

# Ham Hum

March 2017



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



## Next Meeting

**Gavin Petrie (ZL1GWP) - Visit to Nova Scotia**

**15th March : 7pm**

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**NZART Examiners:** ZL1IC, ZL1PK & ZL1TJA

## From the Editor

During the Jock White Field Days I decided to listen around 80m to see what I could hear with my system. Given that I don't have much height, vegetation keeps growing onto the wire aerial, and my equipment is neither earthed or floating, I was surprised by the number of ZL1's that I heard. Things can only get better :)

The AGM has been and gone for another year. I think there was only one change, so we will have another great year in front of us.

The Papakura Radio Club is hosting a hamfest March 11<sup>th</sup>.

Will start 0930 and run for the day.

### Speakers

Murray Greenman ZL1BPU,??

Simon Key ZL1OE, Allstar

Simon Watt-Wyness ZL1SWW, DMR

Robert Moody ZL1FLY, Mesh Net work

Dave Wilkins ZL1MR, HF, ALE

Donation for catering a gold coin.

## **SB PROP ARL ARLP008**

### **ARLP008 Propagation de K7RA**

At 0124 UTC on February 22 Australian Space Weather Services issued a geomagnetic disturbance warning for February 22-24:

"The effect of a high speed solar wind stream from a recurrent coronal hole is expected to raise geomagnetic activity to active levels from 22 to 24 February with the possibility of minor storm periods on 23 and 24 February.

"Increased geomagnetic activity expected due to coronal hole high speed wind stream from 23-24 February 2017.

"Geomagnetic Activity Forecast

23 Feb: Unsettled to Active, isolated Minor Storm periods possible

24 Feb: Unsettled to Active"

Spaceweather.com on February 22 issued a Solar Wind Advisory: "Earth is about to enter a stream of solar wind flowing from a hole in the Sun's atmosphere. NOAA forecasters estimate a 60% chance of polar geomagnetic storms on February 23rd as the solar wind speed quickens to 550 km/s or more. Arctic sky watchers should be alert for auroras on Thursday and Friday nights. See updates and sightings at <http://www.spaceweather.com>."

Over the past week, February 16-22, average daily sunspot number compared to the previous seven days increased from 17.6 to 19.1, while average solar flux increased from 75.1 to 78.5.

Geomagnetic indicators were slightly higher, with average planetary A index increasing from 4.7 to 11.3, and average mid-latitude A index changing from 2.9 to 9.

Predicted solar flux (on February 22) is 84 on February 23-24, 83 on February 25, 82 on February 26 through March 1, 78 on March 2, 73 on March 3-4, 72 on March 5-7, 73 and 74 on March 8-9, 75 on March 10-14, then 74, 75, 77 and 79 on March 15-18, 82 on March 19-24, then 80, 78 and 76 on March 25-27, 75 on March 28-29, 73 on March 30-31, and 72 on April 1-3.

Predicted planetary A index is 18 and 12 on February 23-24, 8 on February 25-26, then 16, 24 and 20 on February 27 through March 1, 15 on March 2-5, 8 on March 6, 5 on March 7-14, then 10, 20, 15, 10 and 12 on March 15-19, 10 on March 20-21, then 12, 15, 20 and 18 on March 22-25, then 8, 30, 25 and 20 on March 26-29.

"Geomagnetic activity forecast for the period February 24-March 22, 2017:

"Geomagnetic field will be:

Quiet on March 7-8, 11-12, 15

Mostly quiet on February 25-26, March 6, 14

Quiet to unsettled February 24, March 9-10, 13, (21-22)

Quiet to active on February 27, March 3-5, 16, 19-20

Active to disturbed on February 28, March 1-2, 17-18

"Amplifications of the solar wind from coronal holes are expected on February 27-28, March 3-5, (6-8)

"Remark: Parenthesis means lower probability of activity enhancement and/or lower reliability of prediction.

"F.K. Janda, OK1HH Czech Propagation Interested Group OK1HH compiling weekly forecasts since 1978 e-mail: [ok1hh@rsys.cz](mailto:ok1hh@rsys.cz) ."

According to the ARRL DX Bulletin, the CQ World Wide 160-Meter SSB Contest is this weekend. Check <http://www.cq160.com/rules.htm> for rules.

If you would like to make a comment or have a tip for our readers, email the author at [k7ra@arrl.net](mailto: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 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>. Instructions for starting or ending email distribution of ARRL bulletins are at <http://arrl.org/bulletins>.

Sunspot numbers for February 16 through 22, 2017 were 23, 14, 13, 23, 25, 19, and 17, with a mean of 19.1. 10.7 cm flux was 74, 74.6, 76.6, 78.1, 80.7, 82.5, and 83.2, with a mean of 78.5. Estimated planetary A indices were 9, 20, 16, 10, 10, 4, and 10, with a mean of 11.3. Estimated mid-latitude A indices were 7, 16, 11, 9, 8, 4, and 8, with a mean of 9.

## **2017 NZART Annual Conference**

**To be hosted by the Rotorua Amateur Radio Club (RARC)**

**Queens' Birthday Weekend – June 3<sup>rd</sup> & 4<sup>th</sup> 2017**

**Venue will be at the 'SUDIMA HOTEL'**

**1000 Eruera Street, Rotorua 3010.**

**Phone 0800 Sudima (0800 783 462) or (07)348 1174.**

**Email: [reservations@sudimarotorua.co.nz](mailto:reservations@sudimarotorua.co.nz)**

**Web: [www.sudimahotels.com](http://www.sudimahotels.com)**

**BOOK EARLY and QUOTE: "NZART QBW 2017 Conference"**

**GOOD RATES have been negotiated to stay at this venue:**

**Standard Rooms: \$120 for single/twin share, or \$150 including full breakfast.**

**Superior Rooms: \$140 for single/twin share, or \$170 including full breakfast.**

**As well as their fine conference facilities, this venue features:**

**Lakefront location, Naturally heated pool and spas,**

**24 hour guest service, Hangi and Maori cultural show'**

**Wifi available, Adjacent to the famous Polynesian Spa,**

**Free onsite parking, Walking distance to City Centre,**

**Restaurant and Bar on site.**

**For further information, or if you would like to host a seminar,**

**Please contact: Ted ZL1MG or Margaret ZL1MB,**

**Phone (07)345 9687 or email: [tedmarg@clear.net.nz](mailto:tedmarg@clear.net.nz)**



## RFI: Clean up your shack

In this video **Ian White GM3SEK** gives helpful advice about how to reduce noise levels on receive and avoid causing RF Interference

RSGB Convention lecture 2015 - Clean up your shack

<https://youtu.be/LSL1h6MJbaI>

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## New receive antenna socket for IC 7300

**IHSG** and **Vibroplex/INRAD** announce the release of a new accessory product for the Icom IC-7300 which provides a receive antenna socket on the rear of the radio.



The INRAD model **RX7300** allows the user to add a receive-only antenna jack to the Icom IC-7300. This easy to install plug-in modification requires no soldering and is simple to install and easily reversible. The RX7300 can also be used for the insertion of accessory items into the receiver chain on the IC-7300 like receive-only bandpass filters, low noise preamps, etc.

When installed, the transceiver will use the SO-239 antenna connector on transmit, and one RCA phono jack on the RX7300 for receive. To use the transceiver in normal operation via the SO239, leave the RG-174 coax loop installed between the 2 phono sockets.

The RX7300 retails for £49.95 or £99.95 fitted and is only available through HIS group affiliated stores. Customers who purchased their IC-7300s via an IHSG store will receive a £5.00 discount from the supply only price and £15.00 discount from the installed price.

For more information contact [sales@ihsg.co.uk](mailto:sales@ihsg.co.uk)

[www.nevadaradio.co.uk](http://www.nevadaradio.co.uk)

[www.hamradiostore.co.uk](http://www.hamradiostore.co.uk)

[www.inrad.net](http://www.inrad.net)

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## SpaceX launch ham radio transceiver to ISS

The CRS-10 mission carrying vital amateur radio equipment to the International Space Station launched on a SpaceX Falcon 9 at 1439 UT on Sunday, February 19

**Frank Bauer KA3HDO**, ARISS International Chair and AMSAT-NA V.P. for Human Spaceflight Programs writes:

Included as part of today's successful launch of the SpaceX Dragon vehicle to ISS is an ARISS Ericsson 2 meter VHF radio. This radio will replace the Ericsson radio that failed a few months ago. The VHF radio is used for school group contacts and amateur packet radio in the Columbus module. Once the Dragon vehicle is berthed to ISS, the Ericsson will be unstowed and, at some point, installed in Columbus, replacing the UHF radio that is now supporting APRS packet and some school contacts.

Our thanks to SpaceX on an outstanding and historic flight from Kennedy Space Center's Launch Pad 39A, where many Space Shuttle missions and nearly all the

Apollo moon missions were launched. We also would like to thank our ARISS benefactors-NASA and CASIS, the Center for the Advancement of Science in Space. And, of course, our amateur radio long-time sponsors-our national amateur radio organizations around the world, including the American Radio Relay League (ARRL) in the US, and our international AMSAT organizations, including AMSAT-NA.

Before closing, I want to let you know that ARISS is making great progress on the development of the new interoperable radio system that we hope to use to replace our aging radio infrastructure in the Columbus module and the Service module. The hard (and expensive) part of this effort is just beginning, with testing and human certification on the horizon. We thank all that have donated to the cause thus far. We hope you continue to help ARISS move forward through your support, including your volunteer time and talent and, of course, financial contributions through the AMSAT web site donate button <http://www.amsat.org/>

Amateur Radio on the International Space Station ARISS  
<http://ariss.org/>



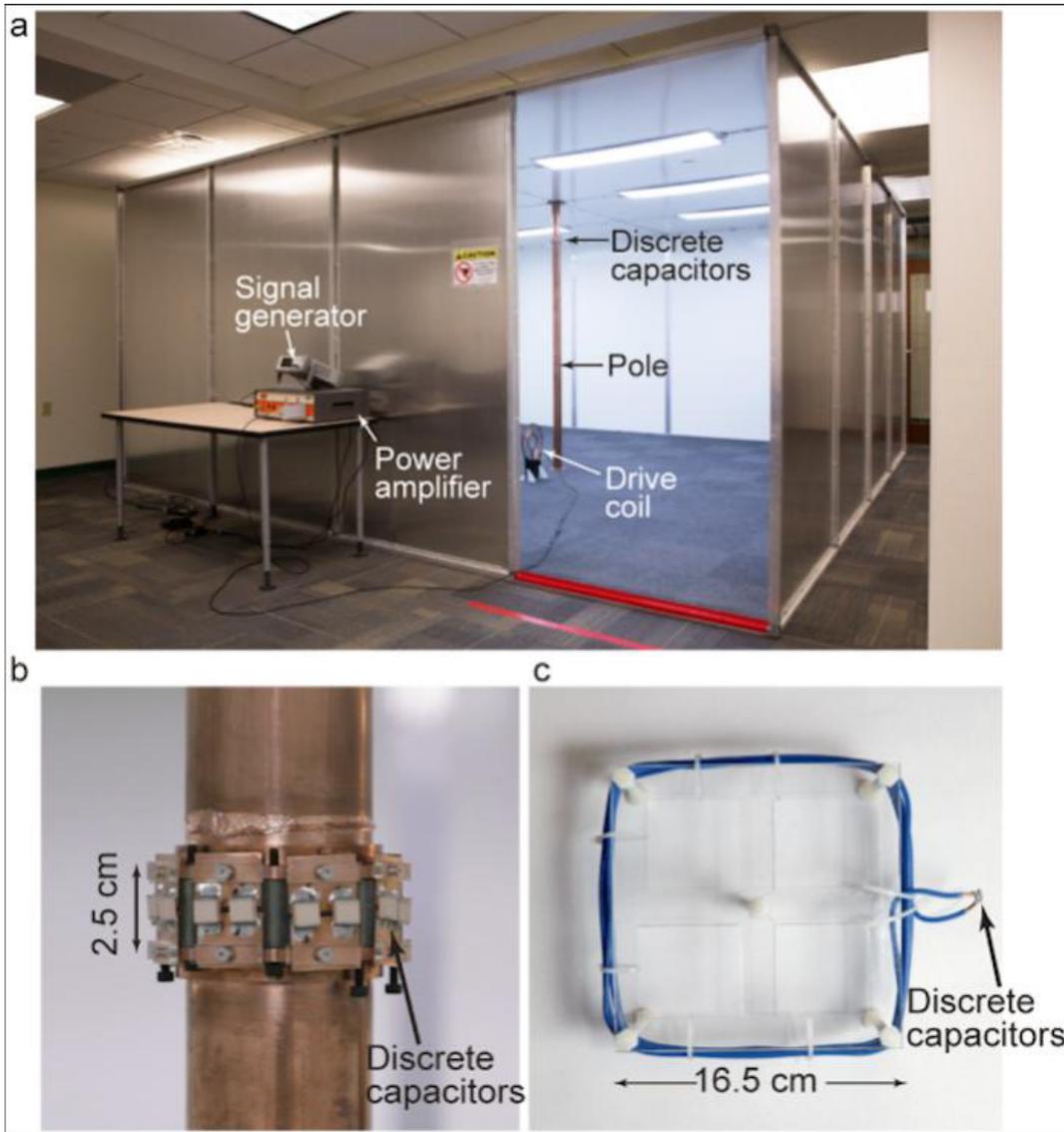
## **Disney Research demonstrates open-air wireless charging**

Disney Research has invented a new method of wirelessly charging mobile devices that could someday allow amusement park patrons to walk about freely while also getting their mobile devices charged.

The technology, which Disney has dubbed "quasistatic cavity resonance" (QSCR), enables purpose-built structures such as cabinets, rooms and warehouses to generate quasistatic magnetic fields that "safely deliver kilowatts of power to mobile receivers contained nearly anywhere within."

Disney's wireless charging technology research was published in the peer-reviewed journal PLOS ONE.

[www.computerworld.com/article/3173305/emerging-technology/disney-research-demonstrates-open-air-wireless-charging.html](http://www.computerworld.com/article/3173305/emerging-technology/disney-research-demonstrates-open-air-wireless-charging.html)



Looks like another potential source of RFI to me.

**Stephen, G7V FY**

## Why Aren't the Letters on a Computer Keyboard in Alphabetical Order?

If you've ever looked down at your keyboard and wondered why it's not in alphabetical order, you're not alone. But who came up with the current design, anyway? A few popular myths abound, but one [Japanese study](#) got to the root of it. (Hint: This design dates back WAY farther than you think.)

**Myth #1:** The keyboard is designed in accordance with letter usage to allow for the fastest typing possible.

This idea makes sense: Designers must have looked at the varying degrees of usefulness of each letter and attempted to evenly split them between each hand. That way, we could type quickly and not have one hand doing more work than the other.

**Myth #2:** The design is a relic of the typewriter era, and was engineered to stop the machine from jamming.

This myth is the opposite of the first, and alleges that the QWERTY design was meant to slow typists down in order to stop the typewriter from jamming. While it's unclear whether or not separating the useful keys makes typing a slower endeavor or a faster one (as the creators of the first myth would argue), this one's also been debunked.

**The truth:** The design is a hand-me-down from morse code transcribers.

We're guessing you didn't expect this, so we'll let [Smithsonian reporter Jimmy Stamp](#), who originally sleuthed through the Japanese study, explain.

"The QWERTY system emerged as a result of how the first typewriters were being used. Early adopters and beta-testers included telegraph operators who needed to quickly transcribe messages. However, the operators found the alphabetical arrangement to be confusing and inefficient for translating morse code. The Kyoto paper suggests that the typewriter keyboard evolved over several years as a direct result of input provided by these telegraph operators."

It's an interesting idea, but now that we've moved from morse code to iPhones, we're thinking it might be time for a new system.

By Juliana LaBianca



## Inside the Baofeng UV-5R

*{Note: all prices are in US\$ - editor}*

All About Circuits purchased a \$25 Baofeng UV-5R dual-band amateur radio HT to take apart and look inside



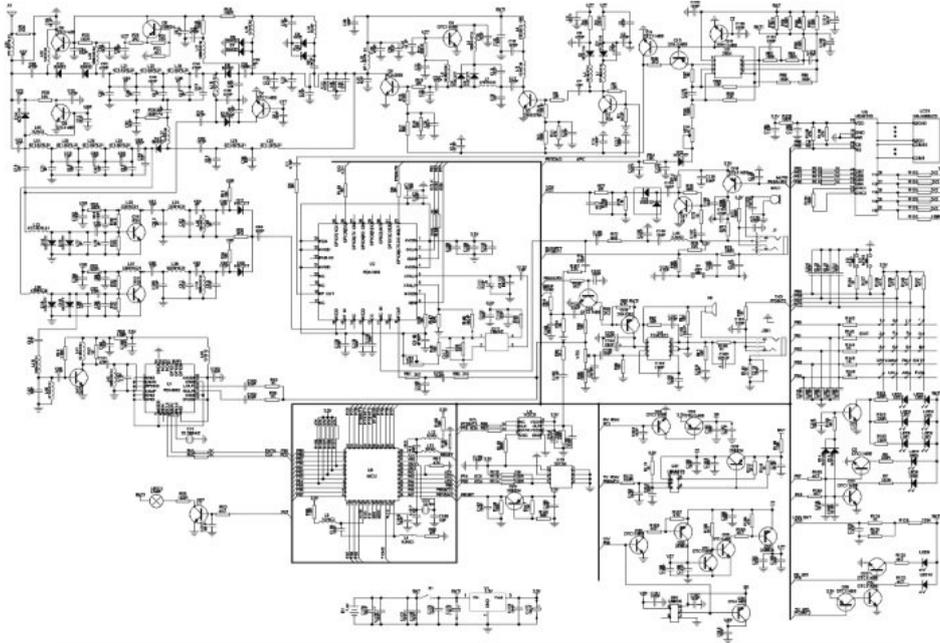
Due to the reasonable price and easy availability on eBay the Baofeng transceivers have proved very popular with radio amateurs.

The article and video showing the teardown can be seen at <https://>

[www.allaboutcircuits.com/news/teardown-tuesday-baofeng-amateur-radio-transceiver/](http://www.allaboutcircuits.com/news/teardown-tuesday-baofeng-amateur-radio-transceiver/)

Guide to Using the Baofeng UV-5R

<http://www.essexham.co.uk/news/guide-to-using-the-baofeng-uv-5r.html>



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**NEW ZEALAND ASSOCIATION**  
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 local, national and international  
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*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.**



**1-2 April—NZART Low Band Contest**  
**7th April—NZART HQ Infoline**  
**18 April—General Meeting**  
**21st April—NZART HQ Infoline**  
**30th April—NZART Official Broadcast**  
**20-21 May—NZART Sangster Shield Contest**  
**10-11 June—NZART Hibernation Contest**  
**5-6 August—NZART Brass Monkey Contest**  
**7-8 October—NZART Microwave Contest**  
**2-3 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.z1ux.org.nz>  
**eMail:** [branch.12@nzart.org.nz](mailto: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:** Off air pending channel changes

*Cover Photo: AREC hat from NZART headquarters.*

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