Ham Hum

November 2017

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

YAMAHA

Rolos Marine

BRIDGE 2 BRIDGE 17

WATER SKI CLASSIC
10/12 NOVEMBER 2017

Next Meeting

15th November : 7:30pm

Bridge to Bridge debrief

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From the Editor

The annual Bridge to Bridge ski race is coming up fast (11-12 November). If you can go mobile along the river please get in touch, or come along to the next meeting where everything will be sorted out.

Our annual BBQ is scheduled for 9th December. The club will supply sausages. BYO any thing else you would like to have.

SB PROP ARL ARLP044
ARLP044 Propagation de K7RA

Average daily sunspot number increased from 13.4 to 17.7 for the October 26 to November 1 period, compared to the previous seven days. The main reason for the difference was that the previous seven days started out with two days with no sunspots, and the latter period ended with one day of 0 sunspots, on November 1.

Predicted solar flux is 74 on November 3-4, 73 on November 5-9, 71 on November 10, 70 on November 11-13, 71 on November 14, 72 on November 15-16, 73 and 74 on November 17-18, 75 on November 19-28, 72 on November 29-30, 70 on December 1-10, 71 on December 11, 72 on December 12-13, then 73 and 74 on December 14-15 and 75 on December 16-17.

Predicted planetary A index is 8 on November 3, 5 on November 4-5, then 8, 16, 25, 30, 28, 25 and 8 on November 6-12, then 5 on November 13-14, then 12, 10 and 8 on November 15-17, 5 on November 18-19, then 20 on November 20-22, 5 on November 23-27, 8 on November 28, 15 on November 29-30, then 10, 8, 5, 25 and 28 on December 1-5, then 35, 25, 20 and 8 on December 6-9, 5 on December 10-11, then 12, 10 and 8 on December 12-14, then 5 on December 15-16 and 18 on December 17.

Geomagnetic activity forecast for the period November 3-29, 2017 from F.K. Janda, OK1HH:

"Geomagnetic field will be:

Quiet on November 4, 6, 12-13, 23-27

Mostly quiet on November 3, 5, 16-19

Quiet to unsettled on November 15, 20

Quiet to active on November 7, 11, 14, 22

Active to disturbed on November 8-10, (21)

"Amplifications of the solar wind from coronal holes are expected November (3,) 9-14, 20-21

"Remarks:

- Parenthesis means lower probability of activity enhancement.

- Current forecasts remain less reliable."

Lately, it seems we cannot get enough of Hisako Koyama. Yet another story appeared this week at Syfy.com:

http://bit.ly/2xT7WJj

Don't miss the links at the end of the article showing detailed instructions for sketching sunspots.

Dr. Tamitha Skov on October 31 on You Tube:

https://www.youtube.com/watch?v=jrUxUXTaL7A

The CW portion of ARRL November Sweepstakes is this weekend. The complete package for this contest is here:

http://bit.ly/2iopVkn

Jon Jones, N0JK wrote:

"Jeff, N8II's comments re 10 meter openings in the ARLP043 Propagation bulletin inspired me to check 10 Meters in the CQ WW SSB contest last weekend.

"Saturday afternoon October 28 was not good in KS, with only a few very weak LU and PYs coming through.

"Sunday Oct. 29 was much better on 10 Meters.

I set up fixed mobile with 100 W and a full size 1/4 wave whip at 1905z on 10 meters in eastern Kansas on a hilltop. Nice sunny afternoon, temp 65 degrees.

FM5BH went into the log at 1909z followed by a very loud HI3T at 1911z, then CU4DX on 28.325 MHz for the only European at 1912z. Over the next hour and half I logged around 40 more stations, a mixture of Caribbean, Central America and CE, CX, LU and PY. DX included FY5KE, PZ5K, OA4SS, HC2G and HP1XT. Some fairly short F2 with CO8RH at 1952z and Stan, K5GO at ZF9CW in the log at 2002z. Not bad for a solar flux of 75."

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 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 October 26 through November 1, 2017 were 23, 23, 22, 23, 22, 11, and 0, with a mean of 17.7. 10.7 cm flux was 77.3, 76, 75.4, 75.3, 75.6, 75.4, and 72.6, with a mean of 75.4. Estimated planetary A indices were 20, 5, 6, 4, 3, 3, and 4, with a mean of 6.4. Estimated mid-latitude A indices were 16, 4, 5, 3, 1, 2, and 2, with a mean of 4.7.

Aussie pico balloon series restarts

After an absence since March this year, a tiny high altitude balloon PS-72 launched from Melbourne was right on track to head north in Victoria before turning west into South Australia.

Andy Nguyen VK3YT put up PS-72 on Sunday 15th, a solar powered party foil-like balloon measuring 90-cm across, filled with hydrogen.

Its payload emits 25mW WSPR, JT9 on 30 metres, with a dial frequency is 10.138700 MHz.

While earlier PS-71 in March used APRS and Olivia on VHF/UHF, but the last HF balloon was PS-70 in January.

The latest, PS-72 at Victoria's upper limit adopted a path to South Australia, drifted over the Simpson Desert Regional Reserve, then close to the Northern Territory border, before moving into Queensland and the mid-Gulf of Carpentaria.

On Tuesday 17 it was over Papua New Guinea, then left on Wednesday 18 for the Solomon Sea.

A dozen in VK2, VK3 and ZL tracked it an altitude of about 10,000 metres enduring temperatures to minus 30 degrees Celsius.

But the big question is how long PS-72 travel?

A world record held by Andy VK3YT saw PS-46 in 2015 just short of its third southern hemisphere circumnavigation.

Jim Linton VK3PC

DoD Trains For EMP Blackout Event

October 27, 2017

The Defense Department is planning to conduct a training exercise based on an electromagnetic pulse created by a solar flare that knocks out the national power grid and all forms of communication in the U.S.

According to the American Radio Relay League, the military is planning a "communications interoperability" training exercise Nov. 4-6, involving both amateur "ham" radio operators and the Military Auxiliary Radio System:

During the exercise, a designated DOD Headquarters entity will request county-by-county status reports for the 3,143 US counties and county equivalents, in order to gain situational awareness and to determine the extent of impact of the scenario. Army and Air Force MARS organizations will work in conjunction with the Amateur Radio community, primarily on the 60-meter interoperability channels as well as on HF NVIS frequencies and local VHF and UHF, non-Internet linked Amateur Radio repeaters.

MARS program administrator, Paul English, said:

"This exercise will begin with a national massive coronal mass ejection event which will impact the national power grid as well as all forms of traditional communication, including landline telephone, cellphone, satellite, and Internet connectivity.

We want to continue building on the outstanding cooperative working relationship with the ARRL and the Amateur Radio community. We want to expand the use of the 60-meter interop channels between the military and amateur community for emergency communications, and we hope the Amateur Radio community will give us some good feedback on the use of both the 5-MHz interop and the new 13-MHz broadcast channels as a means of information dissemination during a very bad day scenario."

The announcement has not been widely reported by mainstream media to avoid sparking public fear. The timing could have perhaps been a little better: Nov. 4 is the day Antifa kicks off its “Day of Rage” campaign against the Trump administration.

Understanding propagation numbers

How To Read Propagation Numbers

The A index (LOW is GOOD)

- 1 to 6 is BEST
- 7 to 9 is OK

11 or more is BAD

Represents the overall geomagnetic condition of the ionosphere ("Ap" if averaged from the Kp-Index) (an average of the eight 3-hour K-Indices) ('A' referring to ampli-

tude) over a given 24 hour period, ranging (linearly) typically from 1-100 but theoretically up to 400.

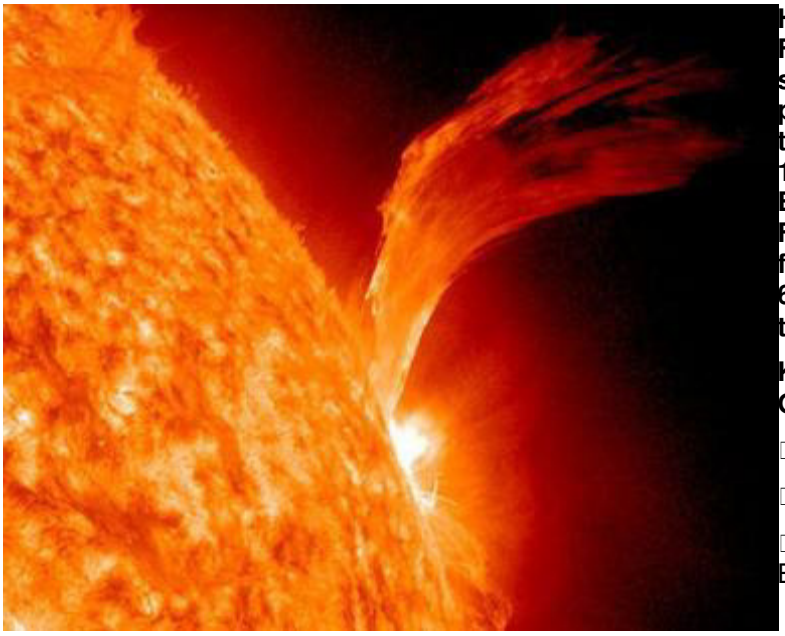
A lower A-Index generally suggests better propagation on the 10, 12, 15, 17, & 20 Meter Bands; a low & steady Ap-Index generally suggest good propagation on the 30, 40, 60, 80, & 160 Meter Bands.

SFI index (HIGH is GOOD)

- 70 NOT GOOD
- 80 GOOD
- 90 BETTER

100+ BEST

The measure of total radio emissions from the sun at 10.7cm (2800 MHz), on a scale of 60 (no sunspots) to 300, generally corresponding to the sunspot level, but being too low in energy to cause ionization, not related to the ionization level of the Ionosphere.



Higher Solar Flux generally suggests better propagation on the 10, 12, 15, 17, & 20 Meter Bands; Solar Flux rarely affects the 30, 40, 60, 80, & 160 Meter Bands.

K index (LOW is GOOD)

- 0 or 1 is BEST
- 2 is OK
- 3 or more is BAD

5 is VERY VERY BAD

The overall geomagnetic condition of the ionosphere ("Kp" if averaged over the

planet) over the past 3 hours, measured by 13 magnetometers between 46 & 63 degrees of latitude, and ranging quasi-logarithmically from 0-9. Designed to detect solar particle radiation by its magnetic effect. A higher K-index generally means worse HF conditions.

A lower K-Index generally suggests better propagation on the 10, 12, 15, 17, & 20 Meter Bands; a low & steady Kp-Index generally suggest good propagation on the 30, 40, 60, 80, & 160 Meter Bands.

174-184 MHz – Land Mobile Radio technical consultation

The Minister for Communications decided new uses for the former analogue television Band III (174-230 MHz) in April 2017, following a review of options for allocating the frequencies in this band. One of these new uses is land mobile radio services, which is allocated 10 MHz between 174-184 MHz.

Radio Spectrum Management has prepared a consultation document concerning the technical specifications for land mobile radio services operating in these frequencies. The document covers:

the licensing regime to be used

the allocation mechanism

allocation terms and conditions, and

the approach to and details of any technical specifications.

Interested parties are invited to comment on the questions raised by the consultation document and other matters related to land mobile radio services operating in 174-184 MHz.

For further information or to download the consultation document visit 174 MHz-184 MHz: Land Mobile Radio technical consultation.

Submissions are due by Wednesday 13 December 2017

Major Antenna Manufacturer Ends Its Production:

Nov 01, 2017 05:37 am - eHam.net News -- Known worldwide Polar Electronic Industries of Australia, the designers and manufacturer of quality communication antennas for 41 years, has closed leaving a gap for the radio amateur community. It serviced 51 countries with quality product. Polar especially supported the Amateur Radio need for special none standard antennas outside the usual commercial frequency range. Among the Polar products covering 2 MHz to 2.9 GHz were communications antennas, multicouplers, duplexers and accessories. Retirement of its two engineers and owners is given for the closure. Based at Moorabbin in Melbourne's south, it had extensive engineering and test facilities, including computer-aided radiation measuring equipment. Through research and development it remained an industry leader.

Foundations of Amateur Radio #126

Hearing very weak signals

This week I'm going to talk about a Digital Mode you can use with any Amateur License, or even without an Amateur License. You can set-up your radio, hook it to a computer and the Internet and after installing some software, you can join the Weak Signal Propagation Reporters.

So how do you start, what does it do and how can it help you?

First of all, WSPR, pronounced Whisper, is a way of encoding information and transmitting it across the spectrum. At the other end a radio receives that signal, sends it to a computer where a piece of software attempts to decode and then log it.

This Digital Mode, invented by Joe K1JT, is one of several modes that are gaining popularity across the Amateur Radio community because the beauty of this mode is that it's so unobtrusive that you're unlikely to actually hear it if you were to tune to a dedicated WSPR frequency.

If you want to find out what your station can hear, you can set yourself up as a dedicated receive-only station and report your findings to a central database where others can share your information and learn what propagation is like at that particular point in time.

Of course, it also means that you can use the same information to learn what propagation looks like in your neck of the woods with your radio and your antenna set-up.

There's even an option that allows you to have your radio automatically change frequency - known as band hopping - and listen for WSPR signals across the bands that you allocate.

If you like, you can go to the wsprnet.org website right now and do a search for my callsign, VK6FLAB and see what stations I've heard since I turned it on. Go on, have a look, I won't mind.

My station is set-up to do band hopping across all HF frequencies all day and night and during the grey-line it only listens to 80m, 40m, 15m and 10m, since those are the frequencies my license allows me to transmit on and I'm particularly interested how they work at sun-rise and sun-set.

You might have heard me before talking about how the noise at my home is atrocious. Nothing has changed, it's still abysmal, but WSPR signals are coming in and being decoded.

If you want to do this, you'll need a radio - any radio will work, a computer with a microphone socket and a way to pipe the audio from the radio into the computer, I'm using a 3.5mm male plug to 3.5mm male plug - you don't need a fancy audio interface, you're only listening. If you can connect an interface cable, your computer can also change frequency for you, but that's not needed to get started.

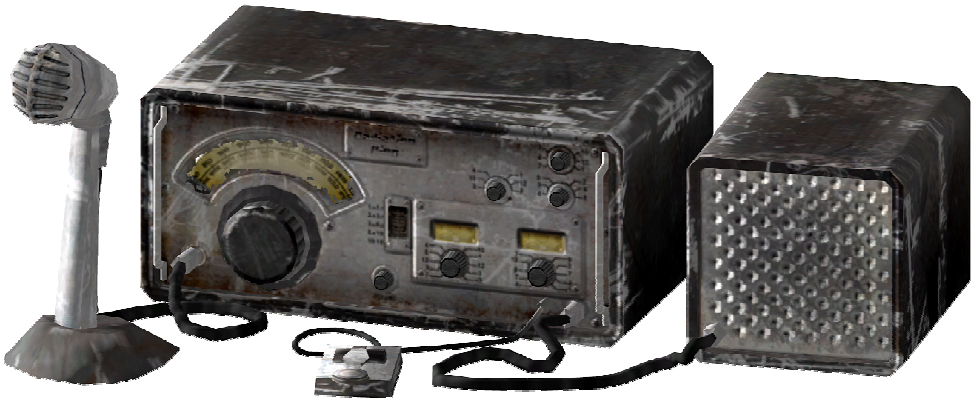
Make sure that you turn the volume right down before you plug anything in. Connecting a headphone output directly into a microphone input can blow up the port if you're not careful and WSPR doesn't need much in the way of volume. The software helps you get it set right, so read the manual before you start.

Once you've set-up your radio and your computer, you can watch the signals coming in on a waterfall display, a graphical representation of the audio and frequency that shows strong signals in red and no signal as blue. You'll find that turning up the volume too high will actually reduce the ability to hear signals.

I'm keen to learn what I can hear and how many stations my simple 10m vertical antenna can hear across the Amateur Radio spectrum.

I'd love to hear your weak signal stories and see what you can hear. As I said, it seems I'm becoming a short-wave listener after-all.

I'm ***Onno VK6FLAB***



Amateur Radio features in some games http://fallout.wikia.com/wiki/Ham_radio

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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.

Upcoming Happenings & Events

Date	*Happenings & Events*
3rd November	**NZART HQ Infoline**
5th November	**NZART Straight Key Night**
6th November	HF Net, 3.575 MHz, 19:30
7th November	VHF Net, 146.525 MHz, 20:00
11-12 November	**Bridge to Bridge Ski Race (AREC)**
13th November	HF Net, 3.575 MHz, 19:30
14th November	VHF Net, 146.525 MHz, 20:00
15th November	**Club Meeting**
17th November	**NZART HQ Infoline**
20th November	HF Net, 3.575 MHz, 19:30
21st November	VHF Net, 146.525 MHz, 20:00
26th November	**NZART Official Broadcast**
27th November	HF Net, 3.575 MHz, 19:30
28th November	VHF Net, 146.525 MHz, 20:00

2-3 December—NZART Field Day Contest

8th December—NZART HQ Infoline

9th December—Annual Club BBQ

17th December—NZART Official Broadcast

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
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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:

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