Ham Hum

January 2014

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

Next Meeting :

15th January—Social/Business/General meeting

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From the Editor

You may have noticed that this issue of Ham Hum is slightly late. Being the Christmas/New Years period, I decided that Ham Hum could be a little later than normal without any problems.

There will be a club meeting on 15th January which will be a combined Business, General meeting along with some Social time to get the year started.

Next month is the AGM where you get the chance to hear what happened in 2013, choose who will lead us in 2014, or make yourself available to help in 2014.

Next Committee Meetings - 15th January & 5th February

SB PROP ARL ARLP002
ARLP002 Propagation de K7RA

If you haven't heard, the big geomagnetic storm predicted for yesterday, Thursday, January 9, did not happen. Planetary A index was predicted to be 73 for the day, and instead it was a quiet and stable 10. The planetary A index predicted for today, January 10, is 41. The latest forecast from late Thursday has revised that to 40.

If the planetary A index had reached 73 yesterday, it would have been historic. You have to look way back to December 15, 2006 to find anything stronger.

But this has been an exciting week for Sun watchers. The daily sunspot number reached 245 on January 6, and solar flux was 237.1 on January 8. This may turn out to be a strong second peak for Cycle 24.

The GOES-15 x-ray background flux has also been high, and may be more significant for enhanced HF propagation than a high solar flux.

You can see daily x-ray flux values here:

http://www.swpc.noaa.gov/ftpdir/latest/DSD.txt

For historical values of x-ray flux, solar flux and sunspot numbers check the links marked DSD.txt:

http://www.swpc.noaa.gov/ftpdir/indices/old_indices/

The links marked DGD.txt will give you daily geomagnetic indicators.

The Australian Government Bureau of Meteorology has a brief explanation of x-ray flux at http://www.ips.gov.au/Educational/2/1/3> http://www.ips.gov.au/Educational/2/1/3.

Over the past week, average daily sunspot numbers rose more than 80 points to 188.1, and average daily solar flux was up more than 62 points to 201.6.

Predicted solar flux for the next few days has been adjusted downward about 11 points from Wednesday's forecast. The latest prediction has solar flux of 184 on January 10-12, 175 on January 13, 155 on January 14, 150 on January 15-19, 155 on January 20, 160 on January 21-23, and 165 on January 24-26. It then rises to a peak of 190 on January 29 through February 3, and declines to a minimum of 140 on February 12-16 before rising again.

Predicted planetary A index values are 40, 15 and 8 on January 10-12, 5 on January 13-22, 10 on January 23, 8 on January 24, 5 on January 25-27, then 10, 18 and 8 on January 28-30, then 5 again until it hits 12 and 8 on February 6-7.

F.K. Janda, OK1HH has a short prediction for us this week. He sees quiet to unset-

tled geomagnetic conditions on January 10, quiet to active January 11, quiet to unsettled January 12, and mostly quiet January 13-17.

Mike Stein, WB9NOO of Fort Wayne, Indiana sent an interesting report on a sporadic-E event.

"I am a broadcast engineer at WANE-TV in Fort Wayne, Indiana. Thursday, Jan 2 at noon, we were doing a live report from our remote truck. We were using our IFB transmitter, running 1 watt FM into a quarter-wave whip on 26.35 MHz, which transmits our off air audio to the reporter a few feet away.

"After the newscast I received an e-mail from David E. Crawford in Indian River City, Florida, who had received our signal. He was using a Drake R8 receiver and 170 foot longwire 20 feet above ground.

"He sent us pictures of his equipment and a recording, requesting a QSL card.

"That was certainly exciting on both ends!"

IFB stands for "Interruptible Foldback" or "Interruptible Feedback," the low power system that transmits either cues from a director or in this case audio off the air to a news reporter. Intended to travel just a few feet, the signal made a roughly 900 mile trip to Central Florida. Of course, they were using a full watt into a quarter-wave whip, which at 26.35 MHz would be about 8 feet, 10 inches long.

I believe the SWL at the other end is probably KD4WHZ.

Bob Foster, N9BGC of Waverly, Iowa writes: "The best techniques I have found this winter: 1) start high in frequency and work lower; 2) seek out the various beacons; 3) be aware of the LUF (Lowest Useable Frequency) predictions found on the ARRL website. Those techniques resulted in numerous DX contacts. Finally, don't be discouraged if the DX isn't pounding into your shack. I had some very enjoyable domestic QSOs this past week, when the DX was hard to find."

The LUF predictions are in the propagation charts mentioned at the bottom of this bulletin. LUF is shown as a blue line toward the bottom of the charts.

Dennis Condron, K0LGI of Marion, Iowa sent information about monitoring radio signals reflected from meteor trails. He and KB5VL have a lot of material on this at, http://www.roswellmeteor.com/default.htm. An interesting description of what they do is at, http://www.roswellmeteor.com/Receiving%20Meteor%20Reflections%20Using%20DTV%20Transmitters.pdf.

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. More good information and tutorials on propagation are at http://k9la.us/.

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

Sunspot numbers for January 2 through 8 were 133, 162, 178, 225, 245, 196, and 178, with a mean of 188.1. 10.7 cm flux was 160.5, 182.3, 215, 217.5, 203.9, 237.1, and 194.6, with a mean of 201.6. Estimated planetary A indices were 20, 20, 6, 4, 4, 8, and 8, with a mean of 10. Estimated mid-latitude A indices were 15, 7, 6, 4, 4, 7, and 8, with a mean of 7.3.

Solar Scientists Say Cycle 24 is the Weakest In More Than a Century:

Four leading solar scientists on December 11 told journalists attending the American Geophysical Union (AGU http://www.agu.org/) fall conference http://fallmeeting.agu.org/2013/ in San Francisco that current solar Cycle 24 has demonstrated extremely low sunspot activity and appears to be the weakest cycle of the past 10 cycles -- more than 100 years. This already has resulted in milder "space weather" and less-intense geomagnetic storms and "energetic particle events," such as coronal mass ejections (CMEs), NASA scientist Nat Gopalswamy said.

"The weak activity of Cycle 24 is thought to be due to the weak polar magnetic field in Cycle 23," an AGU news release explained. "If this trend continues for the next couple of cycles, the Sun may be heading for a global minimum."

The scientists drew no specific conclusions regarding the impact of the extremely weak Cycle 24 on radio propagation. Stanford University's Leif Svalgaard said this weak cycle had been predicted based on the behavior of the Sun's polar magnetic fields, which translate into fewer sunspots. Svalgaard believes that in a few years it will be possible to use polar field data to determine the robustness of Cycle 25. The Sun's weak polar magnetic field could lead to an increase in cosmic ray activity, which could affect manned spaceflight.

In addition to Svalgaard and Gopalswamy, the other scientists were Martin Mlynczak of NASA-Langley, and Joe Giacolone of the University of Arizona.

According to Spaceweather.com http://www.spaceweather.com/, since 2004 there have been 821 days without sunspots, compared to 486 days for the "typical" solar minimum, but none of these days fell within 2012 or 2013.

- The ARRL Letter

Tokyo Hy-Power Files for Bankruptcy

Tokyo Hy-Power, a manufacturer of Amateur Radio amplifiers, antenna tuners, and other equipment, is in bankruptcy, and its plant, in Saitama Prefecture near Tokyo, has been shuttered. Telephones at the company no longer are being answered, and its Japanese website has been taken down, although the company's US website remains working. Company CEO/President Nobuki Wakabayashi, JA1DJW, founded Tokyo Hy-Power Labs in 1975. He blamed "the recent depression in the industrial RF power products area [which] has led to the very difficult financial position."

Tokyo Hy-Power's early products were HF antenna couplers, although within a couple of years it began manufacturing amplifiers for the Amateur Radio market, including solid-state mobile amplifiers. Among its early products was the HL-4000 linear amplifier, which the company claimed was "the first real HF band high-power linear of its kind in Japan." It has been manufacturing RF products for the industrial market since 1984.

The company also once marketed the HT-750, a portable, low-power SSB/CW transceiver for 40, 15, and 6 meters in a hand-held transceiver form factor. At Dayton Hamvention® 2013, the company displayed a prototype of the XT-751, an advanced model it hoped to develop, covering 40 through 6 meters and with an internal antenna tuner. Among its latest products were solid-state HF amplifiers, as well as amplifiers for 6 and 2 meters.

Amateur Licence Exam Too Tough?

Next time someone says that the amateur licence exam is too tough, try them on these. Here are three questions from the **1964 NZ Post Office Amateur Operators Certificate** examination paper. Not all the questions were multi choice, some you had to write down the answer.

Question 1. What will be the current in a 250 volt 50 cycle AC circuit containing an inductance of 333 millihenries. Assume the circuit has zero DC resistance and pi = 3.

Question 5. Draw the circuit of a basic oscillator utilizing an anode feedback winding to maintain oscillation.

Question 22. You wish to supply the screen grid in a tetrode amplifier with an operating voltage of 250 volts. The screen grid draws 5 milliamps and the HT supply is 450 volts. Calculate the value of the resistance required in ohms, and the power it will dissipate.

- ZL2TC

The sun has "flipped upside down"

The sun has "flipped upside down", with its north and south poles reversed to reach the midpoint of Solar Cycle 24, Nasa has said.

Now, the magnetic fields will once again started moving in opposite directions to begin the completion of the 22 year long process which will culminate in the poles switching once again.

"A reversal of the sun's magnetic field is, literally, a big event," said Nasa's Dr. Tony Phillips.

"The domain of the sun's magnetic influence (also known as the 'heliosphere') extends billions of kilometers beyond Pluto. Changes to the field's polarity ripple all the way out to the Voyager probes, on the doorstep of interstellar space."

To mark the event, Nasa has released a visualisation of the entire process.

http://www.youtube.com/watch?v=B4UtVo7-yJA&feature=player_embedded

At the beginning, in 1997 the video shows the sun in Solar Cycle 23 with its positive polarity on the top (the green lines), and the negative polarity on the bottom (the purple lines).

Each set of lines gradually move toward the opposite pole, showing a complete flip around 2002, completing the sun's previous cycle.

Both set of lines representing the opposing magnetic fields then begin to work their way back, to culminate in the latest flip.

"At the height of each magnetic flip, the sun goes through periods of more solar activity, during which there are more sunspots, and more eruptive events such as solar flares and coronal mass ejections," said Nasa's Karen C. Fox.

"Cosmic rays are also affected," added Dr. Phillips. "These are high-energy particles accelerated to nearly light speed by supernova explosions and other violent events in the galaxy."

-The Independent

Free Elmer App for New Hams (KY5U)

Fellow hams, I (KY5U) am announcing a new free web smartphone/Pad app for new hams called E-Elmer. It's free and it can be downloaded as an Android App or "saved to home screen" as an iOS app. See end of article for info.

E-Elmer Overview

E-Elmer is an Amateur Radio learning tool designed to bring a basic level of knowledge to new amateurs using mobile devices such as Smart Phones, Tablets, etc. The E-Elmer program is a mobile web application that encourages ham operators to learn “on the go” without the need to lug around text books or rely on computers. The application (app) itself contains original content as well as managed content from around the web presented in a manner that ensures a common look and feel when viewed on mobile devices.

Who is it for?

E-Elmer targets all new amateurs and short time hams as it's primary audience, although any amateur can use the app to brush up on offered subjects. The principle goal, however, is to bring everyone in amateur radio up to a basic understanding of the issues related to the hobby. E-Elmer runs the gamut from information about ham operating philosophy to easily understood explanations of complex technical issues. The goal is never to talk down to the new ham, but to assume little or no knowledge and start from that point. Every amateur has been on the air with others who seem to know much more and have a firm grasp of ham related subjects leaving some amateurs feeling inadequate. The goal of E-Elmer is to address this inadequacy by bringing everyone up to a higher basic level of understanding.

Help!

For more info visit http://www.ky5u.com/Info/eelmer.html

For info how to install visit http://www.ky5u.com/Info/install.html.

-eHam

Innovantennas Acquires Force 12

InnovAntennas http://innovantennas.com has acquired the legendary Force 12 http://www.texasantennas.com/ antenna company and product line and has moved the Force 12 factory from Bridgeport, Texas, to Grand Junction, Colorado, into a fa-

cility shared with InnovAntennas America. InnovAntennas Ltd in England is now manufacturing Force 12 products for the European market at its Canvey Island plant.

The Grand Junction facility is up and running, manufacturing and shipping antennas. InnovAntennas says it plans to produce updated versions of classic Force 12 antennas as well as all-new models. InnovAntennas Founder Justin Johnson, G0KSC, was at the Colorado facility in late 2013 to assist in setting up and laying out the factory, and the company was expected to be at full production this month. -- Thanks to The ARRL Contest Update

- The ARRL Letter

CQ to Realign Publications, Launch Digital Supplement

CQ Communications Inc has announced plans to realign its publications lineup and to launch a new online supplement to its flagship magazine, CQ Amateur Radio http://www.cq-amateur-radio.com/.

"The hobby radio market is changing," said CQ Communications President and Publisher Dick Ross, K2MGA, "and we are changing what we do and how we do it in order to continue providing leadership to all segments of the radio hobby."

Effective with the February 2014 issue of CQ, said Ross, content from the magazine's three sister publications -- Popular Communications http://www.popular-communications.com/, CQ VHF http://www.cq-vhf.com/ and WorldRadio Online http://www.worldradiomagazine.com/ -- will be incorporated into CQ's digital edition as a supplement to be called CQ Plus. The print editions of Popular Communications and CQ VHF will be phased out, and WorldRadio Online will no longer exist as a separate online publication. Current Popular Communications, CQ VHF and WorldRadio Online subscribers will be converted to CQ subscribers and receive CQ Plus at no additional charge. Details will be posted on each magazine's website.

CQ Communications says the change will offer hobby radio enthusiasts a single source for articles from shortwave listening and scanner monitoring to personal two-way services and Internet radio, as well as Amateur Radio. Richard Fisher, KI6SN, currently editor of both Popular Communications and WorldRadio Online, will be

editor of CQ Plus. Read more http://www.arrl.org/news/cq-to-realign-publications-launch-digital-supplement.

Source:

The ARRL Letter

Upcoming Happenings & Events

Date	*Happenings & Events*
6th January	HF Net, 3.575 MHz, 19:30
7th January	VHF Net, 146.525 MHz, 20:00
13th January	HF Net, 3.575 MHz, 19:30
14th January	VHF Net, 146.525 MHz, 20:00
15th January	**Social/Business/General club meeting**
17th January	**NZART HQ-Infoline**
20th January	HF Net, 3.575 MHz, 19:30
21st January	VHF Net, 146.525 MHz, 20:00
27th January	HF Net, 3.575 MHz, 19:30
28th January	VHF Net, 146.525 MHz, 20:00
31st January	**NZART HQ-Infoline**

1-2 February—NZART DX Weekend Contest

14th February—NZART HQ-Infoline

19th February—Club AGM

22nd February—Colville Connection (AREC)

22-23 February—NZART JW Memorial Field Days

23rd February—NZART Official Broadcast

28th February—NZART HQ-Infoline

1st March—Te Puke Junk Sale

5-6 April—NZART Low Band Contest

17-18 May—NZART Sangster Shield

7-8 June—NZART Hibernation Contest

5-6 July—NZART Memorial Contest

2-3 August—NZART Brass Monkey Contest

4-5 October—NZART Microwave Contest

2nd November—NZART Straight Key Night

6-7 December—NZART Field Day Contest

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	June 2014	Organiser : ZL1BNQ
Please contact the Section Leader with your team information and he will pass it on to Auckland.		

NZW SRA Bridge to Bridge Water-Ski Race	Nov 30—Dec 1 2014	Organiser : ZL2MGS

Position		Saturday Operator	Sunday Operator
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	September 2014	Organiser : ZL1IC

Position	Operator
Start	
1. First bend	
2. Intermediate bend	
3. Top of hill	
4. Paddock	
5. Hall corner	
6. Above hairpin	
Finish	

Colville Connection	March 2014	Organiser : ZL1PK

Position	Primary Operator	Secondary Operator	Other Operator
Base			
Stony Bay			
Fletcher Bay			
Hill 1			
Hill 2			
Fantail Bay			
Ridge/Waikawau			

For Details about and to help with 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 except January 88 Seddon Road, Hamilton
General Meeting:	1930 Third Wednesday of each month (except Jan) 88 Seddon Road, Hamilton
Homepage:	http://www.zl1ux.org.nz
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 Repeaters:	146.675MHz -600kHz split 438.725MHz -5 MHz split
ATV Repeater:	Off air pending channel changes

Cover Photo: We've been hearing a lot about the cold snap in the Americas. This is a snow covered coils on a Butternut Vertical—WA0TDA http://handi-ham.blogspot.co.nz/2010_12_01_archive.html

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