meetings of NWTARIG are scheduled for Saturday 2nd. February 2008.

This will be the AGM of the Club followed by a General Meeting.

All Executive positions for the Club will be open for election. So if you would like to assist with the running of YOUR Club, then why not nominate for a position.

Nomination Forms for Executive will be posted or emailed to all members shortly.

USA visitors welcomed to the North West.

Recent broadcasts advised Al K6RYA and XYL Bunny W6BUN would be visiting Burnie on a Cruise Ship on January 16.

In true amateur spirit, Jim VK7JH has been in contact with Al and Bunny via email and as a result, will be meeting up with our US amateur friends on the 16th, showing them our hospitality along with some sites of the N/West.

Jim will report, following the visit. Thanks Jim, for offering the hand of friendship and we're sure our visitors will be made welcome and their trip will be a memorable one for all involved.

Informative Broadcasts continue.

A recent nightly broadcast in the N/West was from the Q5 Educational Hour with the subject of Lightning Protection, particularly in relation to correct earthing and protection of towers and masts to provide minimal damage from lightning strikes. The session is narrated by Kevin VK4VKD.

Listeners, who missed the broadcast on Friday Night last, can replay the broadcast automatically via IRLP Nodes 6616 and 6124 by use of DTMF code #808.

This code replays the current Q5 Education Hour segment.

73's until next time

(Tony VK7AX, President, NWTARIG)

NORTHERN NEWS

Northern Tasmanian Amateur Radio Club News

A reminder that Febuary is AGM month. Looking for volunteers for the positions - are you interested? Contact Al if you are!

Finally, best wishes to all from NTARC. Have a happy and enjoyable break, drive carefully, work lots of rare DX and we look forward to hearing and seeing you all in the New Year.

Until next week

(73, David VK7YUM, NTARC Secretary)

SOUTHERN NEWS

Radio and Electronics Association of Southern Tasmania

ATV Experimenter's Group

<http://reast.asn.au/events.php#ATVnights>

Last Wednesday night we had a good roll up and a range of NASA videos were broadcast that included the Apollo 13 "We have a problem Houston" and Apollo 15 "Mountains on the Moon" missions along with 25 years of NASA operation.

It was great to hear a video callback from Tom VK7TL along with our regulars.

A reminder that the ATV nights will be running over the holiday period on a Wednesday night starting around 7:30pm and ATV goes out on 444.25MHz – just below SBS on the UHF TV Band.

If you have an antenna pointed somewhere toward the Domain why not try tuning down the low end of the UHF TV band on a Wednesday night and give us a call on what you are seeing and hearing

(Justin, VK7TW)

REAST Education & Assessments

<http://reast.asn.au/events.php#TrainingCourses>

If you are interested in participating in a course and/or assessment in 2008 then please let our Education Officer, Reg Emmett VK7KK know. He can be contacted at email: assessor@reast.asn.au or by calling 0417 391 607.

And remember Foundation Licence Manuals and CD's are available for purchase at McCann's Model World in Elizabeth St. Hobart at \$20.

(Reg, VK7KK, REAST Education Officer and Assessor)

REAST Callbook Orders

From January 2nd callbooks will be available from McCann's Model World for \$25 each and thanks to Barry McCann who has allowed us to utilise his shop our Foundation Licence manuals and CDS and the callbooks.

You better hurry, once the callbooks are gone that's it.

(Danny, VK7HDM, REAST Secretary)

REAST NEWS

REAST Meetings and Events

<http://reast.asn.au/events.php>

Happy New Year to all from the REAST committee. We hope you have caught some of those openings on the bands.

Our REAST AGM is on Sunday February 10th starting at 11am and will be followed by a BYO BBQ - hot plates, tea, coffee and soft drinks will be available.

Nomination forms are available from the REAST website. All positions are open for nomination and we are actively looking for nominations for President and Treasurer who will not be standing in 2008.

There will be another four of the Moonraker AT318 antennas up for grabs at the AGM so, if you missed out at the BBQ then come along to the AGM and you can throw your name into the hat.

<http://reast.asn.au/events.php#agm>

See you there.

HISTORY NEWS

The following article is sourced to the Technology in Australia website which is hosted by the University of Melbourne.

Before the Telegraph

The Australian Aboriginals occupied the continent for an unknown time prior to the establishment of the first European settlement in 1788, living as an essentially food gathering society with limited need for specialised communications and to meet these, two methods had evolved, smoke signalling and message sticks. The use of beacon fires and smoke signaling was not peculiar to Australia and can be traced back to the early development stages of many nations.

In Australia, the information content of the smoke column depended on factors such as the colour of the smoke, its size, interruptions to the column and the time of day, making the selection, quantity and type of material obviously important in the signalling process.

Instances of rapid communication by Aboriginals over hundreds of miles by a system of relaying were recorded during the early years of European settlement. The other method of communication, marked message sticks, was quite widely used by Australian Aboriginals and could apparently perform a range of functions, from acting as a guarantee of good faith to summoning individuals or groups to a ceremony.

A message stick, however, could not be read, it is said, by the receiver in the way in which a written language letter is read. Rather the notches served to remind the carrier of the information to be delivered, acting thus as a memory jogger.

When the initial European settlement was established in Sydney in 1788, rapid methods of communication using electrical signals lay well in the future of the world. Indeed, even the use of steam power for physical communication was not yet in vogue. Thus the settlers were dependent on sailing ships to carry communications, both to their home base in England and to settlements in Tasmania and on other parts of the mainland as these were formed.

As farmers and graziers progressively occupied land further from the main centres, communication was by horse and bullock cart over largely unmade roads, but even these slow methods of communication were often delayed by weather conditions. Shipping schedules increased, however, roads were better formed, a mail service was developed and the press established, all contributing to an increased flow of information.

Within the colonies, limited use was made of a range of visual methods of signalling, one such instance being a semaphore system which was installed in Tasmania, between Hobart and the convict prison at Port Arthur.

At other locations information on the arrival of shipping at the Heads was flashed to the city by visual signalling, while other simple instances included the raising of flags at particular times and on particular occasions. These various signalling systems were capable only of quite local use and were inappropriate for development as comprehensive methods of communication.

<http://www.austehc.unimelb.edu.au/tia/contents.html>

We will continue this fascinating history of communications in Australia 1788-1988 in coming broadcasts.

(Sourced to the Technology in Australia Website – Melb Uni)

TECHNOLOGY NEWS

Trapped Rainbows

A new technique to slow down, stop and capture light called “Trapped Rainbow” offers a bright future for the Internet and powerful computers.

Professor Ortwin Hess, his PhD student Kosmas Tsakmakidis of the Advanced Technology Institute and Department of Physics at the University of Surrey and Professor Alan Boardman from Salford University have revealed a technique which may be able to slow down, stop and capture light.

The technique would allow the use of light rather than electrons to store memory in devices such as computers, enabling an increase in operating capacity of 1,000% by using light’s broad spectrum rather than single electrons. Slow light could also be used to increase the speed of optical networks, such as the Internet. At major interconnection points, where billions of optical data packets arrive simultaneously, it would be useful if we could control this traffic optically, by slowing some data packets to let others through. This system would work in the same way as traffic congestion calming schemes do on our motorways, when a reduction in the speed limit enables swifter overall flow of traffic.

Professor Hess’ theory shows that if you create a tapered layer of glass surrounded by two suitable layers of negative refractive index metamaterials a packet of white light injected into this prism from the wide end will be completely stopped at some point in the prism. As different component ‘colours’ of white light have different frequencies

each individual frequency would therefore be stopped at a different stage down the taper, thereby creating the 'trapped rainbow'.

Professor Hess comments: Our "Trapped Rainbow" bridges the exciting fields of metamaterials with slow light research. It may open the way to the long-awaited realization of an "optical capacitor". It may, further herald a new realm of photonics with direct application of the 'Trapped Rainbow' storage of light in a huge variety of scientific and consumer fields.

See the internet and email editions of this broadcast for more information.

http://portal.surrey.ac.uk/portal/page?_pageid=799.1772670&_dad=portal&_schema=PORTAL

(University of Surrey Press Release of 15 November 2007)

Intel Pushing the Boundaries Again

Intel® has introduced its 45nm high-k (Hi-k) metal gate silicon technology is the next-generation Intel® Core™ microarchitecture. With roughly twice the density of Intel® 65nm technology, Intel's 45nm packs about double the number of transistors into the same silicon space. That's more than 400 million transistors for dual-core processors and more than 800 million for quad-core.

In another world's first, Intel has demonstrated its 32nm logic process with a functional SRAM packing more than 1.9 billion second generation high-k metal gate transistors. It's a monumental step towards delivering 32nm microprocessors in 2009—and a great leap towards developing significant density, performance, and power improvements beyond today's 45nm technology.

We're developing beyond the speed of Moore's law

Moore's Law states that the number of transistors on a chip doubles about every two years. And Intel has kept up with that pace. In fact, this SRAM milestone is several months ahead of schedule.

For more information take a look and the link on the email and internet editions of this broadcast.

<http://www.intel.com/technology/architecture-silicon/32nm/index.htm>

(INTEL Press Release)

FLASH BACK - 1937

The following article comes from Science News Website and gives us an insight of the state of science back in 1937...

'Empty' Space Not Empty; Is Filled With Many Things

"Empty" space, out between the stars, is anything but empty. Research by astronomers of the Carnegie Institution of Washington shows that all sorts of things are rattling around in it. Although it is much closer to a perfect vacuum than anything human means can produce in a laboratory, an average cubic yard of it is stocked with:

20 million free electrons.

20 million hydrogen atoms.

5 sodium atoms.

1 potassium atom.

400 thousand photons, or "light-darts."

In addition, there is one calcium atom for every 10 cubic yards of interstellar space, and one titanium atom for several hundreds or thousands of cubic yards.

Larger units of matter, averaging perhaps the size of a smoke particle, also float about, as cosmic dust. One such grain might be filtered out of each 1 followed by 18 zeros cubic yards of interstellar space.

Research presses onward, into 1938, motivated by the inquisitiveness of mankind and the urge for a better future.

<http://www.sciencenews.org/articles/20071222/timeline.asp>

(Sourced from the Science News website)

Did you realise that the Web and Internet editions of this broadcast have extra bits that include all the website addresses and interesting sites that people have come across in the last week.

Why not subscribe to the email edition at:

<http://reast.asn.au/news.php#mailinglist>

or take a look at the Internet edition at:

<http://reast.asn.au/news.php#archive>

WEB & EMAIL EDITION EXTRA BITS!!

Interesting Amateur Site: <http://www.ve1alq.com/>

Is there such a thing? - <http://www.amateurlogic.com/blog/>

W2ICE and Early Ham Transmitters -

http://youtube.com/watch?v=ZHdR_7wdLWg

TV Tech Notes - <http://www.tech-notes.tv/>

Need I intro this one??? <http://www.intel.com/>

Do you have some interesting amateur related sites you have some across in the last week – send them in to justingc@ozemail.com.au

VK7 Virtual BPL Tours Update

<http://www.youtube.com/watch?v=pdcY0Eetvsw> - Mt Nelson

<http://www.youtube.com/watch?v=1gsxpya3CnQ> - North Hobart

<http://www.youtube.com/watch?v=G7DfdxjRkpU> - R U ready for BPL?

If you are interested in becoming an amateur radio operator or upgrading your licence then we suggest you contact your local club for details and/or take a look at what the Radio and Electronics School has to offer. They have a range of courses that can be delivered through a variety of methods.

They can be found at: www.radioelectronicschool.com

Finally today, a reminder to those people rostered for next week's broadcasts

Newsreader: VK7RS

160m: VK7DM

80m: VK7ZK

40m: VK7TW

20m: VK7IL

10m: VK7ZGK

UHF CB: VK7ZCR

HF CB: VK7HDS

Thanks to all people and organisations who assisted with this broadcast.

THAT CONCLUDES OUR VK7 REGIONAL NEWS BROADCAST FOR THIS WEEK.

YOU HAVE BEEN LISTENING TO VK7WI. NEXT WEEK THE NATIONAL WIA NEWS CAN BE HEARD AT 0900 FOLLOWED BY THE VK7 REGIONAL NEWS AT 0930 HOURS.

DETAILS TO SEND NEWS FOR THIS BROADCAST CAN BE FOUND AT REAST.ASN.AU AND THE DEADLINE FOR ITEMS IS 21:00 ON FRIDAY PRIOR TO THE SUNDAY OF THE BROADCAST.