

Ham Hum

February 2012



The official newsletter of
The Hamilton Amateur Radio Club (Inc.)
Branch 12 of NZART - ZL1UX
Active in Hamilton since 1923



Next General Meeting
15th February : Club AGM

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Contact Details 2011/12

Patron:			
Fin Bruce	ZL4HI	843 9634	
President:			
Robin Holdsworth	ZL1IC	855 4786	z1ux@nzart.org.nz
Vice Presidents:			
Gavin Petrie	ZL1GWP	843 0326	z1gwp@nzart.org.nz
Phil King	ZL1PK	847 1320	z1pk@nzart.org.nz
Secretary:			
David Nation	ZL1TCE	843 0108	z1tce@nzart.org.nz
Phil King	ZL1PK	847 1320	z1pk@nzart.org.nz
AREC Section Leader:			
David Nation	ZL1TCE	843 0108	z1tce@nzart.org.nz
Deputy Section Leaders:			
"Jono" Jonassen	ZL1UPJ		z1upi@nzart.org.nz
Phil King	ZL1PK	847 1320	z1pk@nzart.org.nz
Treasurer:			
Tom Powell	ZL1TJA	834 3461	z1tja@nzart.org.nz
Committee:			
Sutton Burtenshaw	ZL4QJ		
"Jono" Jonassen	ZL1UPJ		z1upi@nzart.org.nz
Gary Lodge	ZL1GA		
Colin McEwen	ZL2CMC	849 2492	
Raymond McNickle	ZL1RGM	827 0304	
Mike Sanders	ZL2MGS	855 1612	z2mgs@nzart.org.nz
Ham Hum Editor:			
David King	ZL1DGK	847 1320	z1dkg@nzart.org.nz
Ham Hum Printer:			
John Nicholson	ZL1AUB	855 5435	
ATV Co-ordinators:			
Phil King	ZL1PK	847 1320	z1pk@nzart.org.nz
Robin Holdsworth	ZL1IC	855 4786	
Market Day Co-ordinator:			harcmday@nzart.org.nz
Robin Holdsworth	ZL1IC	855 4786	
Webmaster:			
Gavin Petrie	ZL1GWP	843 0326	z1gwp@nzart.org.nz
BBS Team:			
Phil King (sysop)	ZL1PK	847 1320	z1pk@nzart.org.nz
Alan Wallace	ZL1AMW	843 3738	z1amw@nzart.org.nz
Doug Faulkner	ZL4FS	855 1214	
Gavin Petrie	ZL1GWP	843 0326	z1gwp@nzart.org.nz
Club Custodian:			
Alan Mowry	ZL1UGM	847 7868	
Equipment Officer/Quartermaster:			
Colin McEwen	ZL2CMC	849 2492	
QSL Manager:			
Sutton Burtenshaw	ZL4QJ	856 3832	suttonb@slingshot.co.nz
Net Controllers:			
80m net—Phil King	ZL1PK	847 1320	z1pk@nzart.org.nz
2m net—Phil King	ZL1PK	847 1320	z1pk@nzart.org.nz
NZART Examiners:	ZL1IC, ZL1PK & ZL1TJA		

From the Editor

The dub AGM is coming up on the 15th February. Please think about any way you might be able to assist the club in 2012. A partial list of positions is on page 1. Committee and Executive positions require a nomination process, although the chairperson at the AGM generally allows nominations from the floor.

It may sound like a boring administrative process. However it gives you the ability to read and hear reports on all activities of the dub, and ask any questions you may have. So, be there and be informed.

As always, the Jock White Memorial Field Days follows the AGM on the 25th and 26th February. 3pm to midnight on Saturday 25th NZT and 6am to 3pm on Sunday 26th NZT. Phone and CW, 80m and 40m. All members welcome. Please listen to the club nets for more details.

The National System Award ends on 6th February. Please send logs to branch12@nzart.org.nz with NS2012 in the subject line. Or, The Award Custodian, Hamilton Amateur Radio Club, PO Box 606, HAMILTON 3240.

The Annual Paengaroa Junk Sale is coming up on the 3rd March. Cooked breakfast starts at 7:30am with the sale starting at 10:00am. Paengaroa Community Hall, 4 Old Coach Rd, Paengaroa.

This months cover photo comes from the dub archives when members gathered for a group photo in 1932. Note the dress code, and the number of members without call signs. If anyone knows anything about these gentleman please let the dub know.

Also, if anyone knows about the Stampede City Certificate which was given in recognition of contacts to Calgary, Alberta, Canada, please contact ZL1PK.

Next Committee Meetings - 1st February & 7th March

SB PROP ARL ARLP004

ARLP004 Propagation de K7RA

This was another week in which average daily sunspot numbers declined, but average daily solar flux increased.

Predicted solar flux is 120 on January 27-30, 125 on January 31 through February 2, 120 on February 3, 140 on February 4-8, 145 and 150 on February 9-10, 155 on February 11-13, 150 on February 14-19, and 145 on February 20-23. That's right, the long anticipated short term solar flux peak of 165 from February 17-21 is gone. The last forecast which still held this number was on January 23 (see <http://www.swpc.noaa.gov/ftpdir/forecasts/45DF/012345DF.txt>) and on January 24 (<http://www.swpc.noaa.gov/ftpdir/forecasts/45DF/012445DF.txt>) it changed.

Predicted planetary A index is 8 on January 27-28, 5 on January 29 to February 7, 8 on February 8-9, and 5 again on February 10-23.

At 0617 UTC on January 22 an impact from a coronal mass ejection caused the high-latitude college A index to reach 38, and sparked aurora. The index hit 38 again on January 25. On January 23 around 0400 UTC a powerful M9 solar flare erupted, and this was right on the threshold of becoming an X-class flare. The CME hit Earth around 1500 UTC on January 24, causing bright aurora.

Watch a lovely video of the event: <http://www.youtube.com/watch?v=-ilr8p13A2o>. Also check this British report: <http://www.wired.co.uk/news/archive/2012-01/24/sunspot-explosion> and this one from Montreal: <http://montreal.ctv.ca/servlet/an/local/CTVNews/20120124/northern-lights-solar-storm-120124/20120124/?hub=MontrealHome>.

As this bulletin is being written early Friday morning, sunspot group 1408 is facing Earth directly, but it is weak. Group 1402 is passing below the western horizon, and 1410 is coming around from the east.

At <http://stereo.gsfc.nasa.gov/> it looks like a very active region is all the way on the other side of the Sun, at the 180 degree meridian.

Fritz Huttelmayer, WB2QWH of Cheektowaga (Buffalo) New York wrote: "I just wanted to give you my observations of six meters during the contest this past weekend. I have been on six a couple of times over the past two years, running an Icom IC-703 Plus into a 40 meter attic dipole. I am not a serious VHF operator, as I operate mostly HF QRP CW.

"I listened in on some of the activity during the January VHF contest. I heard a W4 in Florida exchange grid squares with a W7 in the state of Washington. Also heard were stations from Indiana, Nevada, Texas, etc. The band sounded more like 20 meters on a good day. No wonder they call it The Magic Band."

Mike Schaffer, KA3JAW of Tampa, Florida sent an article about solar flares. Read it at http://www.nasa.gov/mission_pages/sunearth/news/classify-flares.html.

Mike also commented about a recent television signal he received from XHTV (running 64 KW) in Mexico City: "On Tuesday, January 24 a Mexican broadcaster on television channel 4 suddenly flashed upon the screen for about five minutes (0002-0007 UTC) due to a Sporadic-E flash event that produced a moderately strong signal coming in with a color carrier and audio.

"The event occurred nine hours after the Coronal Mass Ejection had hit the Earth's magnetic field at approximately 1500 UTC.

"Mexico City is 1,205 air mile distance at 245 degrees from my location. The best part of an Es storm is that you do not have to park your antenna at the precise azimuth toward the transmitter tower site.

"In my case the antenna was aimed due south at 180 degrees, which would be 65 degrees off the main beam."

Thanks, Mike!

Ron McCollum, W7GTF of Winthrop, Washington wrote to ask if I ever heard any theories about the stock market correlating with the sunspot cycle.

I have heard of the stock market theory, and various other correlations with solar activity. Every time I hear of it, I think back to my eighth grad math class, when the text had a chapter on correlation, causation and post hoc fallacies. To illustrate, the book displayed a graph comparing smoothed sunspot numbers with cardboard box production in the United States. They seemed to track quite closely.

K7SJB years ago swore that periods of social unrest tracked with sunspot numbers. "Tad. Remember how much fun we had in 1968-1970?," Stan would insist. "And the mania in securities trading till the 1929 crash?"

I get a lot of mail asking about this sort of thing. I like to recall a presentation by Dr. James Alcock - professor of psychology at York University, Canada - at Skeptic's Toolbox in Eugene Oregon about the mind as a belief engine. One of the concepts presented was that the human brain is hard wired for correlation and belief, and how this figures into the evolution of the brain.

This weekend is the CW portion of the CQ World Wide 160-Meter Contest. Expect good conditions, with quiet stable geomagnetic indicators and a temporarily declining sunspot number. You can find details at <http://www.cq160.com/>.

If you would like to make a comment or have a tip for our readers, email the author at, k7ra@arrl.net.

For more information concerning radio propagation, see the ARRL Technical Information Service web page at <http://arrl.org/propagation-of-rf-signals>. For an explanation of the numbers used in this bulletin, see <http://arrl.org/the-sun-the-earth-the-ionosphere>. An archive of past propagation bulletins is at <http://arrl.org/w1aw-bulletins-archive-propagation>. Find more good information and tutorials on propagation at <http://myplace.frontier.com/~k9la/>.

Monthly propagation charts between four USA regions and twelve overseas locations are at <http://arrl.org/propagation>.

Sunspot numbers for January 19 through 25 were 117, 88, 102, 103, 108, 105, and 68, with a mean of 98.7. 10.7 cm flux was 157, 141.2, 141.6, 141, 144.3, 135.7,

and 126.4, with a mean of 141. Estimated planetary A indices were 3, 4, 6, 21, 9, 17, and 14, with a mean of 10.6. Estimated mid-latitude A indices were 1, 3, 6, 22, 7, 13, and 17, with a mean of 9.9.

Leap seconds to stay

On Thursday, January 19, France and the USA failed in their attempt to break our traditional link with astronomical time.

The world currently uses solar based Universal Time (UT) which is tied to the natural rotation of the Earth. Abolishing leap seconds would result in a growing discrepancy between our clocks and nature's time.

Sundials, used by humankind for 5500 years, would be rendered useless and we could eventually see midday occurring in darkness.

David Willetts, Minister of State for Universities and Science, told the BBC: "The UK position is that we should stick to the current system used throughout the world. Without leap seconds we will eventually lose the link between time and people's everyday experience of day and night."

The ITU Radio Assembly meeting in Geneva was unable to reach a consensus on the matter, so the discussion was deferred to a meeting in 2015.

BBC News - Leap second decision 'postponed'

<http://www.bbc.co.uk/news/science-environment-16625614>

Leap Second Debate video

http://www.southgatearc.org/news/january2012/leap_second_debate_video.htm

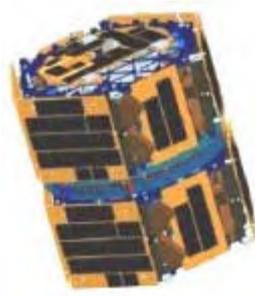
CUSat-1/2 to launch on SpaceX

The IARU amateur satellite frequency coordination panel have agreed frequencies for **CUSat-1/2**, planned to launch on a SpaceX mission in October 2012.

CUSat-1/2 is a 45kg satellite that will split into two parts sometime after separation from the launcher.

Image and positioning data will be downlinked using 9k6 AX25 packet on 70cm from a 2 watt transmitter.

Cross linking between the two parts will also take place on 70cm.



The coordinated frequencies are:

- CUSat-1 437.405 MHz
- CUSat-2 437.485 MHz
- Cross link 437.305 MHz

Using centimeter accuracy carrier-phase differential GPS, the two satellites will perform autonomous relative navigation. One satellite will capture imagery of the other satellite and send these images to a ground station on Earth for the reconstruction of a 3-D model of the partner satellite. The images will also act to verify the relative GPS implementation. Doing so will demonstrate how one spacecraft can diagnose the structural health and configuration of another.

CUSat <http://cusat.cornell.edu/>

IARU amateur satellite frequency coordination panel
<http://amsat.org.uk/iaru/>

TAPR and iQuadlabs announce agreement for SDR components

The *ARRL* report that the **Tucson Amateur Packet Radio** and **iQuadlabs** have announced a sourcing agreement for High Performance Software Defined Radio (HPSDR) development boards.

These include Pennylane, a ½ W transmitter, Mercury, an HF direct-sampling receiver and Magister, an FPGA-based interface controller card.

Together these boards can be used to create a high-performance HF SDR transceiver.

Under the new agreement, TAPR will acquire inventory from iQuadLabs, creating a one-stop source for all openHPSDR boards.

In addition, iQuadLabs will acquire inventory from TAPR to build pre-configured and tested complete openHPSDR systems.

Zephyr Engineering, Inc will continue to manufacture the assembled boards.

Amateurs interested in exploring “next generation” Software Defined Radio will be able to easily purchase openHPSDR components directly from TAPR.

And, for the first time in the history of openHPSDR, those who wish to buy a completely assembled and tested radio will have a source at iQuadLabs.

openHPSDR (High Performance Software Defined Radio)

<http://openhpsdr.org/>

iQuadlabs

<http://iquadlabs.com/content/home>

Tucson Amateur Packet Radio (TAPR)

<http://www.tapr.org/>

TAPR is a non-profit organization devoted to furthering the development of digital communication technology in the Amateur Radio community.

TAPR and ARRL co-sponsor the annual Digital Communications Conference <http://www.tapr.org/dcc>

Last year's conference was held in Baltimore, Maryland.
The 2012 conference will be held in Atlanta, Georgia.

ARRL

<http://www.arrl.org/news/tapr-and-iguadl-abs-announce-agreement-for-software-defined-radio-components>



NASA's amazing high definition image of Earth

NASA have released a 'Blue Marble' image of the Earth taken from the VIIRS instrument aboard their most recently launched Earth-observing satellite - **Suomi NPP**.

This composite image uses a number of swaths of the Earth's surface taken on January 4, 2012. The NPP satellite was renamed 'Suomi NPP' on January 24, 2012 to honor the late Verner E. Suomi of the University of Wisconsin.

Suomi NPP is NASA's next Earth-observing research satellite. It is the first of a new generation of satellites that will observe many facets of our changing Earth.

Suomi NPP is carrying five instruments on board. The biggest and most important instrument is The Visible/Infrared Imager Radiometer Suite or VIIRS.

Download the full size 16.4 MB 8000 x 8000 pixel image

Image Credit: NASA/NOAA/GSFC/Suomi NPP/VIIRS/Norman Kuring

http://www.nasa.gov/images/content/618486main_earth_full.jpg

NASA - Image of the Day Gallery

http://www.nasa.gov/multimedia/imagegallery/image_feature_2159.html

Thanks to **Peter Gülzow DB2OS** for spotting this item



There is only one
**NEW ZEALAND ASSOCIATION
of
RADIO TRANSMITTERS.**

It serves you at
local, national and international
levels.

*It deserves our full support
if we are to continue to have
the frequencies and operating privileges
we currently enjoy.*

**The Association
is what you and I make it.**



3rd March—Te Puke/Paengaroa Junk Sale
4th March—NZART HQ Infoline
10th March—Colville Connection (AREC)
10th March—WARO 50th Anniversary Celebration
10th March—Break-In copy due
18th March—NZART HQ Infoline
21st March—Club General Meeting
25th March—NZART Official Broadcast
7-8 April—WARO Thelma Souper Memorial
7-8 April—NZART Low Band Contest
19-20 May—NZART Sangster Shield
2nd June—NZART Hibernation Contest
21-24 June—Rally New Zealand NZRC/WRC (AREC)
7-8 July—NZART Memorial Contest
28th July—Waitakere Sprint (Phone)
4th August—Waitakere Sprint (CW)
4th August—NZART Brass Monkey Contest
August—Hamilton Market Day
6th October—NZART Microwave Contest
4th November—NZART Straight Key Night
1st December—NZART VHF+ Field Day
Easter 2013—NZART Technology Conference - Auckland

For more information on any of the above please contact myself or any committee member.

AREC Event Operators Page

WRC Rally NZ/ Possum Bourne Rally	21-24 June 2012	Organiser : ZL1DK
Please contact the Section Leader with your team information and he will pass it on to Auckland.		

Rollo's Marine Bridge to Bridge Water-Ski Race	December 2012	Organiser : ZL1UPJ
<u>Position</u>	<u>Saturday Operator</u>	<u>Sunday Operator</u>
Base		
Start Boat		
Rescue Boat		
X-Band		
A.	Ngaruawahia/Taupiri	
	Start/Finish at Point	
B.	Ngaruawahia Ramp	
C.	Ngaruawahia W/S	
D.	Horotiu	
E.	Pukete Ramp	
F.	Days Park	
G.	Fairfield Bridge	
H.	Malcolm St	
I.	Narows	
J.	Field Days	
K.	Between Pipe and F/Days	
L.	High Level Bridge	

Kairangi Hill Climb	Sunday September 2012		Organiser : ZL1IC
<u>Position</u>	<u>Operator</u>		
1.			
2.			
3.			
4.			
5.			
School C ycling	July 2012		Organiser : ZL1IC
<u>Position</u>	<u>Operator</u>	<u>Position</u>	<u>Operator</u>
1.		5.	
2.		6.	
3.		7.	
4.		8.	
Colville Connection	10th March 2012		Organiser : ZL1PK
<u>Position</u>	<u>Primary Operator</u>	<u>Secondary Operator</u>	<u>Other Operator</u>
Base			
Stony Bay			
Fletcher Bay			
Hill 1			
Hill 2			
Fantail Bay			
Stand B y			

For Details about and to help w ith these events, contact the person indicated as the organiser for the event. See Page 1 for their contact information.

Club Information



Contacts :-

Business Meeting: 1930 First Wednesday of each month
88 Seddon Road, Hamilton

General Meeting: 1930 Third Wednesday of each month (except Jan)
88 Seddon Road, Hamilton

Homepage: <http://z1ux.tripod.com>
eMail: branch.12@nzart.org.nz

HF Net: 3.575MHz LSB 1930 Mondays
VHF Net: 146.525MHz simplex 2000 Tuesdays

2m Repeater: 145.325MHz -600kHz split
STSP 146.675MHz -600kHz split
Repeaters: 438.725MHz -5 MHz split
ATV Repeater: 615.250 Ch39 (off air)

Cover Photo: Branch 12 club members circa 1932 when the club was approx 9 years old.

Sender Hamilton Amateur Radio Club (Inc)
PO Box 606
Hamilton 3240