

Ham Hum

May 2011



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



Next General Meeting

18 May 2011 - 19:30

Remit Night

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From the Editor

The General Meeting on May 18th will be the annual remit night. There are 13 remits to consider this year covering a variety of topics, as can be seen on page 32-33 of the latest Break-In.

Those of you that follow APRS may have noticed a club member's callsign with some rather interesting altitude readings. [ZL1AWQ-9](#) reached just over 51,000 feet above mean sea level. See picture on front cover and see article starting on page 5. As a result of this, some of the [Kiw iSpace](#) people now have their Ham licenses. Look for ZL4WL, ZL1AXL or ZL2FLY at strange altitudes around the Waikato.

I often hear or read that the administrative side of Amateur Radio isn't "real" Ham Radio. And there's a certain amount of truth to that as it isn't about being on air or using a soldering iron. However, the administrative side has a very important role in pushing whoever is in government to adopt the various recommendations and suggestions from the ITU, IARU and WRC.

I sometimes look at all the work done by DX'ers and others to prepare QSL cards, post them off to where-ever, and collate ones received. And I think, that's all just administrative work

Until next month, enjoy the hobby and all it has to offer....

**Next Committee Meetings -
4th May & 1st June**

SB PROP ARL ARLP017

ARLP017 Propagation de K7RA

Geomagnetic conditions are quiet this week, but may become slightly unsettled over this weekend. Average daily sunspot numbers were down over 18 points to 74.9, while average daily solar flux was off less than four points to 113.4.

Predicted solar flux values for today and tomorrow, April 29-30 are 110, May 1-8 is 105, 110 on May 9 and 115 on May 10. The next peak in solar flux is May 11-13 with a value of 120. This is actually higher than the flux values over the last month, except for one day, April 15, at 129. Over the last three days five new sunspot groups emerged. Daily sunspot numbers fell over April 22-27, then rose to 71 on April 28.

Predicted planetary A index for April 29 to May 3 is 5, 10, 12, 10 and 8, then 5 on May 4-7, then 8, 15, 15, 7 and 5 on May 8-12. So the two periods in the short term with unsettled to active geomagnetic conditions are May 1 and May 9-10.

Geophysical Institute Prague predicts quiet conditions on April 29, unsettled to active on April 30, unsettled May 1-2, quiet to unsettled May 3, and quiet May 4-5.

Angel Santana, WP3GW of Trujillo Alto, Puerto Rico feels that the good old days are back for twenty meters. He wrote, "On World Amateur Radio Day at 0304-0630 UTC on 20 meters, worked 22 stations from Europe and the Pacific, including VK, ZL, FO and NH7 all on SSB (and so on to get my WARD Award). When working Europe it looked like it was 3-4pm local time, something I have not experienced for a long time! Then on this past holiday weekend I deliberately lost sleep to see how the band was, and it worked the same way: worked a P29, SV1 and a few more Europeans, and also looking at PSK31, wow, seeing the same activity, something not seen two months ago. Propagation is really turning on, making 20 meters the 24 hour band again. Plus on Easter Day at 0845 UTC worked T31A in 40 meters, a new DXCC country for me! Right now at 0850 UTC April 26th I am hearing ON4UN working lots of VKs."

Rol Anders, K3RA of Elkridge, Maryland (southwest of Baltimore) also likes 20 meters lately. He wrote, "On Easter Sunday morning (April 24), there was an excel-

lent long path opening on 12 meters to VR2 and BV from 1200-1230z. I worked VR2XMT on phone with my antenna on the long path, then tuned down to CW and heard BU2AQ working Asiatic Russians and Eastern Europeans. He was moderately strong and very solid. I could not hear the stations he was working, but they were all given 599 reports by BU2AQ. I heard no other USA stations calling him for the first 10 minutes or so. A PY was trying, unsuccessfully, but neither he nor I could break the Asia/Europe 'wall.' Eventually several other stations in the US heard him, but we all failed to break through. He started to fade at 1225z in Maryland. However, around 1230z, some W8s and W4s got through, and he worked a number of them, but by that time he was very weak in Maryland.

"Also, I am hearing a return of the LP on 20 to SE Africa around 1200z. I haven't heard that opening for years. "Isn't it great to have 20 meters being an all-day DX band again?"

Rich Dowty, W7EET of St. Paul, Oregon sent info on an interesting tool called "PSK Reporter." See the web site at <http://pskreporter.info> and also their map utility at <http://pskreporter.info/pskmap.html>. The map displays stations using digital modes on HF who are tied into the reporting network. The user can click on any of the balloons to display a callsign for a monitor at that location, then enter that call in a query above the map to display all the stations that it could hear over a specified period of time. You can also click in the balloon on "Show all seen by" link. With the ability to check links on different bands and over different time periods, this is an interesting and useful tool for observing HF propagation.

There are some interesting videos showing use of this tool at

<http://www.youtube.com/watch?v=gMPUmRG7GqkNR=1>,

<http://www.youtube.com/watch?v=w7trCDxJMZs>, and

<http://www.youtube.com/watch?v=zkvOZJlqLTQ>.

Last week's Propagation Forecast Bulletin ARLP016 mentioned Bud Trench, AA3B of Boyertown, Pennsylvania. At <http://www.qrz.com/db/aa3b> you can see some detail on his radios and antenna system.

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://mysite.ncnetwork.net/k9la/index.html>.

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

Instructions for starting or ending email distribution of ARRL bulletins are at <http://arrl.org/bulletins>.

Sunspot numbers for April 21 through 27 were 100, 103, 80, 78, 67, 57, and 39, with a mean of 74.9. 10.7 cm flux was 113, 114.8, 119.1, 117.2, 112.1, 109.4, and 107.9, with a mean of 113.4. Estimated planetary A indices were 5, 6, 6, 6, 6, 3, and 3, with a mean of 5. Estimated mid-latitude A indices were 4, 3, 4, 6, 2, 1, and 0, with a mean of 2.9.

A Balloon Mission to the Edge of Space

10 APRIL 2011: KiwiSpace Foundation has successfully launched a helium balloon above the Waikato and recovered its payload of cameras, tracking equipment and breathtaking images from the edge of space.



While the MetService launches meteorological balloons regularly, KiwiSpace believes this is the first balloon launched with the goal of capturing images of New Zealand and space from very high altitudes.

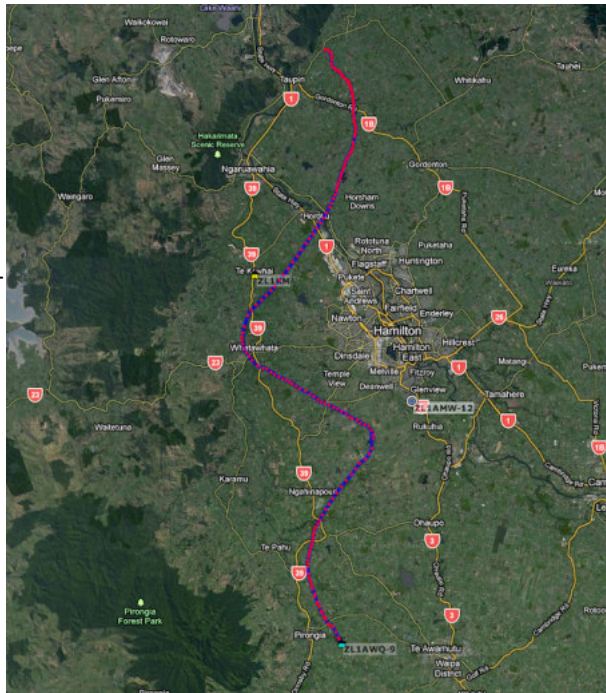
We chose to launch the balloon on Sunday to honour the golden anniversary of human spaceflight and to celebrate the official incorporation of the Foundation. Fifty years ago on

April 12, 1961, Russian Yuri Gagarin became the first man in space when he

boarded spacecraft Vostok-1 and blasted off at 6:07am UTC (6:07pm NZST). He made a single orbit of the Earth and touched down again safely in the rural USSR 108 minutes later.

The balloon was launched at 8:48am on the morning of Sunday 10th April, climbed to 51,180 feet (15.6km), just beyond the 1950's definition of space, before popping and landing just east of Pirongia, near Hamilton. Recovery teams reached the payload at 11:12am and were delighted to find it intact and still taking pictures.

The part of the mission that left the ground cost around \$3000 - balloons, payload electronics, etc - and was funded by members and sponsors. Many, many more hours were



spent by the project team building components, planning and developing weather forecast models and contacts. On-ground tracking equipment was provided by the project team and by the amateur radio community.



Flight 1 Parameters

Maximum recorded altitude: 51,580 feet [AMSL](#)

Ground distance travelled: 46 km

Ascent Time: Approx. 1 hour, 7 minutes

Descent Time: Approx 43 minutes

Descent speed at ground: 1082 feet/minute

The Payload

This first launch was a lightweight payload of around 520 grams, containing:

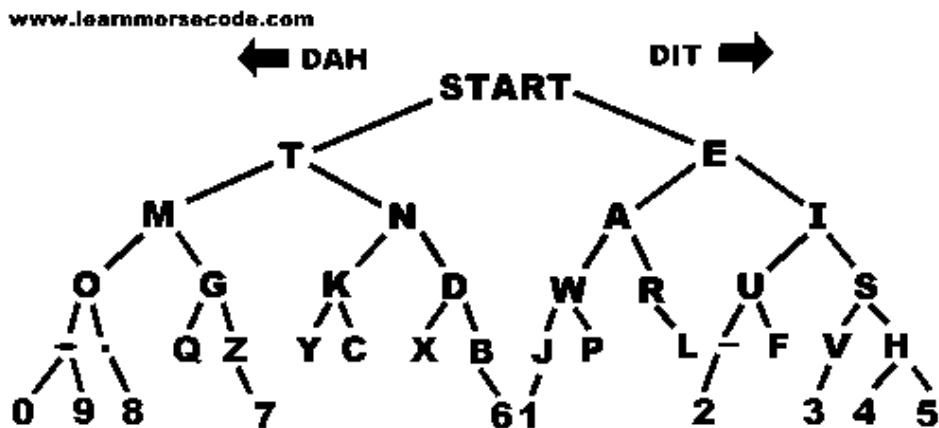
- Canon digital camera, with custom firmware to provide time-lapse photography;
 - GPS and altimeter that transmitted the balloon's location and altitude using the amateur radio Automatic Packet Reporting System (APRS) ([BigRedBee](#));
 - Radio beacon to assist with directional location by the recovery crews; and
 - Mobile phone, to provide additional location information and pictures.
- Future launches will include additional high-resolution cameras, and more advanced tracking and release mechanisms

{The APRS callsign used was ZL1AWQ-9, which is the first callsign allocated to one of our vice-presidents, who has been helping these guys with tracking, and with getting their own callsigns.—Editor}

Learn Morse Code in one minute

Taken from the website <http://www.learnmorsecode.com/> is a rather interesting way to learn morse code.

This is a code listening tool. Print it on your printer.
Place your pencil where it says START and listen to morse code.
Move down and to the right every time you hear a DIT (a dot).



Move down and to the left every time you hear a DAH (a dash).
Here's an example: You hear DAH DIT DIT which is a dash then dot then dot.
You start at START and hear a DAH then move down and left to the T and then you hear a DIT so you move down and RIGHT to the N and then you hear another DIT so you move DOWN and RIGHT again and land on the D
You then write down the letter D on your code copy paper and jump back to START waiting for your next letter.

The key to learning the code is hearing it and comprehending it while you hear it.
The only way to get there is to practice 10 minutes a day.
Listen to code tapes or computer practice code while tracing out this chart and you will find yourself writing down the letters in no time at all without the aid of the chart.
The chart brings repetition together with recognition, which you don't get from any other type of code practice aid.

-KB3BYT

Fighting fire.. with electricity

Harvard researchers are looking to replace the fireman's hose with a hand-held wand that shoots beams of electricity.

The idea that electricity can control a fire first came about 200 years ago. It was observed that electricity could twist, bend and even kill a flame.

Scientists believe electric currents make particles of soot within a flame move, which produces a flow of gas that weakens the flame and can cause it to die out. But in previous studies, chemists used direct current instead of alternating current to generate electric fields.

Now Harvard researchers have created an electric wand that puts these ideas to the test, but utilizes AC voltage instead.

The wand was connected to a 600-watt power source, and when shot at flames as high as 18 inches tall, the electric field produced a flow of charged particles that put the fire out completely, and almost instantly.

While the research is still in its early stages, it's noted that this technology has already shown greater benefit over water because it causes less damage to people's property. In addition, the wand allows fire-fighters to work from safer distances, and can even manipulate the flame to bend so they can enter burning buildings.

-WIA

Surfin': Moving Packets with DDP

Danny Knaggs, 2E0DPK, is designing and developing a new free, open source ham radio protocol called "DDP" -- for "Danny's Digital Packet" -- that provides a modern alternative to the existing packet radio protocol. Transmitted and received packets are "in plain text so they can be seen by eye (on the waterfall, console, etc.) and for ease of use and implementation."

Like any other communications protocol, DDP requires "modulation" to move its packets. [fldigi](#) and RS-232 provide the back end for DDP to move its packets. By default, DDP uses PSK500R, but it can run on any other PSK mode, too. And using RS-232, you can build your own modems suitable for the application. Knaggs has designed and built two different DDP-suitable modems: an 1800-baud AFSK modem and a 9600-baud GMSK modem.

Danny used [Python](#) to write DDP, so it should run on any operating system that supports the *Python* executable without modification including, but not limited to *FreeBSD*, *Linux* and *Windows*.

- DDP already includes some applications including:
- BBS server and client apps just like the old bulletin boards
- EmComm sends and forwards messages to other organizations during emergencies
- File transfer app to send and receive files with other users
- HTTP proxy server and client app to browse the Internet via RF
- IM chat app to send and receive "instant" messages with other users
- Repeater app that transparently repeats packets for cross-banding or plain-vanilla repeating

Visit the [DDP website](http://code.google.com/p/ddp/) (<http://code.google.com/p/ddp/>) for more information and downloading.

Until next time, keep on surfen'!

-WA1LOU via ARRL

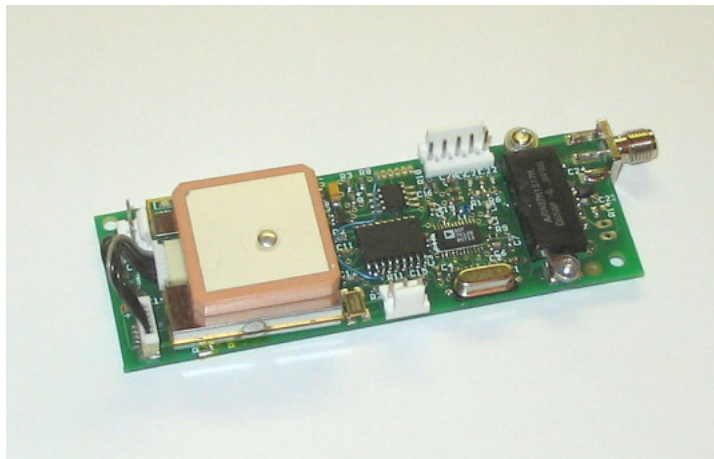


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GPS (SiRF III or Lassen IQ), TNC, 2M transmitter (144MHz—148MHz 5W),
33mmx90mm, ~60grams - US\$265

Upcoming Happenings & Events

<i>Date</i>	<i>Happenings & Events</i>
2nd May	HF Net, 3.575 MHz, 19:30
3rd May	VHF Net, 146.525 MHz, 20:00
8th May	NZART HQ Info-Line
9th May	HF Net, 3.575 MHz, 19:30
10th May	VHF Net, 146.525 MHz, 20:00
10th May	Break-In copy due
14th May	Tasman Sprint (Phone)
16th May	HF Net, 3.575 MHz, 19:30
17th May	VHF Net, 146.525 MHz, 20:00
18th May	Branch General Meeting
21st May	Tasman Sprint (CW)
22nd May	NZART HQ Info-Line
23rd May	HF Net, 3.575 MHz, 19:30
24th May	VHF Net, 146.525 MHz, 20:00
29th May	NZART Official Broadcast
30th May	HF Net, 3.575 MHz, 19:30
31st May	VHF Net, 146.525 MHz, 20:00

4-5 June—NZART Conference (Upper Hutt)
5th June—NZART HQ InfoLine
5th June—NZART Official Broadcast (Conference)
11-12 June—NZART Hibernation Contest
12th June—NZART HQ InfoLine (Conference Issue)
15th June—Club General Meeting
19th June—NZART HQ InfoLine
26th June—NZART Official Broadcast
29th June—Branch AREC Meeting (AREC)
2-3 July—NZART Memorial Contest
3rd July—NZART HQ InfoLine
10th July—Break-In copy due
17th July—NZART HQ InfoLine
31st July—NZART Official Broadcast
6-7 August—NZART Brass Monkey Contest
13th August—NZART Boat Anchor Sprint
31st August—Branch AREC Meeting (AREC)
5th September—NZART Doug Gorman Freq Measuring Contest
1-2 October—NZART Microwave Contest
1st October—Oceania All Bands SSB Contest
3-4 December—NZART VHF 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	7/8 May 2011	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	November 2011	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 2011		Organiser : ZL1IC	
<u>Position</u>	<u>Operator</u>			
1.				
2.				
3.				
4.				
5.				
School C ycling	July 2011		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: Photo of ZL1AWQ in space.

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