

# Ham Hum

December 2010



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



**Next General Meeting**  
**Annual End-of-Year BBQ**  
**Sat, 4th December, 11am**

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## From the Editor

It's December again, and that means it's time for the Annual End-of-Year Club BBQ. This year it will be held on 4th December at 11am at the clubrooms. BYO meat (or whatever you want on the BBQ) and anything else you would like to have or share. Some drinks, bread and salads will be provided.



### **Annual End-of-Year BBQ**

### **Clubrooms**

**Saturday 4th December**

**11am to whenever**

**BYO meat (other food)**

**Next Committee Meetings -  
1st December & 19th January**

## **SB PROP ARL ARLP046**

### **ARLP046 Propagation de K7RA**

Five new sunspot groups appeared in the past nine days, and the average daily sunspot number for the November 11-17 period rose nearly 28 points from the week before to 60.9. Average daily solar flux was up nearly four points to 87.9.

The current forecast from NOAA/USAF shows a planetary A index of 5 on every day through the end of November, and the predicted solar flux on November 19 at 86, 84 on November 20-24, 82 on November 25-26, and then 80 through the end of the month.

Geophysical Institute Prague has a somewhat different outlook from NOAA/USAF. They see quiet geomagnetic conditions for November 19-20, quiet to unsettled November 21, unsettled November 22-23, and quiet again on November 24-25.

Conditions should be good during the ARRL Phone Sweepstakes this weekend. Latest predictions show continued solar activity with low geomagnetic activity levels.

Dean Straw, N6BV gave a presentation in October at Pacificon 2010 titled "Seeing the HF Propagation Big Picture." The slides are available in a PDF file at <http://tinyurl.com/2fgnmlm>. Download the file, and be sure to click through pages 11-14 to see the predicted propagation shifting over time.

Note that the images from the STEREO mission at <http://stereo.gsfc.nasa.gov> now show nearly the entire Sun. This weekend the project achieves 97% coverage of the Sun.

Patrick Weatherford, AE5PW of Newport, Arkansas (about 70 miles WNW of Memphis) wrote to tell us of the fun he had on the air on Thursday. Running 100 watts from a ground-mounted vertical, from 2106-2156z on 20 meter SSB he worked PJ5/SP6IXF in St. Eustatius and Saba Island, VP2V/NY6X on 20 CW in the British Virgin Islands, PJ5/SP6EQZ on 15 meter CW, YV5AEA in Venezuela on 15 meter PSK31, J29WTA on 17 meter SSB in Dominica, YL2SW/MM near Nigeria on 17

meter CW, C5OC on 20 meter SSB in The Gambia, and KH2/N2NL on 17 meter CW in Guam. Following that, he worked both Central and South American stations on 20 meter PSK31. Conditions have been helped by the increased sunspot numbers.

Jon Jones, N0JK in Wichita, Kansas wrote to tell us about sporadic E-skip on 6 meters on November 13. He worked K6JSV at 2028z on 50.125 MHz, from DM12 to EM18. There were reports of a number of beacons copied. N0LL/B in EL09ql was copied by WA5IYX in EM09ow, K7EK/B in DM43 was copied by AC7XP in CN87, and XE2K/B in DN17nt was copied by W7MEM in DM22.

On November 14 Dave Sarault, N3XF experienced a great opening on 10 meters. He was operating WP2B in the U.S. Virgin Islands. Dave wrote, "Today, November 14th I was operating from Brad's station and experienced the best 10 meter opening I can remember in several years. I ran a pile up from 2015z to 2125z with signals from W1 and W2 running 40 dB over S9 from stations running 100 watts into verticals and dipoles. Also I was able to work mobiles who were stepping over guys running big beams! It reminded me of 10 meters in the glory days a few cycles ago. The band changed quickly, and at 2100z I worked several W6s, but that lasted about 15 minutes and they were gone."

Check out the interesting narrative about stealth operation at West Point by WP2B on his qrz.com page at <http://www.qrz.com/db/wp2b>.



## **HINTS & KINKS: SEALING PL-259 UHF PLUGS AND SO-239 UHF CONNECTORS**

Don Dorward, VA3DDN, of Pickering, Ontario, sent us this idea for seals for PL-259/SO-239 connectors. Contact Don via e-mail <[va3ddn@arrl.net](mailto:va3ddn@arrl.net)> for more information.

The popular and low-cost PL-259 UHF plug and its mating SO-239 UHF connector were never designed to be waterproof. In spite of this, many of us find our-

selves having to use these connectors out-of-doors for an antenna or cable connection and then have the experience of trying to apply some form of weather-proofing.

If this is not done, and done well, then intermittent connections soon result, especially with wet freezing and thawing conditions, resulting in moisture and corrosion getting into the connectors and even into the coax itself.

One well-known solution is to use a bondable rubber tape wrapping. That often seems to work using one of the soft, moldable, stretchable tapes that are available for the purpose. In practice, I have found that the hardest area to seal effectively using this method is the area from the rim of the male PL-259 shell to the mating SO-239 socket face. This is especially true when the SO-239 socket is located partially inside the cowl of the antenna mount (such as the Solarcon/Antron vertical or other similar types) and it is impossible to get sealing tape up into this tight location.

To overcome this problem, simply slip as many tight fitting O-ring(s) over the SO-239 barrel (see Figure) as needed to fill the space between the base of the SO-239 and the coupling ring. Lubricate the O-rings with a generous amount of silicone grease, often sold in the automotive part stores as "dielectric tune-up grease."

Important: Check that when the mating PL-259 plug is installed and tightened down, the outer rim of the PL-259 shell butts up against and slightly compresses the "O"-ring(s). The "O"-rings I used were ones I had on hand, about 9/16 inch ID 0.10 inch thick. I am sure anything that's a snug fit will work. Of course, you will still need to wrap the lower half of the PL-259 shell and the spot where the coax exits the connector with tape to seal that part.

Do you have an idea or a simple project that has improved your operating? Maybe you've taken something commonly found around the home and developed a ham radio use for it? Why not share your hints with fellow hams in "Hints and Kinks," a monthly column in QST. If we publish your hint, you will receive \$20. Send your hints via e-mail to [h&k\(at\)arrl\(dot\)org](mailto:h&k(at)arrl(dot)org) or to ARRL Headquarters, Attn: "Hints and Kinks," 225 Main St, Newington, CT 06111. Please include your name, call sign, complete mailing address, daytime telephone number and e-mail address.

- ARRL Letter 18/11/2010

## **Internet Connected Amateur Radio From NZART ALO**

Members may recall that the ALO asked in Infoline 210 for input to a paper he was putting together, at Radio Spectrum Management's request, on the topic of Internet Connected Amateur Radio.

RSM have now completed their review of this topic and have concluded that no changes are required to the current Amateur General User Radio Licence conditions to accommodate Internet-connected amateur radio modes such as APRS, IRLP, D-Link, etc. provided:

1. the transmissions are taking place from an Amateur operator's property;
- and
2. frequency coordination with non-amateur services is not required.

Normal repeater licensing procedures will continue to apply to those circumstances where frequency coordination is required and/or the internet-connected device is located at a site belonging to a non-amateur third party such as Kordia, Telecom, etc.

Also, in operating Internet-connected systems, Amateurs need to be aware of the provisions of section 5.3 of the Amateur General User Licence (GURL), as well as Regulation 25.2 of the International Radio Regulations:

"Transmission between amateur stations of different countries shall be limited to communications incidental to the purposes of the amateur service, as defined in 1.56 and to remarks of a personal character."

- Don Wallace ZL2TLL NZART Administration Liaison Officer (ALO)

20101117

**Te Puke Amateur Radio Club Inc.**  
**Annual "Junk Sale" Saturday 5th March 2011**  
**Paengaroa Community Hall, Old Coach Road,**  
**Paengaroa.**  
**Open 06.30am, Sale at 10.00am. \$20.00 a Table**  
**or \$10.00 Metre.**  
**WARO get-together at 10.30am.**  
**Breakfast from 07.30am.**  
**Further Details and Table Bookings:**  
**Ph. (07) 533 1029 or Email: [syd.rowe@xtra.co.nz](mailto:syd.rowe@xtra.co.nz)**

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## **Updating Your Client Record From MED/RSM**

While updating your client record in SMART is as easy as a phone call to 0508 RSM INFO (0508 776463), we realise that it is easy to forget to do this when your contact details or addresses change.

For radio licence and spectrum licence holders the annual fee payment serves as a reminder. However, there are a range of other clients (notably maritime and amateur call sign holders) that do not receive this memory jog.

We are presently exploring options for a more proactive approach to checking client records on a regular basis - perhaps on a 3-5 year cycle.

In the meantime, if you haven't checked your client details in SMART recently, you are encouraged to log on and do so. If you don't know your log-in, call RSM INFO for assistance.



## NZART Web Update

It is planned to change the NZART Web to a SilverStripe Contents Management System (CMS) during the weekend of 27/28-November-2010. There will be a minimum interruption as the change to the new web system will be transparent to users. Below is some information on the SilverStripe CMS.

### SilverStripe CMS

A website editor is a busy person. The editor must be able update the site easily and be confident that changes come out the way the editor intended. Editors may also manage other staff with various technical skills contributing content to they site, and editors don't have a lot of time to train all the contributors.

With the SilverStripe CMS, website editors don't need be familiar with complex web applications—or even know HTML. You can get started in very little time—a typical training session with one of our clients takes no more than an hour or two. You and your staff can quickly start taking advantage of powerful features. For example, you can:

Create new pages and drag and drop them where you want them to be in the site-map.

Edit and style content in an editor that uses a formatting toolbar that is familiar to anyone who uses word processing software.

Easily insert links, images, Flash animations, and video into your content.

Copy and paste content directly from Microsoft Word.

View a draft of your content changes before publishing them on the live site.

Publish multiple changes to your site with one click.

Assign different user roles and permissions for each section or page of your site.

View older versions of a page, and roll back to a previous version, if needed.

In addition to these editing features, the SilverStripe CMS generates search-engine friendly and accessible websites. Your website will be easily found by search engines and used by visitors with different abilities and technical setups. All these features are included in the SilverStripe CMS out of the box.

SilverStripe 2.4 Site Editing Overview from SilverStripe on Vimeo.

To see SilverStripe CMS in action, watch the above video for content editors, or try SilverStripe CMS for yourself in our online demo.

Places you may also like to visit:

[Silverstripe.org](#) - This is the home for our open source CMS and Sapphire application framework. If you want to learn about or get involved in our developer community, or learn more about how to develop with our tools then this is the place for you.

[Understanding the BSD License](#) - Here you'll find more information about our chosen open source license, Berkeley Software Distribution (BSD), and what it means for you.

[Philosophy](#) - What we believe in and why we do what we do.

- Jamie Pye ZL2NN



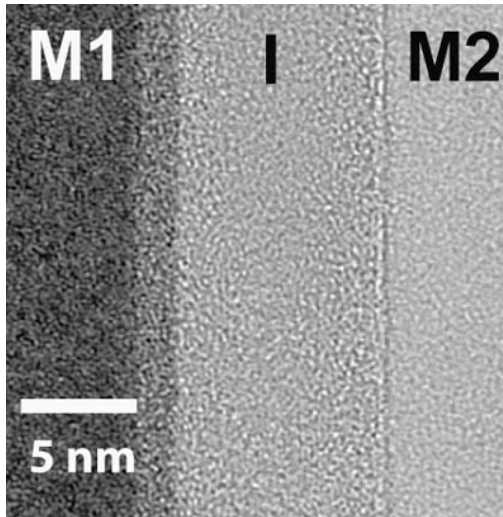
## **Creation of a high-performance 'metal-insulator-metal' diode could change modern electronics (*Nanowerk News*)**

Researchers at Oregon State University have solved a quest in fundamental material science that has eluded scientists since the 1960s, and could form the basis of a new approach to electronics.

The discovery, just reported online in the professional journal *Advanced Materials*, outlines the creation for the first time of a high-performance "metal-insulator-metal" diode.

"Researchers have been trying to do this for decades, until now without success," said Douglas Keszler, a distinguished professor of chemistry at OSU and one of the nation's leading material science researchers. "Diodes made previously with other approaches always had poor yield and performance.

"This is a fundamental change in the way you could produce electronic products, at



high speed on a huge scale at very low cost, even less than with conventional methods," Keszler said. "It's a basic way to eliminate the current speed limitations of electrons that have to move through materials."

A patent has been applied for on the new technology, university officials say. New companies, industries and high-tech jobs may ultimately emerge from this advance, they say.

The research was done in the Center for Green Materials Chemistry, and has been supported by the National Science Foundation, the Army Research Laboratory and the Oregon Nanoscience and Microtechnologies

Institute.

Conventional electronics made with silicon-based materials work with transistors that help control the flow of electrons. Although fast and comparatively inexpensive, this approach is still limited by the speed with which electrons can move through these materials. And with the advent of ever-faster computers and more sophisticated products such as liquid crystal displays, current technologies are nearing the limit of what they can do, experts say.

By contrast, a metal-insulator-metal, or MIM diode can be used to perform some of the same functions, but in a fundamentally different way. In this system, the device is like a sandwich, with the insulator in the middle and two layers of metal above and below it. In order to function, the electron doesn't so much move through the materials as it "tunnels" through the insulator – almost instantaneously appearing on the other side.

"When they first started to develop more sophisticated materials for the display industry, they knew this type of MIM diode was what they needed, but they couldn't make it work," Keszler said. "Now we can, and it could probably be used with a range of metals that are inexpensive and easily available, like copper, nickel or aluminum. It's also much simpler, less costly and easier to fabricate."

The findings were made by researchers in the OSU Department of Chemistry; School of Electrical Engineering and Computer Science; and School of Mechanical, Industrial and Manufacturing Engineering.

## Upcoming Happenings & Events

<i>Date</i>	<i>Happenings &amp; Events</i>
<b>21st November</b>	<b>NZART HQ Info-Line</b>
22nd November	HF Net, 3.575 MHz, 19:30
23rd November	VHF Net, 146.525 MHz, 20:00
<b>27-28 November</b>	<b>Bridge to Bridge (AREC)</b>
<b>28th November</b>	<b>NZART Official Broadcast</b>
29th November	HF Net, 3.575 MHz, 19:30
30th November	VHF Net, 146.525 MHz, 20:00
<b>4th December</b>	<b>End of Year BBQ</b>
<b>4-5 December</b>	<b>NZART VHF/UHF/SHF Field Day Contest</b>
<b>4-5 December</b>	<b>KDMG Twin Sprint</b>
<b>5th December</b>	<b>NZART HQ Info-Line</b>
6th December	HF Net, 3.575 MHz, 19:30
7th December	VHF Net, 146.525 MHz, 20:00
13th December	HF Net, 3.575 MHz, 19:30
14th December	VHF Net, 146.525 MHz, 20:00
<b>19th December</b>	<b>NZART HQ Info-Line</b>
<b>19th December</b>	<b>NZART Official Broadcast</b>
20th December	HF Net, 3.575 MHz, 19:30
21st December	VHF Net, 146.525 MHz, 20:00
27th December	HF Net, 3.575 MHz, 19:30
28th December	VHF Net, 146.525 MHz, 20:00

**10th January 2011—Copy for Break-In due**  
**15th January 2011—NZ Amateur Radio Day**  
**19th January 2011—Combined General & Executive meeting**  
**23rd January 2011—NZART HQ Info-Line**  
**5th February 2011—Summer Sprint (Phone)**  
**6th February 2011—NZART HQ Info-Line**  
**6-7 February 2011—NZART VHF/UHF/SHF DX Weekend**  
**12th February 2011—Summer Sprint (CW)**  
**12th February 2011—Boat Anchor Sprint**  
**17th February 2011—Club AGM**  
**20th February 2011—NZART HQ Info-Line**  
**26-27 February 2011—NZART Jock White Memorial Field Days**  
**27th February 2011—NZART Official Broadcast**  
**5th March 2011—Te Puke (Paengaroa) Junk Sale**  
**12th March 2011—Colville Connection (AREC)**  
**22-25 April 2011—VHF Convention (Wellington)**  
**14th May 2011—Tasman Sprint (Phone)**  
**21st May 2011—Tasman Sprint (CW)**  
**4-5 June 2011—NZART Conference (Upper Hutt)**

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

## AREC Event Operators Page

<b>WRC Rally NZ/ Possum Bourne Rally</b>	2011	Organiser : <b>ZL1DK</b>
Please contact the <a href="#">Section Leader</a> with your team information and he will pass it on to Auckland.		

<b>Rollo's Marine Bridge to Bridge Water-Ski Race</b>	27-28 November 2010	Organiser : <b>ZL1UPJ</b>
<b><u>Position</u></b>	<b><u>Saturday Operator</u></b>	<b><u>Sunday Operator</u></b>
<b>Base</b>		
<b>Start Boat</b>		
<b>Rescue Boat</b>		
<b>X-Band</b>		
<b>A.</b>	Ngaruawahia/Taupiri	
	Start/Finish at Point	
<b>B.</b>	Ngaruawahia Ramp	
<b>C.</b>	Ngaruawahia W/S	
<b>D.</b>	Horotiu	
<b>E.</b>	Pukete Ramp	
<b>F.</b>	Days Park	
<b>G.</b>	Fairfield Bridge	
<b>H.</b>		
<b>I.</b>		
<b>J.</b>		
<b>K.</b>		
<b>L.</b>		

<b>Kairangi Hill Climb</b>	<b>Sunday September 2011</b>		<b>Organiser : ZL1IC</b>
<u>Position</u>	<u>Operator</u>		
1.			
2.			
3.			
4.			
5.			
<b>School Cycling</b>	<b>July 2011</b>		<b>Organiser : ZL1IC</b>
<u>Position</u>	<u>Operator</u>	<u>Position</u>	<u>Operator</u>
1.		5.	
2.		6.	
3.		7.	
4.		8.	
<b>Colville Connection</b>	<b>12th March 2011</b>		<b>Organiser :</b>
<u>Position</u>	<u>Primary Operator</u>	<u>Secondary Operator</u>	<u>Other Operator</u>
<b>Base</b>			
<b>Stony Bay</b>			
<b>Fletcher Bay</b>			
<b>Hill 1</b>			
<b>Hill 2</b>			
<b>Fantail Bay</b>			
<b>Stand By</b>			

For Details about and to help with 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://z11ux.tripod.com>  
**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:** 615.250 Ch39 (off air)

*Cover Photo: "My Little Pony" soldering iron—<http://www.flickr.com/photos/crashspacela/5163751400/>*

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