Ham Hum

April 2015

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

Hamilton Amateur Radio Club Inc.
Serving the Hamilton Community for over 90 Years
ZL1UX

Next Meeting 15th April : 19:30

Sorting surplus equipment from Cambridge

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From the Editor

Latest about the NZART Conference is that accommodation may disappear quickly, so I'm repeating the message below

As I mentioned last month, accommodation can be tight over Queen's Birthday weekend. So I draw your attention to a list of accommodation options that the Conference Committee has gathered together at : http://zl1ux.org.nz/conference_accommodation.html

The official registration form is now available at http://zl1ux.org.nz/NZART_Conference_2015_Reg_Form.pdf Early registration, with discounted fee, closes on 15th May.

The FIFA U20 World Cup starts on the same weekend as the NZART Conference. In fact, on Sunday (31st May) there are two games at the Waikato Stadium in Hamilton. This is one of the reasons accommodation may be a bit tight.

On page 9 is a membership form for our club (Hamilton Amateur Radio Club—Branch 12 of NZART). IF you don't want to tear out that copy, please ask our secretary (ZL1PK) at the next General Meeting for a form to fill out.

Next Committee Meetings - 1st April and 6th May

SB PROP ARL ARLP014
ARLP014 Propagation de K7RA

This bulletin is being posted a day early because ARRL headquarters is closed tomorrow April 3 for Good Friday.

This week's numbers have average daily solar flux and sunspot numbers headed in opposite directions.

For the March 26 through April 1 period, average daily sunspot numbers fell 6 points to 77.9, and average daily solar flux increased 13.3 points to 135.7, compared to the previous seven days.

Geomagnetic indices were quieter, with average daily planetary A index declining 10.7 points to 8.7, and average daily mid-latitude A index dropping 6.6 points to 7.7.

We saw four new sunspot regions over the past week, one each on March 26, 28, 29 and April 1.

The latest short term prediction for solar flux has 130 and 135 for April 2 and 3, 125 on April 4 to 6, 130 on April 7 and 8, 140 on April 9, 145 on April 10 to 13, 140 on April 14, 135 on April 15 to 18, 130 on April 19, and 125 on April 20 to 22. Then solar flux sinks to a low of 120 on April 23 to 25 and hits a high of 150 on April 28 before declining again.

Predicted planetary A index is 12, 20 and 15 on April 2 to 4, 8 on April 5 to 8, 5 on April 9 to 11, then 15 and 30 on April 12 and 13, 20 on April 14 to 16, 15 on April 17, 20 on April 18 and 19, 12 on April 20, 5 on April 21 and 22, 8 on April 23 and 24, 25 on April 25 and 29 on April 26 and 27.

At 2328 UTC on March 31 the Australian Space Forecast Centre issued a geomagnetic disturbance warning. Increased geomagnetic activity is expected due to a high speed solar wind from a coronal hole. The geomagnetic activity forecast is for active conditions on April 2 and unsettled conditions April 3.

At the beginning of April we can look back at various averages of daily sunspot numbers ending on March 31.

For monthly averages, the period since December 2014 shows a steady decline. The monthly averages for daily sunspot numbers in the past four months were 120, 101.3, 70.7 and 61.7. Our three month moving averages of daily sunspot numbers centered on February 2014 (averaging for the period January 1 through March 31) through February 2015 were 146.4, 148.4, 129.6, 118.4, 112.8, 109.2, 115.6, 108.4, 107, 104.7, 107.8, 98.2 and 78.1.

What does this lower activity mean in practical terms for HF? It means that on average, the HF bands, particularly at the higher end (20 to 30 MHz) will be open less

often and less reliably. Of course we can see big differences from day to day.

Using W6ELprop to get a general picture, on today's date last year we would see a path from Atlanta to Germany on 15 meters with an A rating (75 percent or better chance of communication) from 1230 UTC to 2330 UTC with signals at 29 db above a half microvolt at 1230 to 1800 UTC, then increasing to 33 db at 2030 to 2100 UTC and 38 db at 0030 UTC.

For today, although there is a small possibility of an opening after 1200 UTC, (especially at 1330 UTC) the opening begins with a 50 percent chance of reliable communication at 1500 UTC with signals at just 16 db and gradually increasing to 20 db at 2000 UTC.

This propagation model has a funny anomaly though, with possibly stronger signals on 20 and 17 meters than last year during early morning hours on the Atlanta end. I don't know why this is.

For instance, last year at this time on 20 meters at 1130 UTC (around sunrise) we see signals at 12 db with an A rating, declining to 7 db at 1330 UTC and 6 db from 1400 to 1530 UTC. But for today we see 20 meter signals at 1130 UTC with an A rating at 15 db, declining to 10 db at 1430 to 1530 UTC. But signals really pick up at 2230 UTC (around sunset in Atlanta) with signals at 37 db last year and 25 db this year.

For a graphic comparison of the latest four solar cycles, check http://www.solen.info/solar/images/comparison_recent_cycles.png .

At http://www.solen.info/solar/ are many other comparisons.

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 March 26 through April 1 were 103, 109, 82, 73, 56, 53, and 69, with a mean of 77.9. 10.7 cm flux was 136.1, 137.8, 145.6, 144.5, 133.6, 128.1, and 124.1, with a mean of 135.7. Estimated planetary A indices were 8, 9, 9, 14, 5, 9, and 7, with a mean of 8.7. Estimated mid-latitude A indices were 7, 7, 9, 11, 5, 7, and 8, with a mean of 7.7.

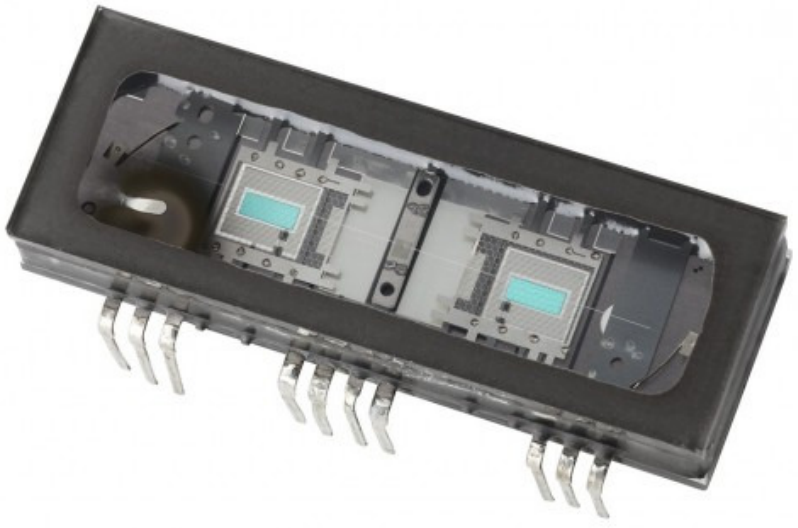
Korg and Noritake introduce Nutube tubes.

{Korg is an electronics company the develops audio equipment under the Korg and Vox brand names—Editor}

Korg is set to revolutionise vacuum tubes, with the help of Japanese tech firm Noritake, making them smaller and more affordable to run. The companies have joined forces to develop a new miniaturised and high performance vacuum tube – the Nutube 6P1.

For the last fifty years, the vacuum tube has largely remained the same, most manufacturers stopped producing them in the ’70s and since then, little to no research has been done to improve their performance or make them relevant with today’s digital technology. All of that is set to change, with the Nutube bringing the vintage sound of vacuum tubes into the new millenium.

The newly-developed Nutube is small, it’s less than 30% of the size of conventional vacuum tubes. The smaller size allows it to be directly mounted to circuit boards, without the need for a socket.



It uses much less power, reportedly only 2% of the power needed for conventional vacuum tubes and it offers (up to) 30,000 hours of continuous operating life. Meaning battery operation will be less costly and they won't need to be replaced as often.

The re-designed tube operates as a complete triode, constructed using an anode, grid, and filament and will also feature the Noritake vacuum fluorescent displays. Production of the new tubes will take place at Noritake's state-of-the-art Japanese production facility, which Korg says will significantly raise the product quality.

"As an electronic component, a vacuum tube has the disadvantages of being larger than a transistor, having a shorter lifespan, and a higher power consumption, and although many people like the sound of a vacuum tube, historically they have been more difficult to deal with," stated Fumio Mieda, Korg's longstanding developer who was involved in creating the MS-20 synthesiser from the late '70s. *"The Nutube sets us free from these many limitations, making it possible for us to think about using it in new products."*

The 6P1 has been tuned especially for Korg products, and the company says a number of new products featuring it are currently in development, with announcements expected later this year.

-with thanks to Gippsland Gate ARC for the pointer to this item.

ANZAC commemorations - latest news

The Wireless Institute of Australia (WIA) and the New Zealand Association of Radio Transmitters (NZART) will be active with ANZAC-suffixed callsigns from ANZAC Day April 25.

The two IARU member societies remember not only the original Australian and New Zealand Army Corp (ANZAC) that served at Gallipoli and the Western Front, but commemorates all servicemen and women.

In Australia on ANZAC Day there will be eight callsigns. These are from Canberra (VK100ANZAC), Glenbrook (VI2ANZAC), Lake Boga (VI3ANZAC), Biloela (VI4ANZAC), Adelaide (VI5ANZAC), Perth (VI6ANZAC), Moonah (VI7ANZAC) and

Darwin (VI8ANZAC).

The WIA website www.wia.org.au has details of about 35 events.

These include some battles, incidents, recorded voices of ANZACs, museums, memorials, Victoria Cross recipients, and all pay honour to those who served their country.

Across the Tasman the NZART will have ZL100ANZAC on air for a month.

A team of 20 DXers will operate the station ZL100ANZAC from ANZAC Day on all HF bands using CW, SSB and data modes. Also joining the commemorative activity are stations in Turkey and elsewhere.

While ZL100ANZAC is on air for one calendar month, the WIA program continues until 20 December. On that day in 1915, Colonel John Paton was in charge of the 'rear-guard' as the ANZACs, after suffering heavy losses, quietly evacuated Gallipoli by ship.

Are you going to Gallipoli?

The Türkiye Radyo Amatörleri Cemiyeti (TRAC) wants to know the names and callsigns of any Australian and New Zealand radio amateurs who will be on the Gallipoli Peninsula for ANZAC Day this year. TRAC would like to meet with the VK and ZL radio amateurs and show them a little hospitality and international friendship. If you are going to be there for the occasion, then immediately contact the WIA Director and ANZAC 100 Coordinator, Fred Swainston VK3DAC by email on vk3dac@wia.org.au who will pass on your details.

Meantime, the WIA reports that its ANZAC 100 program is generating a lot of interest both locally and overseas with 30 events already listed. All electronic QSL cards for ANZAC callsigns are now ready. The first log to be entered is from the successful Darwin Amateur Radio Club VI8ANZAC commemoration of the Albert Chalmers Borella VC journey re-enactment. Each QSO with an ANZAC-suffixed

callsign in 2015 will be acknowledged by eQSL, with logs from all events also to appear on Logbook of The World.

There are eight eQSL cards, each with a different callsign. No inward QSL cards are encouraged. For more information, and online registration to receive electronic cards, visit the website www.eqsl.cc/ These cards can also be seen under the State and Territory sections of the WIA website www.wia.org.au which has details of all ANZAC callsign events

The WIA deadline for ANZAC-suffix callsign applications to be received and processed for this year is March 31. The April edition of Amateur Radio magazine will feature ANZAC 100 on its cover with a story inside on the program.
All involved with the 30 ANZAC callsign events so far will be sent an information sheet containing a summary of the WIA ANZAC 100 program and what to say on air during the many QSOs that will result.

Limitations of short range device licences

Recent work by New Zealand's **Radio Spectrum Management** has shown a need for good radio frequency engineering practices to be employed at ports following an investigation of interference on container-loader driver's radio systems.

RSM traced the interference to newly-installed high-power transmitters that were causing front-end overload of the port's radio equipment. The movement of containers is critical for efficient and safe port operations.

Some ports use a wireless location system for containers using Short Range Devices authorised by a General User Radio Licence. In making the choice to use such a system, operators must take into account the shared nature of the licence and that no regulatory protection is given from the interfering effects of other radio services.

Learn more about general user radio licences.

HAMILTON AMATEUR RADIO CLUB
NZART BRANCH 12
MEMBERSHIP APPLICATION

*NAME: .....

*ADDRESS: .....

.....

*CITY: ..... *POSTCODE: .....

HOME PHONE: ..... EMAIL: .....

MOBILE PHONE: ..... CALLSIGN: .....

NZART Member NZART Member Number .....

Affiliated to Branch: ..... *Branch 12 member since: .....

* Required by Incorporated Society Act 1908

2015 ANNUAL SUBSCRIPTION

☐	Member/Associate Member	$40.00
☐	Family/Club Member	$50.00
☐	Unwaged Member	$35.00

Payment herewith ☐ Cash ☐ Cheque ☐ Direct Debit

Club bank a/c 03-1555-0064133-00

Magazine (HamHum) delivery Email only

I agree to observe the Amateur's Code, and abide by the constitution of the Club.

Date ..... Signature .....

OFFICE USE Receipt No.

Approved by Committee ..... Class of Member T/NT/A .....

Notified in HamHum .....

Post or Deliver this form to: The Secretary, Hamilton Amateur Radio Club (Inc), PO Box 606, Hamilton 3240

WANGANUI AMATEUR RADIO JUNK SALE
Saturday May 2nd, 2015
Branch 48 is pleased to announce their annual
JUNK SALE

Saturday May 2nd, 2015. Auction starts at 10am.

Wanganui intermediate School Hall. Dublin St, Wanganui.

(Same venue as last time, See http://tinyurl.com/pq4a9yb)

Lots accepted from 4pm till 8.00pm on Friday 1st & 7.30am to 9.30am Morning of the sale.

SALE CONDITIONS:

Sellers pay 15% commission with a minimum of $1 and max of $20 on any one item.

Accounts will be run. (to be settled on sale day before goods uplifted)

Bids will be possible only by registered bidder number.

Bidders must register with a $5 fee. This will also provide them with a sale catalogue.
Cash, Cheque or EFTPOS accepted.

Time to Clean out your shack and make way for more goodies!

Come and enjoy the social side of this old fashioned junk sale auction and help us make this a great day for all.

For further information contact Graham Hawtree ZL2AHR
PH: 06 3447501 or grahamandval1@xtra.co.nz

Licensed Auctioneer

SDR (RTL-2832U) runs in CHROME browser

There is also now a javascript SDR app for the Chrome browser '**Radio Receiver**' by Jacobo Tarrio

Stereo FM.
Scan for stations.
Record what you hear on the radio.
Built-in bands:
International and Japanese FM bands.
Weather band (US and Canada).
Medium Wave AM (requires an upconverter).
Free-tuning mode to use the program as a multi-band radio and listen to anything: short wave, air band, marine band, etc.
Supported modes: Wideband FM, Narrowband FM, AM, SSB.
Compatible hardware and software

Radio Receiver was written to work with an RTL-2832U-based DVB-T (European digital TV) USB receiver, with a R820T tuner chip. You can easily buy one for $15 or less by searching for [RTL2832U R820T] on your favorite online store or web search engine.

http://Github.com/google/radioreceiver

Raspberry Pi 2 laptop coming with Pi-Top assembly kit

The Pi-Top kit will turn an otherwise stationary Raspberry Pi 2 into a portable computer.

Do you want a Raspberry Pi 2 laptop? A new hardware kit coming from Pi-Top will help you build one at home in a matter of minutes.

The popular US$35 Raspberry Pi 2 is an uncased computer that is already being used in drones, robots, gadgets, tablets and even desktops. The otherwise stationary computer can be transformed into a laptop even by beginners with no hardware assembly experience.

The full Pi-Top kit includes a 13.3-inch screen, battery, trackpad, mousepad, lap-

top casings and Raspberry Pi 2, which would serve as the main motherboard. Users will be able to run a full Linux-based operating system and surf the Web, check email and run productivity software.

The laptop will be able to provide around eight hours of battery life, Jesse Lozano, Pi-Top co-founder and CEO, said in an email.

The Pi-Top kit will ship in May, Lozano said. The kit can be ordered for $299.99 with the Raspberry Pi 2, and for $264.99 without the board. The company has already shown working units of the Pi-Top, and Eben Upton, founder of Raspberry Pi Foundation, has used a Pi-Top machine.

The Raspberry Pi 2 was introduced two months ago as a successor to the original Raspberry Pi, which has sold more than 4 million units. The Pi has developed a cult following among do-it-yourselfers, and the Pi-Top kit could extend the board's appeal to regular laptop users.

It could also appeal to existing Raspberry Pi 2 users, who currently need to attach a keyboard and monitor to use the computer. Right out of the box, Pi-Top will provide those components in a single chassis. But at $265, it is an expensive Raspberry Pi 2 case.

-Agam Shah (PC World/IDG)

Upcoming Happenings & Events

Date	*Happenings & Events*
6th April	HF Net, 3.575 MHz, 19:30
7th April	VHF Net, 146.525 MHz, 20:00
10th April	**NZART HQ-Infoline**
11-12 April	**NZART Thelma Souper Memorial Contest (WARO)**
11-12 April	**NZART Low Band Contest**
13th April	HF Net, 3.575 MHz, 19:30
14th April	VHF Net, 146.525 MHz, 20:00
15th April	**Club General Meeting**
20th April	HF Net, 3.575 MHz, 19:30
21st April	VHF Net, 146.525 MHz, 20:00
26th April	**NZART Official Broadcast**
27th April	HF Net, 3.575 MHz, 19:30
28th April	VHF Net, 146.525 MHz, 20:00

8th May—NZART HQ-Infoline

20th May—Club General Meeting

22nd May—NZART HQ-Infoline

30 May/1 June—NZART AGM & Conference (Br 12, Hamilton)

31st May—NZART Official Broadcast (Including Conference report)

6-7 June—NZART Hibernation Contest

1-2 August—NZART Brass Monkey Contest

3-4 October—NZART Microwave Contest

5-6 December—NZART Field Day Contest

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

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: The proper attire for operating CW.

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