

Ham Hum

September 2015



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



Next Meeting 16th September : 19:30

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From the Editor

We have been invited to a talk by Warren ZL2AJ on SOTA at the next Waikato VHF Group meeting :-

September General Meeting 2015

A General Meeting of the Waikato VHF Group will be held on
Sunday, 20th September, 2015 at 1:30pm,

At
St. Stephens Church Hall, corner Ohaupo Road & Mahoe Street,
HAMILTON.

Click [HERE](#) to go to a map of the location.

The guest speaker will be Warren Harris (ZL2AJ) who will speak on
SOTA (Summits on the AIR).

Summits on the Air (SOTA) is an award scheme for radio amateurs
and shortwave listeners that encourages portable operation in
mountainous areas. SOTA has been carefully designed to make
participation possible for everyone - this is not just for mountaineers!
There are awards for activators (those who ascend to the summits)
and chasers (who either operate from home, a local hilltop or are even
Activators on other summits).

**So come along and hear what Warren has to tell us about this new
activity for radio amateurs.**

Non members and visitors most welcome.

The K7RA Solar Update

08/28/2015

Tad Cook, K7RA, Seattle, reports: We saw just one new sunspot group (AR2403) over the August 20-26 reporting week, but it was a big one, directly facing Earth on August 23. Average daily sunspot numbers rose 32.3 points to 69.7, while average daily solar flux increased 28.7 points to 119.7. Another new sunspot appeared on August 27, numbered 2405.

The average daily planetary A index dropped from 21.4 to 14.7, compared with the previous 7 days. The most active days were August 23 and 26, when the planetary A index was 28 and 30, caused by streams of solar wind.

At 0012 UTC on August 27 Australia's Space Weather Services issued a geomagnetic warning for increased geomagnetic activity on August 27-28 due to a high speed windstream coming from a coronal hole. On August 28 look for active to unsettled geomagnetic conditions.

Predicted solar flux is 110 on August 28-29; 105 on August 30; 100 on August 31; 95 on September 1-3; 100 on September 4-5; 95 on September 6-9; 90, 85, 95, and 100 on September 10-13; 105 on September 14-19; 120 on September 20-21, and 125 on September 22-24. Solar flux values drop below 100 on October 3-9.

Predicted planetary A index is 18, 12, and 8 on August 28-30; 5 on August 31-September 1; 12, 20, 15, 10, and 8 on September 2-6; 5 on September 7-11; 12 on September 12; 15 on September 13-14; 5, 10, 5, 8, and 20 on September 15-19; 28, 20, 12, 18, 12, and 8 on September 20-25, and 5 on September 26-28.

F.K. Janda, OK1HH, sent his weekly geomagnetic forecast. He predicts quiet to active conditions August 28, quiet to unsettled August 29, quiet on August 30, mostly quiet August 31 through September 1, quiet to active September 2, active to disturbed September 3, quiet to unsettled September 4-5, mostly quiet September 6-7, quiet to unsettled September 8-10, quiet to active September 11, active to disturbed September 12, quiet to active September 13, quiet to unsettled September 14, quiet to active September 15-16, mostly quiet September 17, quiet to unsettled September 18, active to disturbed September 19, mostly quiet September 20-21, quiet to active September 22, and active to disturbed September 23.

OK1HH expects increases in solar wind on August 28-29, September 1-5, 10-11, 16-20, (although September 16-17 is less certain), and September 23.

NASA issued a new [commentary](#) for the current sunspot cycle, this time with the new V2.0 sunspot numbers, which read higher than the old standard. Historic numbers are also being revised around this new standard.

Using the new numbering system, the maximum of 101 in late 2013 was revised upward from 72, and the peak of 116.4 in April 2014 was increased from 81.9.

The autumnal equinox is on Wednesday, September 23, at 0822 UTC, ushering in the fall DX season.

Dick Bingham, W7WKR, of Stehekin, Washington, sent an [interesting link](#) concerning over-the-horizon HF radar operating in Virginia:

Jimmy Mahuron, K9JWJ, in Salem, Indiana, had some observations on daytime regional net operations on 40 and 75 meters.

“40 meters (7.191 MHz) on the RV Service Net was made difficult by the G2 Geomagnetic Storm this morning (August 27), from net time which is 7-9 AM local time (1100-1300 UTC).

“3.74 MHz was much quieter than 7.191 MHz WWV was very light on 10 MHz and not audible at times.

3.74 MHz was relatively quiet at the home QTH but just the reverse for other hams on frequency. The relays on 7.191 MHz made the net possible and if not for the relays would be virtually impossible. Thanks to all on the RV Service Net.”

The geomagnetic storm that Jimmy mentioned produced some visible aurora. See <http://wapo.st/1llquhG> and <http://wapo.st/1PyL2c0> for reports from the *Washington Post* weather blog.

David Moore sent another [interesting article](#), this time about coronal heating.

For [more information](#) concerning radio propagation, see the ARRL Technical Information. See “What the Numbers Mean, and Propagation Predictions -- a brief introduction to propagation and the major factors affecting it” for an [explanation](#) of the numbers used in this bulletin. An [archive](#) of past propagation bulletins is on the ARRL website, and the website of Carl, K9LA, offers [more good information](#) and tutorials on propagation.

My own archives of the NOAA/USAF daily 45 day forecast for solar flux and planetary A index are in downloadable spreadsheet format at <http://bit.ly/1VOqf9B> and <http://bit.ly/1DcpaC5>.

Click on “Download this file” to download the archive and ignore the security warning about file format. Pop-up blockers may suppress downloads. (I’ve had better luck with Firefox than with IE).

See [monthly propagation charts](#) between four US regions and 12 overseas.

[Instructions](#) for starting or ending email distribution of ARRL bulletins are on the ARRL website.

Sunspot numbers for August 20 through 26 were 68, 78, 72, 93, 71, 61, and 45,

with a mean of 69.7. 10.7 cm flux was 102.8, 110, 116.9, 133.1, 127.7, 121.2, and 126.2, with a mean of 119.7. Estimated planetary A indices were 13, 6, 9, 28, 8, 9, and 30, with a mean of 14.7. Estimated mid-latitude A indices were 11, 6, 8, 23, 7, 8, and 19, with a mean of 11.7.

Outcome for 5 MHz At WRC-15 Remains In Limbo:

{Here in New Zealand we have some fixed frequencies in 60m for AREC use only—Editor}

With the deadline to submit proposals to World Radiocommunication Conference 2015 (WRC-15) now less than 2 months away, it's still unclear how at least one agenda item of importance to the Amateur Radio community will fare. That is agenda item 1.4, which calls on the delegates to consider a secondary Amateur Radio allocation at 5 MHz (60 meters). In the US and in most other countries where amateurs have privileges there, ham radio has a set of fixed channels at 5 MHz -- not necessarily the same from one country to the next, although most are common.

As ARRL Chief Technology Officer Brennan Price, N4QX, explained last spring following the second Conference Preparatory Meeting (CPM), the agenda item 1.4 proposals at the CPM were "all over the map -- ranging from no change to an expansive allocation of 5275-5450 kHz, with explicit suggestions of 15 kHz and 100 kHz in between, and a few methods with details to be filled in later." As Price summarized at the time, "[T]here is a wide divergence of opinion, and no certainty as to the outcome."

In his July 2015 report to International Amateur Radio Union Region 3 Conference to be held this October in Indonesia, ARRL CEO David Sumner, K1ZZ, said that while the US is "generally supportive" of the Amateur Radio and Amateur-Satellite services at WRCs and in other International Telecommunication Union (ITU) venues, "it has been difficult to gain support from the federal government side for agenda item 1.4." The ARRL is a member of IARU Region 3 to represent the interests of FCC-licensed radio amateurs residing in Guam; the Northern Marianas; American Samoa; Baker, Howland, Jarvis, and Wake islands; Palmyra Atoll, and Kingman Reef.

When he submitted the report to IARU R3 in July, Sumner had said that the best ARRL could hope for in the US position was a 25 kHz secondary allocation at 5 MHz, "and only then if this becomes the CITEL Inter-American Proposal (IAP)," he explained. CITEL completed its work earlier this month and will put forward an IAP

for a 175 kHz secondary allocation at 5275-5450 kHz, with support by up to a dozen countries. That's not a proposal the US or Canada could support, however. Sumner noted that as of now, only one formal proposal for agenda item 1.4 has been submitted, and it calls for no change at 5250-5450 kHz. It came from the Regional Commonwealth in the Field of Communications (RCC), the regional telecommunications organization made up primarily of the former Commonwealth of Independent States countries of which Russia is the largest.

Other regional telecommunication organizations still have not submitted formal proposals. Sumner said this week that it's not possible to predict what might happen at the European Conference of Postal and Telecommunications Administrations (CEPT) meeting in a few weeks. CEPT is the umbrella organization for 48 European nations.

"We appreciate the strong support from so many Latin American and Caribbean administrations and remain hopeful that a favorable consensus can be reached in Geneva in November," Sumner said. Read more <http://www.arrl.org/news/outcome-for-5-mhz-at-wrc-15-remains-in-limbo>.

Source:

The ARRL Letter



Geen Idee Engineering Companion Radio Assistant Peripheral!

March 16, 2015

{Despite the date, this really should have been published on 1 April—Editor}

Factual Radio was allowed to see an advanced prototype of a new product that will address some of the issues plaguing modern amateur radio operators today. My friends at Geen Idee Engineering have created and will soon be shipping the Companion Radio Assistant Peripheral, addressing the needs of many ham radio operators. The first version of the product will be shipping for use with Elecraft K3 and KX3 transceivers, but I have it on good authority that the product line will be expanding soon to include other transceivers.

Meet Companion Radio Assistant Peripheral

The product fills a simple need, eliminating the requirement of paying attention to several built in indicators on the K3 transceiver, and also addresses concerns about illegal transmissions outside the amateur radio service. Here's a picture of

the prototype version attached to an Elecraft K3:



Connecting the Assistant Peripheral to the K3 is very easy, there are two cables to plug into the radio, and your new best friend is ready to work for you. The three large indicator tell you almost everything you need to know. One of the developers explained the functions to Factual Radio:

Red Light

The massive red LED array lights when you are potentially going to transmit outside your band restrictions. The Assistant Peripteral can be configured for your license class and geography, including any special affiliations (MARS, Embassy, etc). A planned option is to interface the unit to a GPS for accurate location of your radio, to insure you are operating on the correct frequency at all



time. The LED can also be configured to illuminate on band edges, and an optional speaker assembly can produce one of 43 programmable audio signals to assist you. Just think, no more having to remember where the bands begin and end!

White Light



The white LED indicator illuminates when your rig is set for split operation. No need for the operator to look at the LCD display in the K3, if the white LED is on, you're in split mode. This single feature alone is worth the cost of the entire device!

Blue Light

The Companion Radio Assistant Peripheral's third LED array is the Blue LED, and can be software assigned to a number of different functions. Geen Idee Engineering also plans on adding hardware to support a keyboard, coffee pot and toaster oven. The prototype was configured to indicate that DC power was being provided to the PowerPole connector on the K3, in case the connector was pulled apart during operation.



Easy Firmware Upgrade

The integrated cellular modem supports automatic firmware updates any time. No need for pesky computers and faulty serial cables to make upgrades happen!

Ordering Information

The device will be available in a number of standard case styles to meet the needs of amateur radio enthusiasts everywhere. Although first releases will be factory assembled only, Factual Radio was informed that later in 2015 they will offer the units as a no solder kit. Case styles include classic black, flashy chrome, and decorative

gray finishes, in metal, wood, or cardboard.

Geen Idee has been gearing up for initial shipments for several months now, in fact they are just waiting for cases to be delivered. The firm hopes to begin accepting preorders on the first of next month, and expects to begin shipment “any day” after that. As mentioned earlier, the initial units will include cabling for the Elecraft K3 and KX3 transceivers, but a long list of rigs will be supported early in 2016, including the Icom 735, TenTec Jupiter, and Baofeng Hurricane. A spokesperson for Geen Idee suggested more than 235 radios will be supported. One of the unique new modules for the device, coming in late 2016, is the connection to the operating seat with electrodes to provide a stimulating current when band edges are reached. (this option will not be available in all countries).

Early adopters will receive special pricing during the first 60 days of ordering. You'll be able to own your own CRAP-01 for the low introductory price of 1249.95 US dollars. Free shipping is included during the 60 day new product period. All Geen Idee products carry an exclusive 5.0 week warranty. For orders of 2 or more units, customers will receive a set of Ginsu knives in addition to their station accessory .

You can easily order your own until from their website <http://www.Geenideedevelopmentsinc.biz/ordermecrap.aspx>

Development Team

Geen Idee has filed several patents on the Companion Radio Assistant Peripheral, and the development team is anxious to get started on some of their other innovative products and services. We at Factual Radio are convinced that you'll have no idea where these folks come up with products like this. Here is a quick photo of the senior development team at Geen Idee:





Icom launch IC-7851 Flagship HF/50MHz Amateur Radio Transceiver

Radio manufacturer, Icom have a strong heritage of building the most sophisticated Amateur radio transceivers. Decades of technical expertise and engineering experience have brought top of the range models from the IC-781 to the IC-7800. Icom now are pleased to launch the latest generation of high end HF transceiver called the IC-7851!

The IC-7851 is the company's new flagship amateur radio and incorporates a new local oscillator (LO) design, an optimized roofing filter, enhanced spectrum scope to name but a few of its many functions. Raising the bar for HF operation, the IC-7851 is ideal for contesters, DXers and the serious amateur radio operator. Icom's new radio features a new LO design which utilizes a Direct Digital Synthesizer (DDS) along with a Phase Locked Oscillator. This configuration reduces phase noise and achieves a reciprocal mixing dynamic range of 110dB. A 1.2 kHz optimized roofing filter overcomes the gap of a narrower roofing filter in an up-conversion receiver and greatly improves in-band adjacent signal performance.

The IC-7851 also features enhanced spectrum scope functionality.

A dedicated Digital Signal Processing (DSP) unit is used for the Fast Fourier Transform (FFT) spectrum to provide faster sweep speeds and finer accuracy. Audio scope and dual scope functions, combined with a high-resolution spectrum waterfall display, provide twice the speed, sensitivity and control to give operators a performance edge.

Other radio highlights include USB-enabled click and enhanced PC control. When combined with the optional Icom RS-BA1 software, the IC-7851's internal server promotes remote base station operation. The radio can connect directly to a router and does not require a second computer for audio or rig control. The IC-7851 also continues various benchmarks established by Icom's celebrated IC-7800 such as +40dBm iP3 (3rd order intercept point), 200W output power at full duty cycle and more.

The radio is available to order from all authorised IC-7851 Amateur radio dealers with a suggested retail price of £9000.00 inc. VAT.

To find out more about this transceiver please visit our specially designed IC-7851 web pages which give a complete list of radio features, brochures and manuals of the Icom IC-7851 <http://www.icomuk.co.uk/IC-7851/>

Rear panel view



2m Big Wheel

- Roger G3XBM

As my health is still not good I bought mine from [Wimo in Germany](#), but with some aluminium tubing, some insulating material and a little skill, making your own should be straightforward. Being in the EC, imports from Germany already have VAT applied and there was no import duty. However the Wimo big-wheel, although well engineered, was not cheap. As purchased, it comes partly assembled for 2m but the 70cm version is sold ready made. The well packed antenna arrived from Wimo in Germany in about 7 days. There were instructions in German and English.

My 2m version had to have the elements attached. It is very easy to miss the

screw holes and not assemble it correctly. There were no instructions for the mounting bracket, but this was straight forward enough. Overall, even with my poor health assembly took about 10 minutes

When first installed on my *temporary* mast my SWR (as indicated on the FT817) was rather high. Carefully bending the elements and adjusting the orientation of the matching stub brought this way down and I left it with 1-2 blobs showing on the FT817. The gain is claimed as around 3dBD horizontal.



In use it proved great: I worked all the stations I had previously worked on the halo (and others) with better reports in last night's 2m UKAC session. Best DX was 181km. In 52 minutes I worked 10 SSB stations. I was using 5W pep from the FT817. The antenna is fed with a length of RG213 (9mm diameter) coax. Not having to rotate the antenna is a great advantage. I received stations in Belgium and Holland, but did not work these in the short

time I was "on air". I am sure that a lot more squares would have been worked had I stayed on for longer. What was nice was being able to hear the activity all around and not having to turn the antenna at all. Ideally it should be used in conjunction with a beam, but the big-wheel suits my style of casual operating well.

Would I recommend a 2m big-wheel? Yes!

-G3XBM

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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.**

2nd October—NZART HQ-Infoline
3-4 October—NZART Microwave Contest
16th October—NZART HQ-Infoline
21st October—Club General Meeting
25th October—NZART Official Broadcast
27th-29th November—Bridge to Bridge Ski Race (AREC)
5-6 December—NZART Field Day Contest
6-7 February 2016—NZART DX Weekend Contest
27-28 February 2016—NZART Jock White Memorial Field Days Contest
2-3 April 2016—NZART Low Band Contest
21-22 May 2016—NZART Sangster Shield Contest
4-5 June 2016—NZART Hibernation Contest
2-3 July 2016—NZART Memorial Contest
6-7 August 2016—NZART Brass Monkey Contest

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

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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 146.675MHz -600kHz split

Repeaters: 438.725MHz -5 MHz split

ATV Repeater: Off air pending channel changes

Cover Photo: Tilt-over tower raised/lowered by an electric motor and worm drive. <https://w0q1tower.wordpress.com/2014/02/04/amateur-radio-tower-for-sale-3450/> with manufacturer data at <http://www.heightstowers.com/#!foldoverkits/cqgv>

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