



*Communication between two parties only happens when the message is Sent, Received, Understood and Acknowledged.
Everything else is just noise.*

vol.4 issue 6

VE3OAK-VHF 147.015

VE3OAK-UHF 444.325

VE3PDX-VHF 147.345

ARES NET: Mondays @ 7:30 pm
VE3OAK-VHFHRECT NET: Tuesdays @ 7:30
VE3PDX-VHF

CANWARN NET: VE3PDX

EMERGENCY COORDINATOR:
Rick Harrison VA3NVASSISTANT E.C.'s:
Membership: Mike Cauterman VE3QSK

Milton Area: Peter Elliot VA3PRE

Region Liaison: Russ Schwandt VE3JUZ

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John McKay, VA3BL

The A.R.E.S. Group Newsletter is published monthly for members of the Oakville A.R.C. and the Oakville ARES Group.

Editor: George Davis VE3OGP

Contributions related to A.R.E.S., Amateur Radio in general or emergency preparedness are welcome.

Please send articles to:
oarc.ares@interhop.net



Its June and that means its Field Day time!

All A.R.E.S. members are encouraged to come out to the June 26th and 27th event.

Like last year this will be a joint Oakville and Burlington ARC effort and the Army Cadets will be on site too.

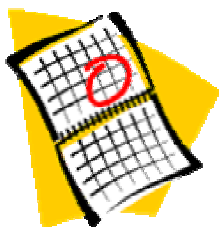
A group of Cub Scouts may also be joining us for short time on the

Saturday. The intention there will be to introduce the younger generation to our hobby and let them earn their communications badges by learning some morse code. We will need lots of help for this so if you can come out let us know.

From an operating viewpoint we will be running a 3A site with a Phone station, CW station and a Digital station. For 6 metres and up, Derek, VE3DDL, will be there with his VHF bonus station and new this year, there will be a casual operating station close by the site. Lets not forget about the GOTA(Get On The Air) station.

The Field Day site is located in Oakville this year at :
455 North Service Road E., just east of Trafalgar Rd., north of the QEW.

For more info check out the link below.



Events & Links

- **Martin Street P.S. "SPRING FLING" Festival, June 5, 2010, Milton**
- **FIELD DAY June 26 and 27**
- [Field-Day wiki page](#)
- **Milton Fleamarket July 10**
- **Lighthouse Station Event August 21 and 22**

NEXT MEETING:
July 11th meeting at
1 p.m.- 4 p.m.
Red Cross, Oakville

[RAC Blog Site](#)[E-Ham.com](#)[Guestbook](#)[News Letter PDF](#)

(c)

BACK TO BASICS 101

This Page is Dedicated to "Reminding" Us of...



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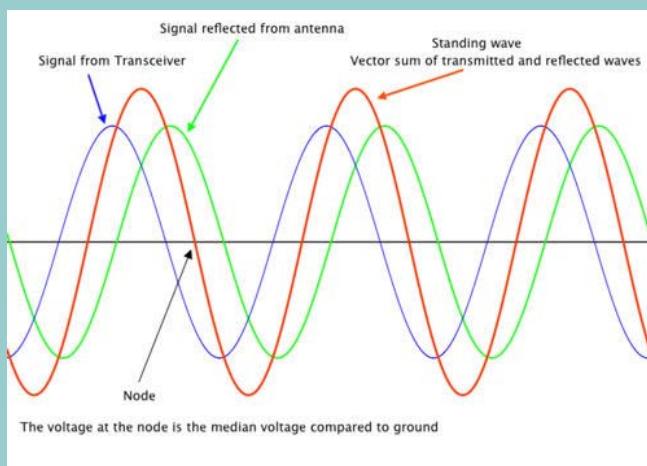
WHAT IS THIS VSWR?

The Voltage Standing Wave Ratio or VSWR is a measure of how well two devices are impedance (measured in ohms) matched to each other.

The term Standing Wave Ratio, SWR, relates to the variation in the voltage (or current) along the length of the transmission line from the transceiver to the antenna. If the antenna is perfectly matched to the transmission line, there will be no variation in the voltage. The voltage measured at each point along the transmission line will be the same. However, if the antenna impedance is different from that of the transmission line, then some of the forward power will be reflected by the antenna and travel back toward the transceiver.

The forward power traveling in one direction along the transmission line and the reflected power traveling in the opposite direction creates an interference pattern along the length of the transmission line. Because of this interference pattern, the voltage measured at various locations along the transmission line will no longer be the same. At some point the measured voltage will be V_m . A short distance from that point the voltage will be less than V_m . A little further on the voltage will be even less.

As we continue to move away from that point toward the antenna, the voltage will reach a minimum value and then start increasing again. If we measure the voltage along the entire length of the transmission line, we find that the voltage varies sinusoidally. Furthermore, this sinusoidal voltage waveform is stationary, it does not move, it appears frozen in place along the length of the transmission line. Thus the name standing wave.



The ratio of the highest voltage (V_h) to the lowest voltage (V_l) along the transmission line is called the standing wave ratio (SWR). Thus $SWR = V_h : V_l$. If the impedance of the antenna and the transmission line are the same, there is no reflected power, there is no standing wave, and the voltage everywhere along the transmission line is the same. That is $V_h = V_l$, and $SWR = V_h : V_l = 1$ to 1, a perfect match. If the impedance of the antenna and the transmission line are not equal, some of that forward power will be reflected by the antenna, a sinusoidal voltage interference pattern will develop along the transmission line, and V_h will not equal V_l . In this situation $V_h = SV_l$, where S is some number greater than 1. Thus in this case the $SWR = V_h : V_l = SV_l : V_l = S : 1$.

Typical Amateur radio equipment is designed for 50 ohm load impedance, so we usually use 50 ohm cables and build or buy antennas that are specified for 50 ohm. While most cables have a flat impedance over frequency (they measure 50 ohms at all frequencies you are likely to use), the same is not true of the antennas. For example the typical mobile vertical would have an impedance of about 12 ohms if it was not corrected by the designers.

A 1.0:1 VSWR is a perfect match. That means the load impedance is exactly 50 ohms. Since this is not a perfect world the perfect match only exists on paper!

A 2.0:1 VSWR is obtained when the load impedance is either 25 ohms or 100 ohms.

Because most transmitters will deliver full power with a load VSWR of up to 2.0:1, this value is usually considered the limit for acceptable operation. This does not mean that the antenna system won't radiate above this level but you would definitely be stressing your equipment.

Many prefer to keep their VSWR below that however, but for all practical purposes, it is unnecessary to spend time or money trying to get much below a VSWR of 1.5:1. The benefits will be hard to measure and even harder to notice.

On the other hand, coaxial cable losses increase rapidly, for a given frequency of operation, when the antenna VSWR exceeds 2.0:1. This can even, in some extreme cases, result in the coaxial cable burning or the center conductor melting, even when running 100 W. Using a higher grade of cable will definitely improve things, but even high quality coaxial cable becomes very lossy when VSWR exceeds 3.0:1 at higher HF frequencies, worse at VHF and higher frequencies.

IN THE NEWS

From the RAC Ontario Section Bulletin for May 29, 2010:

ONTARIO SECTION NEWS GLETN Pre-Net Times

The Great Lakes Emergency and Traffic Net (GLETN) meets daily on 3.932 MHz, at 20:30 Eastern Time. Please note that there is now a pre-net starting half an hour before, at 20:00 Eastern.

-- Shawn Gartley, VE3PSV

From the South African Radio League (SARL NEWS - SUNDAY 30 MAY 2010)

LISTEN TO AMATEUR RADIO FROM DEEP SPACE

An informal network of amateur radio experimenters, scientists and CW enthusiasts called Fly-VenusCom - a nonprofit, cross-cultural effort - has been created to support communication efforts by Japanese scientists with its CubeSat Venus probe, UNITEC-1.

UNITEC-1 was developed by 20 universities of the University Space Engineering Consortium (UNISEC), the Japanese community developing nano-satellites. Specifically, the Japanese UNITEC-1 team has called for amateur radio assistance worldwide in improving and testing two ar-

reas of the CubeSat's mission: Technologies to receive and decode very weak and low bit rate signal coming from deep space, and, technologies to estimate orbit and signal Doppler shift of the satellite based on the received RF signal, essential for tracking and receiving signals from a satellite in deep space.

Bill Vartorella, KJ4ORX, is spearheading the informal FlyVenusCom effort:

"The wave of the future is increasingly small, inexpensive, private and non-profit enterprise satellites. The trade-off is many of these satellites will not have sufficient power for robust communications. What should spur amateur interest is that UNITEC-1 will transmit an Amateur Radio telemetry beacon at 5,840 GHz.

Vartorella said that the signal from UNITEC-1 is mainly a CW beacon of about 1 bps speed. At the core is the Japanese consortium's emphasis that this is the first university-developed interplanetary satellite that will provide a unique and exciting opportunity for the radio amateurs to experiment with receiving signals from deep space. More as the project develops.



Garbage Bag as EmComm Asset

The garbage bag is the most overlooked yet most practical single item available in an emergency. Not only can it protect you and/or your equipment from a variety of climatic conditions, it facilitates carrying items ranging from your most expensive equipment to trash from an abandoned site.

Further, the typical garbage bag weighs less than an ounce, occupies little more room than a business envelope and costs pennies. From personal experience in the most inclement weather and most demanding situations, where I didn't have a

garbage bag, I wished I had one, and, where I gave thanks for having had the prescience to have brought one along. In an emergency, after functioning communications equipment, nothing beats a garbage bag!

-- John Kountz, KE6GFF/T6EE, CRO Laguna Beach Emergency Communications Team, Laguna Beach, California

From The ARES E-Letter May 19,2010, ARRL



CANWARN: Activation of our local CANWARN will now occur on VE3PDX. Listen on this repeater for Net Control in the event of a reportable weather system.

Martin Street Public School "SPRING FLING"

The Oakville A.R.E.S. Group will return this year to Milton for the "Spring Fling" fun activity at the Martin Street Public School.

The event is well attended by Milton residents and is an excellent opportunity for us to promote both Amateur radio and A.R.E.S.

The town is one of the fastest growing communities in the GTA and is part of Oakville A.R.E.S.

area of concern.

"Spring Fling" starts at 11:00 am and runs to about 2:30 pm.(rain or shine).

Located at 184 Martin Street, the best way to get there from Oakville is north on Halton 25 to Woodward Ave., then left on Woodward to the school. The intersection of Martin and Woodward ends at the schools driveway. We will begin set up at 9:15 am. and will run both HF and VHF stns.

For more information contact George, VE3OGP at gdavis@interhop.net

One Liners

You may be a HAM if:

- The local city council doesn't like you.
- Your favorite vacation spots are always on mountain tops.
- Your girlfriend or wife asks: "You're going to spend \$XXXX on what???"
(Milton Fleamarket is COMING!)
- You have accidentally said your Amateur Radio call sign at the end of a telephone conversation.



(Thanks to Gary, VE3TGH)

"The ideal attitude is to be physically loose and mentally tight."- Arthur Ashe



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Questions or comments? E-mail us at oarc.ares@interhop.net

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