



GUYWIRE

December 2017

A monthly publication of the RARA Inc. except July and August.

If you wish to receive or be removed from the e-mailing please contact the editor/publisher at the RARA e-mail address @ ve5rara@gmail.com

NOTE: all e-mail and web addresses are active hyperlinks

GENERAL MEETING

December 13th @ 7:00 p.m.

Regent Place Library - Regina Market Mall - 331 Albert St.

A social night with snacks
(feel free to bring some goodies)

2017-18 RARA Executive

President - Neil Slater - VA5SCA
Secretary - Terry White - VE5TLW
Treasurer - Allan Tidball - VE5LAT
Past President - Harvey Drinkle - VE5AD
Director - Con Berger - VE5CON
Director - Justin Chapman - VA5RED
Director - Summer Hartzfeld - VE5SDH
Director - Lyle Maystruck - VE5EE
Director - Mark Humphreys VA5LNK

2018 Public Service Events

<u>EVENT</u>	<u>DATE</u>	<u>ORGANIZER</u>
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UPCOMING

COMPLETED

RPS 1/2 marathon - April 30	- Terry	VE5TLW
MS Super Cities Walk - April30	- Rick	VE5RJR
MS Bike Tour- August 19th	- Richard	VE5RJR
Mayors Run - Sept. 24h	- Terry	VE5TLW
Santa Parade - Nov. 19th	- Rick	VE5RJR

***Merry Christmas
&
Happy New Year
from the Editor (VE5SC)
& Publisher (VE5LAT)***

ARISS

Amateur Radio on the International Space Station (ARISS) is a cooperative venture of the Radio Amateur Satellite Corporation (AMSAT), the American Radio Relay League (ARRL), the National Aeronautics and Space Administration (NASA) in the United States and other international space agencies and international Amateur Radio organizations around the world. The primary purpose of ARISS is to organize scheduled contacts via Amateur Radio between crew members aboard the International Space Station (ISS) and classrooms or informal education venues. With the help of experienced volunteers from Amateur Radio clubs and coordination from the ARISS team, the ISS crew members speak directly with large group audiences in a variety of public forums such as school assemblies, science centers and museums, Scout camporees, jamborees and space camps, where students, teachers, parents, and communities learn about space, space technologies and Amateur Radio. ARISS is an international educational outreach program partnering the participating space agencies, NASA, the Russian Space Agency, ESA, CNES, JAXA and CSA, with the AMSAT and International Amateur Radio Union organizations from participating countries.

ARISS offers an opportunity for students to experience the excitement of Amateur Radio by talking directly with crew members onboard the International Space Station. Teachers, parents and communities see, firsthand, how Amateur Radio and crew members on the International Space Station can energize youth and instill an interest in science, technology, and learning. Further information on the ARISS program is available on their website.

Amateurs in Argentina gain access to 60m and 630m



The Radio Club Argentino (RCA) has announced that their communications authorities have granted Amateurs access to the 630 metre and 60 metre bands. In addition, existing allocations at 160 metres, 80 metres and 30 metres have been extended.

These revised allocations follow the latest International Amateur Radio Union (IARU) Region 2 Band Plans approved at the 2016 General Assembly in Vina del Mar, Chile. The new allocations are the result of successful efforts made by the RCA to receive access to allocations approved in ITU World Radiocommunication Conferences in 2007, 2012 and 2015. These new allocations will be effective in 90 days.

Allocations:

630m: 472 – 479 kHz (new)
60m: 5351.5 – 5366.5 kHz (new)
160m: 1800 – 2000 kHz
80m: 3500 – 4000 kHz
30m: 10100 – 10150 kHz

Radio Club Argentino is a member of International Amateur Radio Union in Region 2 which represents Amateur Radio in the Americas. Argentina Amateur Radio is very robust, with the fourth largest population of Amateurs in the Region (after the United States, Canada and Brazil). This new access represents a

significant step forward in expanding the use of these new allocations.

Note: Preparatory Meetings for the World Radiocommunication Conference in 2019 are now underway in Geneva with Bryan Rawlings, VE3QN, RAC Special Advisor, in attendance representing RAC and IARU. For more information visit: <http://wp.rac.ca/wrc-preparatory-meetings-november2017/>

George Gorsline, VE3YV

RAC International Affairs Officer

Alan Griffin RAC MarCom Director

Nostalgia Corner

I don't know how many present day Amateur Radio Operators got their start in radio, but this is how I got mine. When in my early teens, on evenings sitting in my room "studying" I would don a set of headphones and cruise the shortwave bands on my Hallicrafters SW-500 Communications Receiver.

I installed a 75 - 80 foot longwire antenna that ran North-South and up about 15 feet. I had no ground connection as I did not understand antenna logistics at the time. I could listen to the very powerful international shortwave broadcasts such as HCJB (Heralding Christ Jesus Blessing) from Quito, Ecuador, RSA (Radio South Africa), Radio Havana, VOA (Voice of America), RCI (Radio Canada International), the BBC (British Broadcasting Corporation) and my favourite, Radio Nederland from Hilversome Holland.

Radio Nederland was know as "The Happy Station". Radio Nederland utilized 50KW transmitters fabricated by Philips and directional antennae. They signed off the air on June 29, 2012.

I have attached attached a link for their final broadcast. With the advent of the internet high power shortwave stations became a "dinosaur". I find it sad that this part of my life has gone. However, I am fortunate to have experienced their broadcasts and peaked my interest in radio that gained me RF related employment and a very enjoyable hobby in Amateur Radio.

Enjoy the final broadcast of Radio Nederland, "The Happy Station".

<https://www.youtube.com/watch?v=IXp8sg8wIXw>

73 – Terry VE5TLW

Editors note:

The Radio Nederland Happy Station program was the longest running SW program in the world. It began in 1928 and was hosted for many years by Eddie Startz and had an audience numbering in the millions.

HCJB in Quito Ecuador was noted for its strong signal. HCJB was the first broadcaster to use quad antennas. These antennas later became common at amateur radio stations.

Local Ham Numbers

I've been looking at the ham call sign page of the website for Information, Science and Economic Development (ISED) Canada, and I've spent a morning counting.

There are 1575 assigned ham call signs in Sask.

Saskatoon has 364 call signs; and some of the other towns and cities have the following numbers:

Prince Albert, 89	Moose Jaw, 83
Swift Current, 46	Weyburn, 26
Estevan, 20	Yorkton, 20
North Battleford, 19	Battleford, 12
Davidson, 10	La Ronge, 10
Assiniboia, 10	Pilot Butte, 7

Caronport, 7 Regina Beach, 4

Emerald Park, 3 Coppersands, 1

Regina has 244 assigned call signs. There are, hams who choose not to make their addresses public (I'm one of them), and those aren't included in the statistics for cities and towns.

Of the 244 call signs in Regina, 29 of them are easily identifiable as belonging to females (there are more that might be female, but the names could be either gender).

Ten of the Regina call signs are Club signs; four of those are RARA-related. One of the four call signs in Regina Beach is also a club sign, for a Regina address.

About 12% of the call signs in Regina belong to RARA members. I know that some of the people who aren't members know of us, and I'm sure many more that we don't know are aware of us.

We can look at the Regina call signs by area, too, by looking at the first half of the postal codes. Doing that gives us the following numbers of hams:

S4N - 22 S4P - 9 S4R - 62

S4S - 51 S4T - 43 S4V - 37

S4W - 1 S4X - 14 S4Y - 3

S4Z - 2

Total - 244. Again, the hams who choose not to share their locations aren't shown.

If you live in one of those areas, how many of your neighbors are hams? Do you know about them? Do they know about you? In an emergency or disaster, would you think to work with them to help provide communications?

73 Neil VA5SCA

Puzzler For Last Month

If you worked a DX station with the prefix "XX9", what country would you have contacted?

Answer:

You would have contacted a station in Macao.

This month

If an Ohm is a unit of measurement of resistance, what is a Mho?

Answer next month

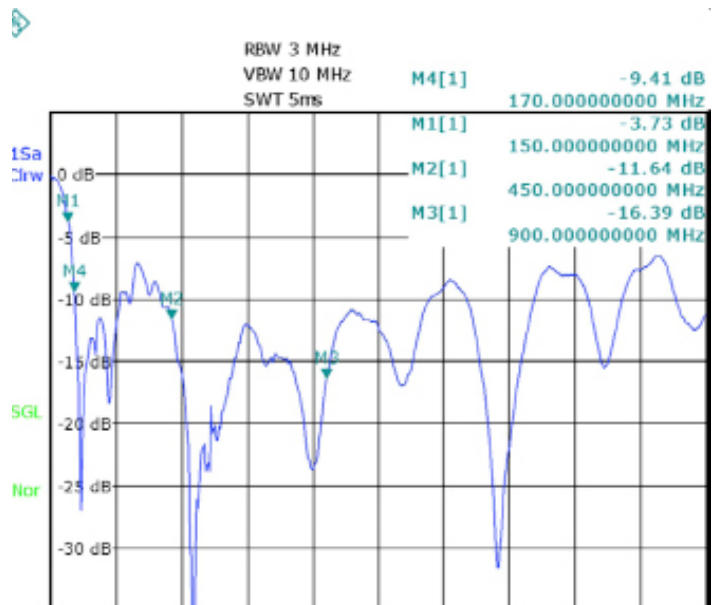
Planar Disk Antennas

Kent Britain WA5VJB/G8EMY



Twenty years ago I got a new Icom R7000 receiver and built a Planar Disk antenna for it. After all these years it's still hanging from a rafter in the attic connected to that same R7000.

Theory is simple enough, just two disks mounted very close to each other and coax soldered at the gap between the two disks. Lowest frequency is determined by the size of the disks. About 1/4th wave wide at the lowest frequency. As frequency goes up, the gap between the disks become two exponential slots much like a Vivaldi Antenna or a Ridged Horn. The closer the gap, the higher the max usable frequency. 2 to 1 SWR Bandwidths of 10 to 1, or more, are easy enough. It is this wide bandwidth that makes Planar Disks very popular for UWB (Ultra Wide Bandwidth) applications.



100-2000 MHz Return Loss Plot of the Large Planar Disk Antenna in the 1st Photo
-10 dB equals a 2 to 1 SWR

Summer - VE5SDH

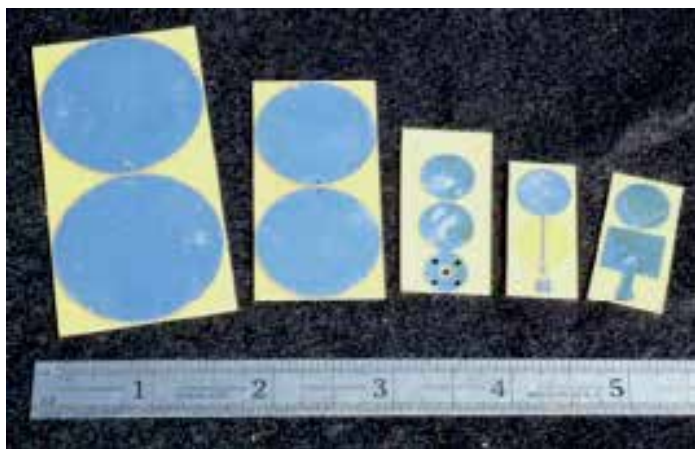
WebSDR.org:

A Free Web-based Software Defined Radio Receiver

Mark C. Humphreys, VA5LNX

A few months ago, after reading about an article in September's GUYWIRE about "The Buzzer" (The Ghostly Radio Station that no one claims to run), I was determined to try and find an "on-line" source for this particular radio stream. I mean, these days we now have "radio" applications for your smartphone (TuneIn & IHeartRadio), or failing-that, we can usually just listen to a given radio station through our web browser.

However, I was unable to find such a direct source that could be listened-to through my smartphone or web browser. That is until my search took me



Various PCB Versions for Ultra Wide Band and Pulse Use

Build your own:

Go down to your local Dollar store and find two Pizza Pans about 18" in diameter. The plated steel ones are easier to solder to than the Aluminum ones. Mount them about 1/16 inch apart and solder the coax shield to one pan, and the coax center to the other pan right at the gap. A Circle-Square works about the same, so a Pizza Pan and Cookie sheet is another way to go. You have just built a 2 Meter to 1296 MHz all band vertical that covers everything in between as well.

to YouTube, where I found a particular video about listening to “The Buzzer” (<https://youtu.be/E-qAFCAuZzQ>), and the description on that video made it plain: “Go onto <http://websdr.ewi.utwente.nl:8901>, enter 4625 in the frequency box...”

I went to the website as directed and found that it indeed played a real-time stream of the radio signal, for which I was looking. The interface had a familiar waterfall display and was generally intuitive, if not overly simplistic. Moreover, the interface worked in any browser with support for the HTML 5 Web Audio standard. Generally, this should be any recent web browser, except Internet Explorer. (e.g. Firefox, Chrome, Safari, Opera, and even MS Edge on Windows 10). Also, this browser support meant I could also listen to the stream through Chrome on my smartphone! However, as I looked-around, I noticed some peculiar things about this particular website.

First, I noticed there was a tab showing hundreds of users underneath. Next to that, were tabs for a Chatbox & Logbook, which were apparently for this particular receiving station. But, what type of radio system could support so many concurrent users, and how was it accomplishing this? The answers to these questions came through the “frequently asked questions”, or FAQ, (<http://www.websdr.org/faq.html>), of which I found the following.

A World-Wide Software Defined Radio Platform and Portal:

- So, it turns-out the FAQ was on an altogether different domain (<http://websdr.org>).
- This base domain serves as a portal to the listening station at the University of Twente (NL), as well as many other WebSDR radio sources around the world. (164 WebSDR servers, as of 05-Dec-2017)



The WebSDR Software Program:

- The WebSDR software is available from PA3FWM, to those who will setup a publicly accessible server, which would be listed under the websdr.org for access to the general public.
- New WebSDR servers should be interesting and add capabilities (unique location, frequencies, or a good antenna)

Compatible SDR Hardware:

- The FAQ states that it's possible to use those SDRs which "are quadrature mixers which down-convert radio signals to the audio range and feed this to the computer's sound-card." (Softrock kits, or similar, plus Fun-CubeDongle and USB-Afredi).
- Meanwhile, those SDR which "use a fast A/D converter and digital hardware to filter part of the spectrum" (these are usually connected through USB or Ethernet) don't have a common standard, and are not generally supported.
- However, RTL-SDR dongles are now supported, but should be checked to confirm they aren't overloaded, such that weak signals "disappear into the noise".
- To prevent overloading the WebSDR's connected computer, supported SDR devices will only receive a fraction of the native hardware's tuning range, through filtering. The operator of the WebSDR station can determine the range of frequencies they will provide, by the choosing the middle frequency.

As it turns-out, the mega-SDR device at the University of Twente (with hundreds of users, where I first connected) is an experimental / proprietary piece of research hardware, with a corresponding customized version of the WebSDR software. Consequently, it's not likely possible at this point to build something comparable in scale of magnitude, that would service as many concurrent users.

The "University of Twente" is at the top of the list of world-wide WebSDR servers.

WebSDR servers can register themselves automatically on this site, leading to the below list of currently active WebSDR servers.

Currently there are 165 servers active, with 784 users and 589 MHz of radio spectrum

Filter band: Any and region: Any mobile support and covering: _____ MHz:

Location and URL	Frequency range	Antenna
 WebSDR at the University of Twente, Enschede, NL http://websdr.uni.utwente.nl:8001/ JO92KF; 304 users	0.000 - 29.160 MHz	Mimi-Whip
 160m, 60m, 80m, 40m and 17m SDR's from Nantwich in Cheshire http://h3k3m3n3d3r3.org:8001/ IO83RA; 40 users	1.804 - 1.996 MHz	204 foot long double size QSRV
	3.600 - 3.792 MHz	
	5.237 - 5.428 MHz	
	7.008 - 7.200 MHz	
	14.130 - 14.322 MHz	
18.019 - 18.211 MHz		
 WebSDR DJ3LE North Germany. Visit www.afu-nord.de http://d3le.afu-nord.de:8001/ JO44PN; 28 users	0.476 - 2.524 MHz	84m loop/MimiWhip
	3.599 - 3.791 MHz	84m loop
	4.838 - 5.862 MHz	
	7.009 - 7.201 MHz	
	13.478 - 14.502 MHz	
 KFS WebSDR HF receiver system on the Pacific coast south of San Francisco, CA http://27.184.67.8801/ CM87q; 19 users	1.879 - 1.927 MHz	TCI Model 530 Log-Periodic Antenna (omni, 6 dB gain)
	3.800 - 3.992 MHz	
	5.344 - 5.392 MHz	
	6.943 - 7.135 MHz	
	7.125 - 7.317 MHz	
14.155 - 14.347 MHz		
 G4FPH 160 / 80 / 60 / 40 metre WebSDR, located in central England. http://www.160m.net/ IO92AS; 10 users	1.810 - 2.002 MHz	160 m dipole
	3.591 - 3.783 MHz	80 m dipole
	5.176 - 7.224 MHz	HF HF up-converter and RTL dongle / dipoles
 WebSDR in C3 Ordino - ANDORRA PRINCIPALITY - ARDAM Ham Radio Association - RX 4 pcs FuncubeDongle Pro- http://uk.radiosandorra.org:8001/ JN02SN; 10 users	7.008 - 7.200 MHz	Half wave Dipole.
	5.262 - 5.454 MHz	Short dipole.
	3.610 - 3.802 MHz	Half wave Dipole.
	14.043 - 14.235 MHz	
 SP6ZWR Silesian WebSDR POLAND http://websdr.pl:8001/ JO90QJ; 14 users	3.188 - 4.212 MHz	Delta
	144.788 - 145.812 MHz	Diamond X510
	438.588 - 439.612 MHz	
 Home of KJFEF and W3TKP in Milford, Pennsylvania, NE USA. 160 80 40 30 20 10M and more! http://137EE.com:8001/	0.176 - 2.224 MHz	ZS6BKW w/ RPA-1Plus LNA
	3.276 - 5.324 MHz	
	5.326 - 7.374 MHz	
	8.376 - 10.924 MHz	
	16.076 - 17.072 MHz	

Browsing-through the directory of WebSDR servers, here in early December, I see a couple of entries for Canada, located-in New Brunswick. But, there are locations all around the world. You can also use drop-downs on the web page to filter the list of WebSDR servers to specific frequencies (LF / MF, 160m down-through 2m, & UHF) and regions (Europe, North America, Other). These filters should help drop the list down-to a more reasonable set of locations, rather than the default of well-over one hundred.

Through WebSDR we have a tool which allows us to be the ears in remote locations, without being encumbered by the difficulties in traversing great geographical distances, let alone re-

quiring great amounts, if any, additional money, other than our basic internet service subscription. You could potentially test your ability to transmit, to see if you can hear yourself in these remote locales, and thereby get another insight into the mechanics of propagation. Ultimately however, the tool can only be as good as its users, so take some time to check-out, investigate, and hopefully you can make use of this otherwise interesting resource.

73, until next time -Mark VA5LNX

ARS - VE5AD

Amateur Radio Station (ARS) VE5AD has been upgraded with a new set of shelving on the original old school teachers desk.

The original shelves were replaced with a set of shelves designed by myself with assistance from Allan (VE5LAT). The material was prepared (cut to size and shape) by Allan. The pieces were test assembled for fit and any alteration. The shelves were then disassembled for easy transport to my ham shack.

I varnished the shelves and after they dried, I reassembled them and mounted them on the original desk top. Subsequently, LED lighting was added under the lower shelf where the keys and keyboard are stored. As you may have seen in a previous issue of Guywire, I got the lighting idea from Daniel VE5DLD.

Now all I need to do is clean up the rest of my ham shack and get back on the air.

The photos show the side view and the front with equipment placement.

Harvey - VE5AD

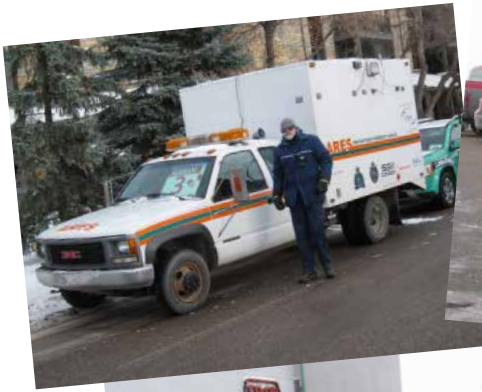
Help the GUYWIRE

Guywire depends on submissions of articles and pictures sent in by members for most of its content. If you have a story, pictures or a favorite website, send it in. We would particularly like to have pictures from past club events.

Contact the editor or publisher at:
ve5rara@gmail.com

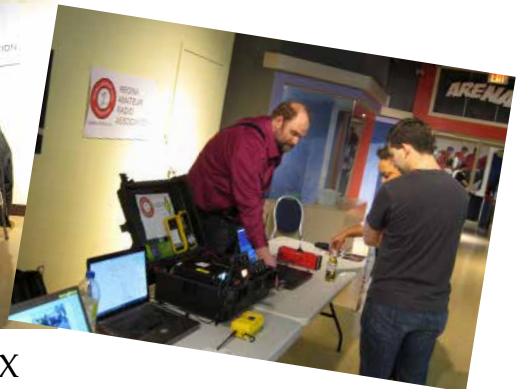


Photos from recent RARA activities Santa Parade 2017



Richard VE5RJR	Harvey VE5AD
Terry VE5TLW	Justin VA5RED
Doug VE5DUG	Mark VA5LNX
George VE5EUU	Neil VE5SCA
Hugh VE5HWH	Jim VE5SHK
Con VE5CON	Allan VE5LAT

Science Center Nov. 2017



Justin VA5RED & Mark VA5LNX

Cable work for Laval High School Station Dec. 2017



Daniel VE5DLD
Justin VA5RED
Neil VE5SCA
Malcolm VE5ZG
Mark VA5LNX
Allan VE5LAT