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# WAVELENGTH

Official bulletin of  
 Scarborough Amateur Radio Club, Inc.  
[www.ve3we.org](http://www.ve3we.org)

PARTICIPATE – LEARN – ENJOY

January 2009

Volume 3 Issue 1

President:	Bernadine Dinnard-Williams	Sunday	<b>SARC Nets</b>
	VE3YDB		28.730 Mhz
Vice-President:	Cyril Jones		CW 10:00 AM
	VA3CJE	Tuesday	SSB 10:30 AM
Past President:	Bill Catlender		147.060 MHz (VE3RPT)
	VE3ILE		7:30 PM
Secretary:	Ray Chow		Alternate frequency
	VE3ZXC	Thursday	146.520 MHz simplex
Treasurer:	Lambert Philadelphia		28.730 MHz
	VE3LYP		SSB 7:00 PM
Membership:	Joe Ditta		Everyone is invited to check in on CW before the
	VA3JDX		nets start.
Communications:	Bob Chrysler		These are open nets. All licensed hams are welcome.
	VE3IEL		Come and join us.
Field Day:	Rod Long		We also want to emphasize that 28.730 MHz is our
	VE3SOY		calling frequency. Please monitor and/or call your
Education:	Ralph Muecke		friends. 7:00 PM is a good time.
	VE3CIW		
Examiner:	Nick Blacklock		
	VE3EBC		
Assistant Secretary:	Amy Bautista		
Archives:	Gord Hogarth		
	VE3CNA		
Elmer:	Tony Fegan		
	VE3QF		
Security:	Gord Gault		
	VE3UFF		

# No VHF SWR Meter? No Problem.

By Dan Romanchik, KB6NU

I subscribe to a lot of amateur radio mailing lists. One of the most interesting is the HamRadioHelpGroup mailing list (<http://groups.yahoo.com/group/HamRadioHelpGroup>). Recently, a ham asked:

Will a CB SWR meter work on a 2 meter ham radio??

Mark, K5LXP, replied:

"Yes and no. I use a CB SWR meter to check 2M antennas all the time. There is a trick to it however."

"If all you want to do is check SWR on your 2M antenna, you don't necessarily have to buy a dedicated VHF/UHF SWR meter. What I keep in my tool bag for that is a cheapie \$5 hamfest special CB SWR meter. They really don't work well on 2M but there's a trick you can do that will net a reasonably accurate SWR reading on 2M with one of these meters. What you do is connect up the meter as usual, key the rig with the switch in the forward power position, set the adjustment for full scale. Now, without touching anything, swap the coax connections so that the rig is connected to the ANT' side of the meter, and the antenna is connected to the 'XCVR' side. The reading you see on the meter will be very close to your real SWR. The closer to 1:1 your SWR is, the more accurate it will be. It would be more convenient to have a

real SWR meter or antenna analyzer if you do a lot of testing, but for a quick antenna check after a mobile install or whatever, the \$5 CB meters work OK."

"The theory is relatively simple."

"A basic SWR bridge is comprised of two couplers, each of which consist of a stripline or a pickup loop, and a detector diode. One coupler is used to detect forward power, the other reflected."

"At 27 MHz, the precision of the components required isn't too stringent. Just about any diode will work, and minor imperfections in the stripline or pickup coils won't impact the accuracy that much."

"But at 2M suddenly minor differences between the striplines, stray capacitance, and type of diode starts to matter. By using just one of the couplers for both the forward and reverse readings any error that exists in that coupler is the same for both readings and thus cancels out. It's unlikely it'll work at 440 however, it's just too much to ask to expect a true 50 ohm network and zero bias or hot carrier diode in a cheap CB meter."

"The absolute reading on 2M may still be somewhat inaccurate, especially at high SWR but odds are you don't care about that. All you're interested in is 1:1 or as close to it as you can get, and for that the \$5 meters will be good enough."

When I asked his permission to use this, Mark said, "I don't get the credit, I picked it up from an

old-timer years ago." Well, Mark, you might not get the credit for thinking this up, but you certainly get the credit for passing it on. Thanks!

When not reading his e-mail, Dan likes to work CW on the HF bands. You can catch him around 7030 kHz or 3530 kHz. He blogs about ham radio at [www.kb6nu.com](http://www.kb6nu.com).

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## DX News

QST de W1AW  
DX Bulletin 2 ARLD002  
From ARRL Headquarters  
Newington CT January 15, 2009  
To all radio amateurs

This week's bulletin was made possible with information provided by NC1L, the OPDX Bulletin, DXNL, 425 DX News, The Daily DX, Contest Corral from QST and the ARRL Contest Calendar and WA7BNM web sites. Thanks to all.

UGANDA, 5X. Peter, DL8SBQ is QRV as 5X4X from Arua until June. Activity is on 40 to 10 meters using SSB. He is active up until 2000z each day. QSL via DF5GQ.

SENEGAL, 6W. Tom, DL2RMC is here on holiday and is QRV as 6W/home call until January 29. He is active on all bands, holiday style. This includes an entry in the upcoming CQ WW 160 Meter contest. QSL via DL1RTL.

ALGERIA, 7X. Fred, ON6QR will be QRV from the Amateur Radio Algeria club station 7X2ARA on January 17 and 18. This includes an entry in the Hungarian DX contest. Activity will be on all bands using CW and SSB as propagation permits. QSL via 7X2ARA.

AZORES, CU. Operators CU8AS, HB9CRV and HB9CQL will be QRV as CU8W from Farol do Albarnaz Island, IOTA EU-089, from January 19 to 23. Activity will be on the low bands using CW and RTTY. QSL via operators' instructions.

URUGUAY, CX. A group of operators from Radio Grupo Sur will be QRV as CV5A from Flores Island, IOTA SA-030, from January 22 to 26. Activity will be on all HF bands and modes,

with a dedicated RTTY/PSK31 station active as well. QSL via CX2ABC.

GERMANY, DA. Special event station DR09ANT is QRV during 2009 from the Upper Bavaria district for International Polar Year. They are active on as many bands and modes as possible. QSL via DL5MHQ.

NEW CALEDONIA, FK. Sam is QRV as FK8DD and has been active on 20 meters around 0900z. QSL via LZ1JZ.

REUNION ISLAND, FR. Daniel, F5LGQ is QRV as TO4IPA until January 31.

THAILAND, HS. Joerg, DL1MJF will be QRV as HS0ZGQ from Koh Samui Island, IOTA AS-101, from January 20 to February 12. QSL to home call.

DOMINICA, J7. Seth, SM0CCM will be QRV as J79XBI from January 17 to April 1 while on holiday. Activity will be on the HF bands using only SSB. QSL via SM0XBI.

GUAM, KH2. Yoshi, JE2EHP is QRV as K1HP/KP2 until January 19. Activity is on all HF bands, including 6 meters, using CW, SSB and RTTY. QSL to home call.

US VIRGIN ISLANDS, KP2. Operators JA1CJA, JA3BZO and JA3AVO will be QRV as KP2/AE6XY, KP2/AE6YQ and KP2/W3AVO, respectively, from January 17 to 22. Activity will be on 160 to 6 meters using CW, SSB and various digital modes. QSL to home calls.

LITHUANIA, LY. To mark the Millennium of Lithuania, a number of club members are QRV with the prefix LY1000 until March 1. Activity is on all bands and modes. QSL via operators' instructions.

BANGLADESH, S2. Operators S21RC, S21AM, S21DM, S21RO, S21SA and S21S are QRV as S21DX from St. Martin's Island, IOTA AS-127, until January 22. Activity is on 80 to 10 meters using SSB and RTTY. QSL direct via EB7DX.

MOUNT ATHOS, SV/A. Monk Apollo, SV2ASP/A, has been QRV on 160 meters around 0530 to 0630z on various days. QSL direct.

PALAU, T8. Mike, JA6EGL, Yas, JA6UBY, Yu, JE6DND and Hiro, JA6KYU are QRV as T88SM, T88CP, T88HK and T88HS, respectively, from Koror Island, IOTA OC-009, until January 18. Activity is on 80 to 10 meters using CW and SSB. QSL direct to home calls.

TURKEY, TA. Sadao, JA1PBV is QRV as TA7/KI6TIU until February 11. He expects to be active from Cappadocia, Antalya, Izmir and possibly others locations within Turkey as well. QSL to home call.

BERMUDA, VP9. In celebration of the 400th anniversary of the settlement of Bermuda, amateur radio operators here will use the special prefix VP9400 during 2009.

CAMBODIA, XU. Hiroo, JA2EZD is QRV using calls XU7AAA and XU7ADX until January 30. Activity is on 160 to 10 meters using CW and SSB. QSL via XU7AAA.

INDONESIA, YB. Adhi, YB3MM is QRV as YB3MM/9 from Nanggu Island, IOTA OC-150, until January 18 while on holiday. Activity is mostly on 17 meters using CW and RTTY. His operating times vary. QSL via IZ8CCW.

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## Propagation Bulletin

QST de W1AW  
Propagation Forecast Bulletin 3 ARLP003  
From Tad Cook, K7RA  
Seattle, WA January 16, 2009  
To all radio amateurs

A nice sunspot group, number 1010, appeared for five days from Friday, January 9 through Tuesday, January 13. Daily sunspot numbers ranged from 11 to 20, and this one was another Cycle 24 appearance. The Cycle 23 sunspots seem to be gone, while the new solar Cycle 24 isn't picking up very quickly.

1010 was here for five days, following a whole solar rotation--27 days of no sunspots since 1009

was visible for just three days, December 10-12. Prior to that were 23 spotless days since seeing sunspot 1008, visible for eight days from November 10-17.

This minimum looks longer and lower than the last solar minimum, but there are many ways to slice the data.

For instance, on <http://solarcycle24.com/> search the rather cluttered home page and click the Sunspots tab to the right of Trend Charts toward the upper right on the page, then inspect the bar graph titled "Spotless Days vs. Cycle 23 Minimum," the second one down from the top on the right. Click on it to fill the page, and see the comparison of spotless days per month for the period June 2007 through November 2008 with the earlier period June 1996 through November 1997.

With all that red showing for spotless days in the recent period, this certainly looks like a big difference between the recent period and the one 11 years ago, but there is an inherent bias in comparing May 2008 and May 1997, for instance. This comparison might be valid if solar cycles were precisely 11.0 years long, or in this case, 11 years from a cycle minimum to the next cycle minimum, but of course this is not the case. 11 years is an approximation, and in fact if you average all 23 of the previous solar cycles, the average number is less than 11 years.

The problem becomes apparent if we look at the data and compare spotless days for the five months prior to the beginning of this graph, January through May.

It turns out that those months had a sixty-eight percent higher number of spotless days back in 1996 than the same months 11 years later. From January 1, 2007 through May 31, 2007 there were 40 spotless days. But January 1, 1996 through May 31, 1996 had a total of 67 spotless days.

Data that is uncertain is in August 2008, which is listed with all spotless days. But August 21-22 there was a brief sunspot appearance, although it wasn't widely reported because there was some speculation regarding whether it was big enough to be counted as a sunspot. Check

<http://www.spaceweather.com/> and on the archives area at the right side of the page, change the date to August 21, 2008, and note that under the Daily Sun on the left margin, it shows the daily sunspot number as 11. To the right of the daily Sun you can click on the photograph under the heading New Sunspots for a closer look.

Now check August 22, and see the same sunspot number 11.

It is easy to inspect this data and make comparisons if you download the Solar Data Plotting utility mentioned in our first bulletin of this year, Propagation Forecast Bulletin ARLP001, at <http://www.arrl.org/wlaw/prop/2009-arlp001.html>. The GRAPH.dat file for this program has sunspot and solar flux numbers since the start of 1989, and if you copy it into your documents folder and rename the file to graph.doc, you can page through it easily with a word processor. You can also take this file and load it into a spreadsheet program.

At least with our quiet Sun the geomagnetic indices continue to stay quiet.

Geophysical Institute Prague predicts quiet days from January 16-22, except January 18 to be unsettled, and January 19 at quiet to unsettled. NOAA Space Weather Prediction Center along with the U.S. Air Force predict quiet conditions with a planetary A index of five for the rest of January, except 8 on January 19, 10 and 8 on January 27-28, and 8 again on January 30.

Last week's propagation forecast bulletin mentioned the STEREO mission, and how to find out what the current satellite positions were, relative to earth and the Sun. John Fors, WD7Z of Capulin, New Mexico sent a link to a page which allows you to see the positions for any date or time at, <http://stereo-ssc.nascom.nasa.gov/where/>.

John said that from February 2011 onward, STEREO should get a detailed simultaneous view of all sides of the Sun. This will give a precise reading of activity soon to rotate into view.

Currently it shows the two satellites at nearly a 90 degree angle from each other. Six months from now the angle will be 104 degrees and a year from now it should be at 134 degrees. Two years from

now they will be nearly opposite each other at 177.6 degrees. The last date I can generate the listing of angles for is January 21, 2012 when STEREO-B is 113.669 degrees relative to earth, and STEREO-A is 107.583 degrees relative to earth. Beyond that date users can continue to generate the visual plots, and ideally the two satellites and earth would all be ultimately positioned 120 degrees relative to each other for maximum coverage.

No 6 meter reports from North America this week, but there was one from Spain. Joaquin Montoya, EA2CCG reported that on January 12 he worked OE1SOW in Vienna, followed by another Austrian, then Poland, Germany, Croatia, Slovak Republic, and Slovenia.

He used a Moxon antenna (see <http://www.moxonantennaproject.com/n2mh/n2mh.htm>) that was broken during a recent ice storm and hanging from the tower, and signals were S5-S7 with QSB.

Joaquin said 10 meters was open on the same day, and that he could hear European beacons. He worked the TS7C expedition on Kerkennah Island in Tunisia on 10 meters that morning.

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://www.arrl.org/tis/info/propagation.html>. For a detailed explanation of the numbers used in this bulletin see, <http://www.arrl.org/tis/info/k9la-prop.html>. An archive of past propagation bulletins is at, <http://www.arrl.org/wlaw/prop/>.

Monthly propagation charts between four USA regions and twelve overseas locations are at <http://www.arrl.org/qst/propcharts/>.

Instructions for starting or ending email distribution of this bulletin are at <http://www.arrl.org/wlaw.html#email>.

Sunspot numbers for January 8 through 14 were 0, 14, 17, 20, 12, 11, and 0 with a mean of 10.6. 10.7 cm flux was 68.7, 69.7, 70.9, 70, 69.3, 70.5, and 71.2 with a mean of 70. Estimated planetary

A indices were 3, 4, 4, 2, 0, 3 and 5 with a mean of 3. Estimated mid-latitude A indices were 2, 4, 2, 1, 0, 2 and 6 with a mean of 2.4.

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## Find That Manual

Have you ever found yourself trying to set up a piece of equipment without a manual or user guide? A reader on the HamRadioHelpGroup mailing list mentioned a free site called Diplodocs (<http://safemanuals.com/>) that includes over a million user manuals in many different languages. Manuals are available for a variety of categories, including radios, computers, cars, jewellery, toys, sewing machines, and appliances.

The site is also useful if you are considering buying a new piece of equipment. You can download the manual to find out whether the product is right for your needs.

You can also upload your own manuals if the site doesn't already have them.

Diplodocs has a companion site called Diplofix (<http://diplofix.com/>) which contains discussion groups organized by product. This is a good place to look for product reviews and troubleshooting tips.

For a detailed review of Diplodocs, see [http://www.appscout.com/2008/09/diplodocs\\_read\\_the\\_manual\\_befo.php](http://www.appscout.com/2008/09/diplodocs_read_the_manual_befo.php).

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## SARC Meetings

Our club usually meets on the second and fourth Monday of each month, from 7:00 to 9:30 PM.

This year we have many activities planned, and we have scheduled some extra meetings to fit them all in. The tentative schedule is as follows:

January 26 - Bernie VE3OTR will speak about Anderson Powerpole Connectors

February 9 - Jennifer Patchell from the Red Cross will speak about disaster preparedness and emergency radio communications

February 16 - Video night - Empire of the Air (courtesy of Bob VE3IEL)

February 23 - EchoLink demo (Bob VE3IEL)

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## Hamfests and Flea Markets

### Big Event 31 - Flea Market and Hamfest

Date/Time: Saturday, February 7, 9:00 AM-?

Sponsor: Niagara Peninsula Amateur Radio Club

Location: Merriton Community Centre, 7 Park Avenue, St Catharines

Cost: \$7

Talk-in: VE3NRS 147.240 MHz + Offset Tone 107.2 Hz

Web site:

<http://www.nparc.on.ca/content/bigevent>

### Burlington Spring Flea Market

Date/Time: Saturday, February 28, 9:00 AM-12:00 PM

Sponsor: Burlington Amateur Radio Club

Location: Royal Canadian Legion - 828 Legion Rd, Burlington

Cost: \$6

Talk-in: VE3RSB - 147.210+; t = 131.8 (required)

Web site: <http://www.barc.ca/>