SVARC Monthly Newsletter

March 2021

Seaway Valley Amateur Radio Club

Next Club Meeting: Wednesday, March 31st, 2021

Virtual meeting on repeater—VE3PGC 443.650 and EchoLink until further notice.

Time: ***19:00h (07:00 PM)***

Guest Speaker: ***Cancelled until further notice***

Deadline for newsletter submissions is ONE week prior to the next meeting.

PRESIDENT'S MESSAGE - Larry Giguere (VA3RSQ)

PRESIDENTS LETTER MARCH 2021

Well another month has passed nothing new to report. No sense following the newspaper on Covid 19 vaccinations for those who want one. I believe as of this week 80 and over so maybe be the summer the rest will be able to get theirs.

Looks like this year is shaping up to be the same as last year in the way of club events. The Raisin River Canoe Race has been officially cancelled again this year. The Children Treatment Centre put up a flag that it looks like that too will a virtual event as well.

I know things will never get back to normal as we knew it but lets hope that we can get back together as a group. It sure will be nice to see everyone face to face again.

Special thanks to Doug VE3HTR for taking care of the technical problems we have had and keeping us up and running. Great job much appreciated.

Weekly SVARC VHF/UHF Net:

Monday on VE3SVC (147.180+ MHz; CTCSS 110.9 Hz) at 7:00 PM local time, followed by a 70 CM net on VE3PGC (443.650+ MHz. CTCSS 110.9 Hz.)

Inside this Issue:

Seaway Valley Amateur Radio Club

4672 O'Keefe Road
St. Andrews West, ON
K0C2A0

www.svarc.ca

The Seaway Valley Amateur Radio Club operates a number of repeaters in Cornwall and Area. VE3SVC is a VHF Yaesu FM only repeater operating at 147.180 + and a tone of 110.9 Hz. On UHF, VE3PGC, a Yaesu C4FM Fusion repeater with wide area coverage, is located at Bonville. It operates at 443.650 + and a tone of 110.9 Hz. For other repeaters see the Repeater Page at SVARC.ca

SVARC Executive 2020—2021

- **President:** Larry Giguere (VA3RSQ)
- **Vice President:** Doug Pearson (VE3HTR)
- **Secretary:** Chris Lauzon (VA3CRR)
- **Treasurer:** Elizabeth Halliwell (VE3EZH)
- **Technical Consultant:** Doug Pearson
- **Club Membership:** Elizabeth Halliwell
- **Net Manager:** Tom Todd (VA3KD)
- **ARES Coordinator:** Earle DePass (VE3IMP)
- **Editor/Publisher:** Murray MacDonnell (VE3XLJ)

Amateur Radio Emergency Service (ARES)

The Amateur Radio Emergency Service (ARES) is composed of certified Radio Amateurs who have voluntarily registered their qualifications and equipment for communications duty in the public service when disaster strikes.

Upcoming Events

A listing of repeaters that are easily accessed from the Cornwall area are on our Club page.

It can be found at..

https://www.svarc.ca

Also, check out the "Swap" page!

The Seaway Valley Amateur Radio Club is a proud Radio Amateurs of Canada Affiliated Club.

The SVARC Repeater reports are available on the club website under "Area Repeater List"
https://www.svarc.ca/

From the Editor - Murray MacDonnell (VE3XLJ)

Dear Fellow Hams..

Happy March! More sunshine and longer days.. YEAH! When the thoughts of both new and old Hams turn to visions of either much needed antenna work after a hard cold Winter, or some improvements we conjured up while hibernating!

In this issue, Roger VA3GBV, has submitted plans and test data on an OCF Dipole he has contructed. Thanks Roger..keep the articles coming.
Larry, VA3RSQ has sent us a picture of his Shack and I have reprinted his Bio to go with it. Thanks Larry.
Art, VE3AIH, has sent in a couple of submissions and some interesting QSL cards and we have held back a few more for next month. Have any special ones in your Shack?..send a couple in so I can share them.
You will also find a link to the DEW line. It's a great article and as I understand it, our very own Hal VE3HWG, has worked on it.
Leonard, VE3OLB has an article here on Yaesu System Fusion, doing his level best to educate us all on the digital experience ;)
Tom VA3KD, Ed VE3EAH and Earle, VE3IMP have also submitted items for the Club letter. Thanks guys.
Congratulations are in order for VE3EZB, as he has been officially designated as a Volunteer Examiner. That gives us two that I am aware of, VE3IMP, being the other one. Is there anyone else I am unaware of?
OOO.. Don't forget to check out the Ham Radio meme submitted by Doug, VE3HTR, gently poking fun at all the Ham Guys who have cats ;)

Tom, KD and I am are still experimenting with FT-8..and **I** can say, unequivocally, that it is a highly addictive mode! There should be a warning letter to that effect on the software before you download it!

Keep the submissions coming folks, they are much appreciated by me and all the other members as well.

Breaking News.. Mel, OJN made the news in "Ham Radio World" Check it out!!

'73
Murray

SEAWAY VALLEY AMATEUR RADIO CLUB INC.

4672 O'Keefe Road

St. Andrews West, Ontario, K0C 2A0

Agenda

General (Monthly) Meeting

Wednesday March 31 2021

Virtual Meeting on VE3PGC

07:00 PM Meeting starts

Business Arising :

Minutes of last meeting February 24 2021 – Chris (VA3CRR)

Treasurers Report – Elizabeth (VE3EZH)

Net Controllers Report – Tom (VA3KD)

Newsletter Report – Murray (VE3XLJ)

Miscellaneous Reports

Repeater Report - Doug (VE3HTR)

Web Report – Ed (VE3EAH)

ARES Report – Earle (VE3IMP)

New Business

Nothing to report

Presentation:

None till further notice

Upcoming Events

None

Adjournment:

Date, time and place of next meeting:

Wednesday, April 28 2021 at 7PM on VE3PGC or at St John Ambulance Building depending on Covid 19

SEAWAY VALLEY AMATEUR RADIO CLUB INC.

4672 O'Keefe Road

St. Andrews West, Ontario, K0C 2A0

Minutes of the General Meeting held at 7:00PM, February 24, 2021

Via RF Due to COVID -19

Present

Members attended this meeting: 14 members: Larry Giguere, President (VA3RSQ), Doug Pearson, Vice President (VE3HTR), Elizabeth Halliwell, Treasurer (VE3EZH), Chris Lauzon, Secretary (VA3CRR), Ed Halliwell (VE3EAH), Murray MacDonnell, Newsletter (VE3XLJ), Joseph Tondreau (VA3JHT), Rick Palmer (VA3EV), Tom Todd (VA3KD), Dean Brush (VA3BS), Gilbert Boudreault (VE3CFS), Jim Richardson (VE3AFV), Roger Belanger (VA3GBV), Daniel Theriault (VA3SDO)

Opening

SVARC President Larry Giguere called meeting to order at 7:00 PM.

Old Business

Review and approval of the minutes from our previous Meeting of January 27, 2020. The Minutes were read by Chris. Motion to approve by Dean and seconded by Elizabeth, carried.

Reports

Treasurer's Report:

We are standing at, 27 paid members.

Monday Night Net:

Tom reported for the Month of January we had 62 check in's on VE3SVC, 62 on VE3PGC and 23 on DMR, 7 on VE3VSW for a total of 154.

Newsletter Report:

Murray has nothing to report.

Technical Report:

Doug stated the repeater list has been updated a couple of times since last month. The Asterisk All Star procedure has been updated. The 220 MHz repeater is down for troubleshooting.

ARES Report:

Earle was not available.

Website update:

Swap page has been updated.

50/50 Draw:

No draw due to RF meeting.

New Business

1. Insurance papers have been forwarded to their respective places. Executive has been sent a copy as well.
2. Raisin River Canoe Race has been canceled until next year, 2022.

Presentation:

None due to COVID-19

Upcoming Events

TBD due to COVID-19

Meeting Adjourned:

Motioned by Larry at 7:12 PM

Next meeting:

To be held February March 31, 2021 on VE3PGC at 7:00 PM.

Minutes recorded by Chris Lauzon (VA3CRR)

A note from Tom, VA3KD..

Hi Murray: Here is an item of interest for the newsletter concerning the LICW club.

If anyone is interested in learning or improving their Morse Code you may want to check out the Long Island CW club (LICW). They offer online Zoom CW classes at beginner, intermediate and advanced level. A one year membership of 30 dollar (US) entitles to take their classes. Check out their website at

http://longislandcwclub.org/

Learn Morse Code – CW

with The Long Island CW Club

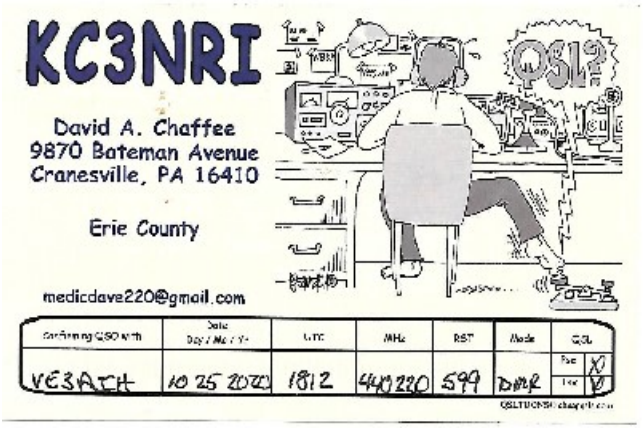
Helping Make CW Great Again

QSL Card Corner

Two submissions from Art, VE1AIH

Here are some interesting QSL cards I received from stations working DMR 91 Worldwide.
The first is from Gus Steendam KM6ZZZ, whose father was Dutch and mother was Indonesian. He immigrated to Holland as a young boy, then later to America where he served in the US Army in Viet Nam. He spent some time in Hawaii with his "dancing girls" and now resides in California. His QRZ page has a long story of his time in Vietnam. He is a very patriotic American. I tell Gus he has so many "zees" in his call that he puts me to sleep.

The second card from KC3NRI illustrates one of the newer Q signals:
QLF Are you sending with your left foot? (kind of embarrassing if you get this... it is reserved for sloppy CW operators). I guess in his case it would be QRF since he is using his right foot.
Coincidentally he is a doctor specializing in foot injuries.



And three more from **Art VE3AIH**

From the 1970's when I was VE6AHH in Alberta The top one is from PJ "Pik" Botha. He was one of the last South African Prime ministers under the Apartheid regime. The middle one is an Israeli cargo ship carrying a load of avocados.. He was at 4N 157E, so somewhere in the Pacific north of Australia. Avocados was a main export crop from the 1960's to the 90's.

The last is from a US(?) airbase in Greenland.

Hal, VE3HWG, told us a month or so ago that he had worked on the DEW line and this week he sent me this link to the project that we have all heard about but likely know very little about! It is an interesting read. Check it out!

http://lswilson.dewlineadventures.com/

Cornwall has a new repeater – VE3VSW. Well, the callsign isn't new, it is the SVARC club callsign which for several years has been on 444.800 MHz. and providing local coverage around town. But it has been plagued by co-channel interference from a Montreal area repeater for the past year or two, despite being on a frequency coordinated by the St. Lawrence Valley Repeater Council. Being only 10 Watts output (less than 5W after duplexer and feedline loses) its coverage was limited.

That is no longer the case. On Thursday, March 11, Roger VA3GBV and I installed the new VE3VSW repeater at our Cornwall Community Hospital repeater site. It is now on 443.000 MHz (+) with a CTCSS tone of 110.9 Hz. (like all our repeaters) and reuses a frequency that was in use in Bonville for many years, and although it was discontinued the frequency was never really surrendered. So it seemed like a natural choice to get away from the interference we were experiencing on 444.800

The new repeater is a Motorola R-1225 25-45W UHF repeater, set to a 35W output, nearly four times (+6dB) that of the old repeater. It has been in the works for some time, but the need for a frequency change moved the project up in priority. Acquisition of a Sinclair Q-3220E UHF duplexer from the closure of the Christie & Walther radio shop in Brockville allowed the higher power, and the same antenna and feedline could be used.

I only had one Motorola GR-1225 chassis and it houses a similar repeater (but on 443.650(+) as a spare for VE3PGC at the Bonville site. But I had several additional GR-1225 power supplies and rack shelves, so I went about fabricating two new repeaters, the new VE3VSW UHF repeater pictured here, and another repeater identical in appearance but on 147.180 (+) for VE3SVC, and both were actually put into service at the same time.

A cooling fan is necessary, and the Motorola R-1225 power supply has a temperature sensor which activates the fan(s) as required, rather than run the fans continuously, which would shorten their life. Although one fan would be adequate, dual redundant fans are used for increased reliability.

Like most commercial radios, these cannot be programmed from the front panel (there is no front panel!) Specific manufacturer's software (RSS or CPS) is required. This latest version runs on Windows XP, otherwise I would have to use MS-DOS command line software to do it. I maintain old computers for each of these operating systems just for programming older radios.

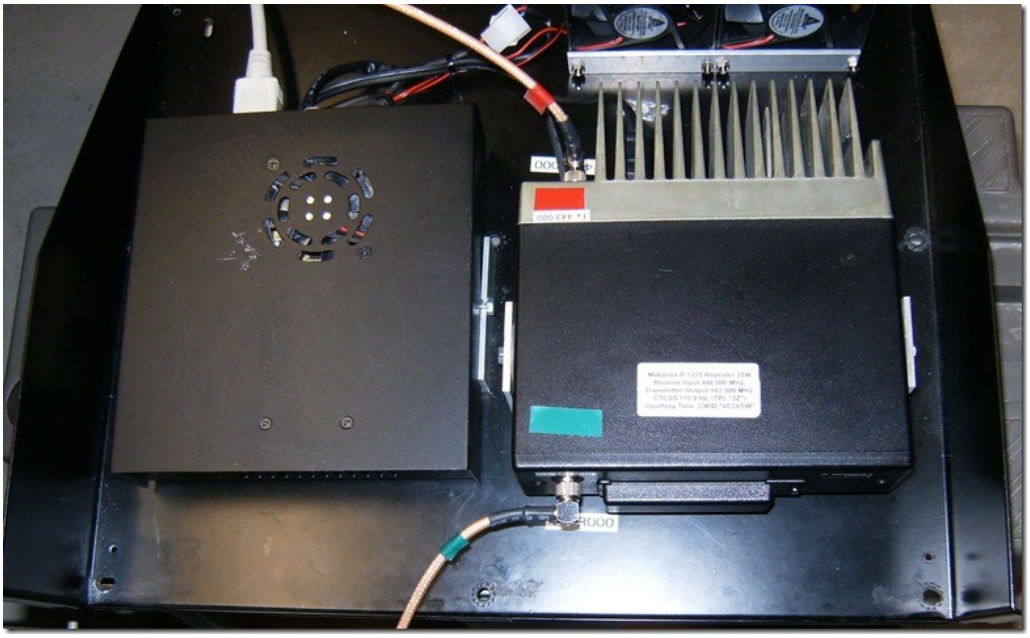
The right test equipment, or the minimum anyway, a Rigol DSA-815-TG Spectrum Analyzer/Tracking Generator, good to 1.5 GHz., so it covers up to the 1296 band.

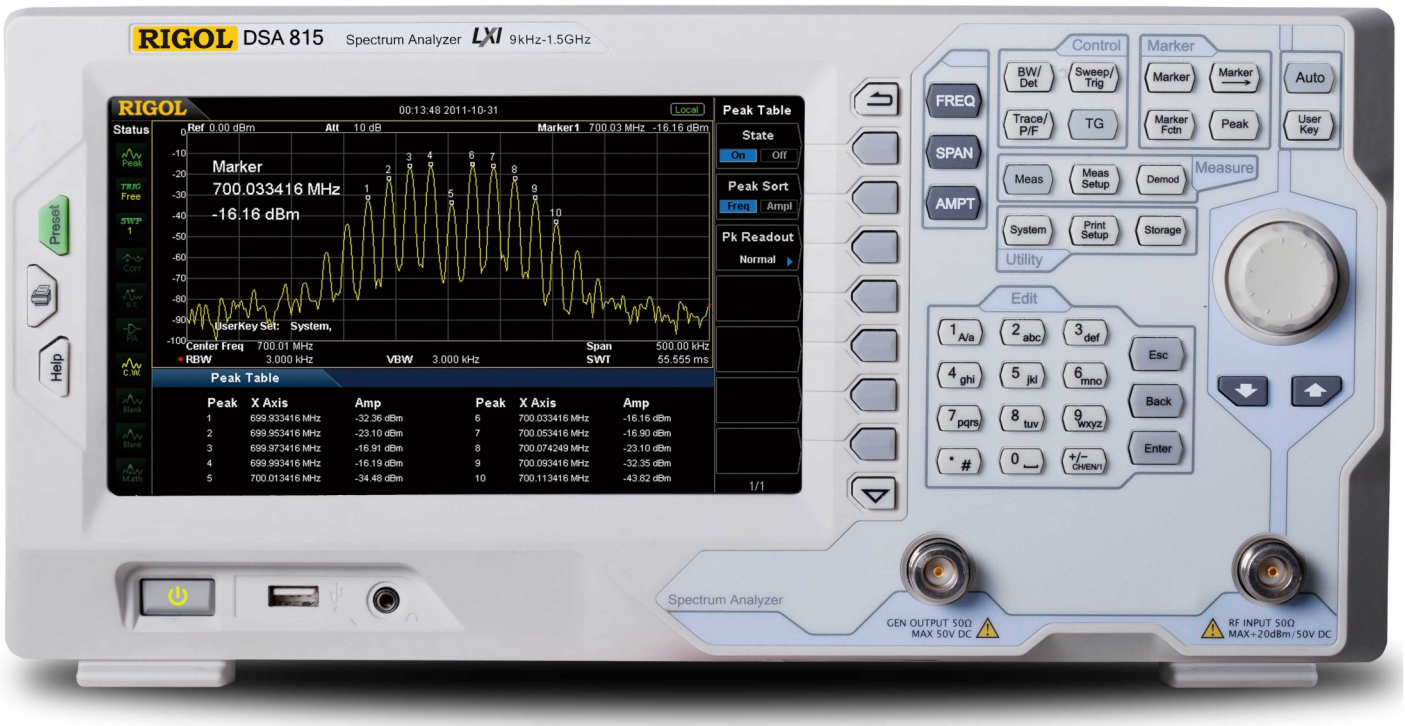
These Sinclair duplexers are specified for only 70 dB isolation, but easily achieve ~ 90dB with careful tuning, and have less than 0.6 dB insertion loss.

I should have recalibrated before capturing these, but I didn't notice they were 6.66 KHz. off until later. Too late now, the duplexer is installed at the site.

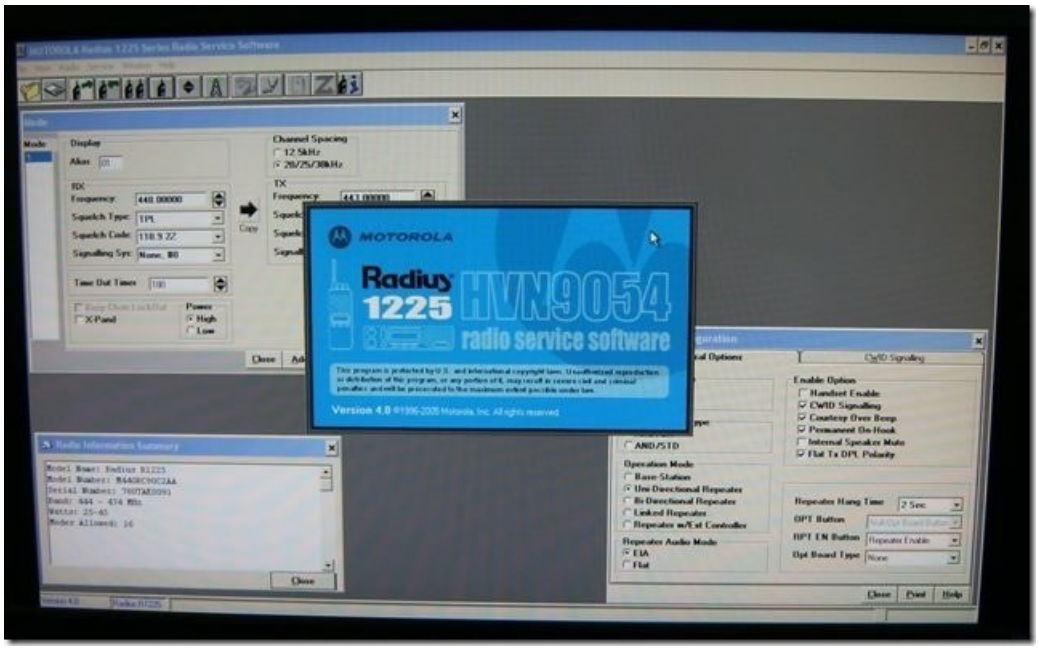
So make sure to change the frequency for VE3VSW in your radio now, to enjoy this new expanded local coverage. Details are on our website at www.svarc.ca

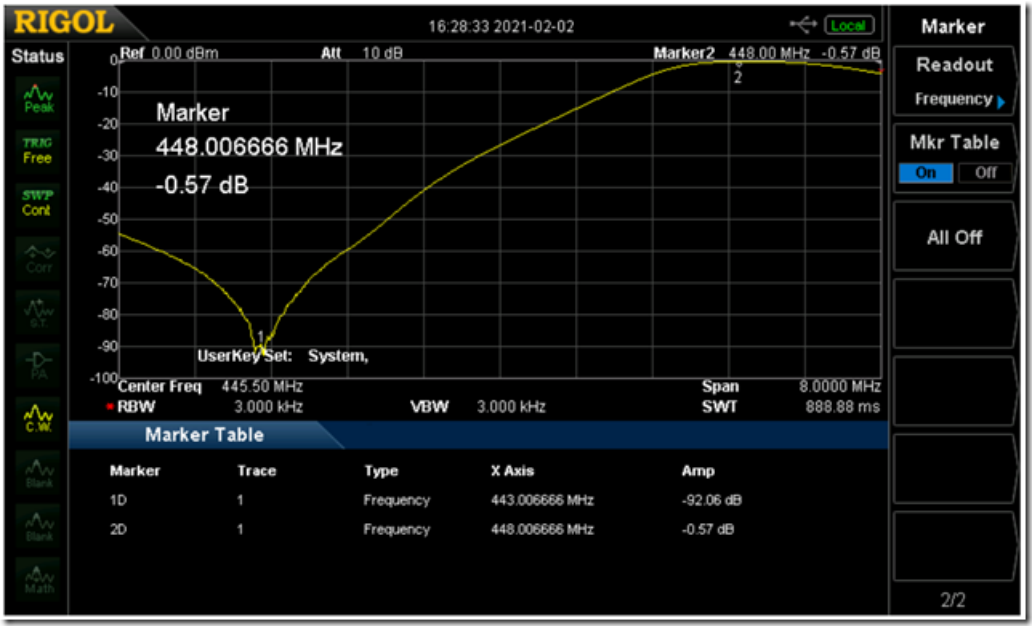
73 de VE3HTR

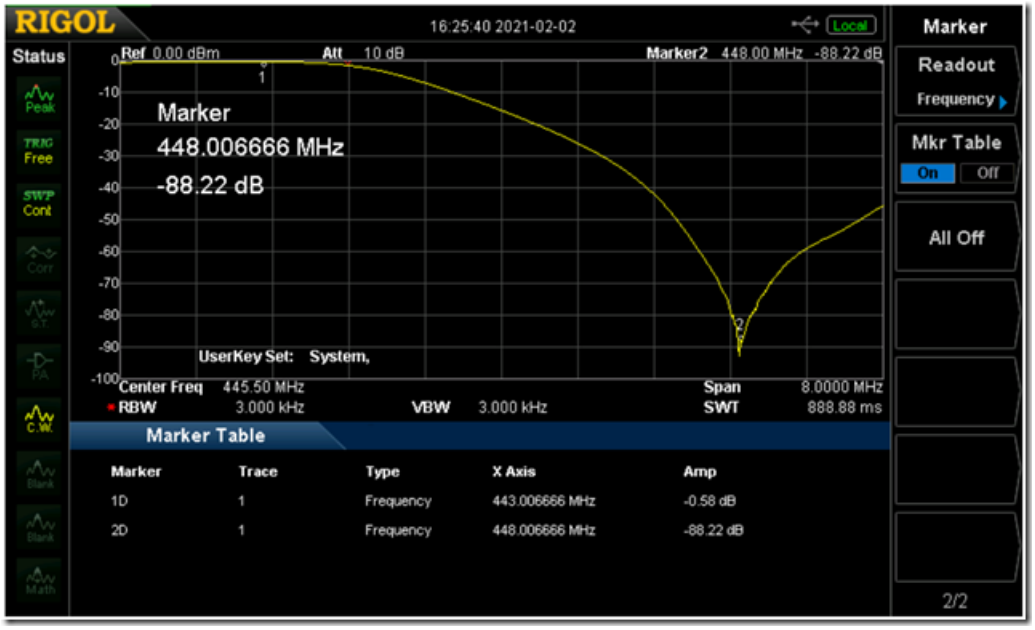



RIGOL DSA 815 Spectrum Analyzer LXI 9kHz-1.5GHz
00:13:48 2011-10-31
Ref 0.00 dBm Att 10 dB Marker1 700.03 MHz -16.16 dBm
Marker
700.033416 MHz
-16.16 dBm
UserKey Set: System,
Center Freq 700.01 MHz Span 500.00 kHz
RBW 3.000 kHz VBW 3.000 kHz SWT 55.555 ms
Peak Table
Peak X Axis Amp
1 699.933416 MHz -32.36 dBm
2 699.953416 MHz -23.10 dBm
3 699.973416 MHz -16.91 dBm
4 699.993416 MHz -16.19 dBm
5 700.013416 MHz -34.48 dBm
6 700.033416 MHz -16.16 dBm
7 700.053416 MHz -16.90 dBm
8 700.074249 MHz -23.10 dBm
9 700.093416 MHz -32.35 dBm
10 700.113416 MHz -43.82 dBm
Peak Table
State
Peak Sort
Pk Readout
Normal
1/1
Control
Marker
Measure
Utility
Edit
FREQ
SPAN
AMPT
Spectrum Analyzer
GEN OUTPUT 50Ω MAX 50V DC
RF INPUT 50Ω MAX+20dBm/50V DC


448.000
443.000
448.00
443.00


MOTOROLA
Radiuy
1225
HVN9054
radio service software


RIGOL
16:28:33 2021-02-02
Local
Status
Ref 0.00 dBm
Att 10 dB
Marker2 448.00 MHz -0.57 dB
Marker
448.006666 MHz
-0.57 dB
UserKey Set: System,
Center Freq 445.50 MHz
Span 8.0000 MHz
RBW 3.000 kHz
VBW 3.000 kHz
SWT 888.88 ms
Marker Table
Marker Trace Type X Axis Amp
1D 1 Frequency 443.006666 MHz -92.06 dB
2D 1 Frequency 448.006666 MHz -0.57 dB
Marker
Readout
Frequency
Mkr Table
On Off
All Off
2/2


RIGOL
16:25:40 2021-02-02
Local
Status
Ref 0.00 dBm
Att 10 dB
Marker2 448.00 MHz -88.22 dB
Marker
448.006666 MHz
-88.22 dB
UserKey Set: System,
Center Freq 445.50 MHz
Span 8.0000 MHz
RBW 3.000 kHz
VBW 3.000 kHz
SWT 888.88 ms
Marker Table
Marker Trace Type X Axis Amp
1D 1 Frequency 443.006666 MHz -0.58 dB
2D 1 Frequency 448.006666 MHz -88.22 dB
Marker
Readout
Frequency
Mkr Table
On Off
All Off
2/2

Good morning Murray,
I was going thru old Canadian Amateur magazines on the weekend and stumbled on this page, an obituary for Hank Rugg. I thought that's a familiar name as Andy Rugg was a Club member for many years. After reading the article, Hank was Andy's father. While I didn't know him well, Andy was the Club treasurer for many years before Pat Rowan, who took over when Andy passed away in 2003 at age 58. Liz took over the books when Pat moved to Alberta. Andy was the only guy I knew that could do CW on HF while mobile. He didn't write the copy down, it was all in his head, just had the ear for it.

Cheers
Ed, VE3EAH

RUGG, Andrew. At his residence on Thursday October 9, 2003. Andrew F. Rugg, B.Com., C.A. McGill University, (Amateur radio license, call sign VA3TEE, became a Silent Key in Cornwall, a member of the Seaway Valley Amateur Radio Club of Cornwall, long standing member of the Hawkesbury Golf and Country Club and die hard New York Ranger Fan) of Cornwall; age fifty-eight years. Dear son of the former Margaret Schrie and the late Henry Rugg. Dear brother and best friend of John Rugg of Mississauga. He will be sadly missed by his immediate and extended family. Resting at the Lahaie & Sullivan Cornwall Funeral Homes, West Branch, 20 Seventh Street West, Cornwall (1-613-932-8482) from 2 p.m. Thursday. Funeral Friday, October 17, 2003 for Service in the Memorial Chapel of the Funeral Home at 2 p.m. followed by cremation. Pastor Beth Conroy of St. Catharines officiating. The family will be in attendance from 2 to 4 p.m. and 7 to 9 p.m. Thursday and from 12 noon until time of Funeral on Friday. As expressions of sympathy, Memorial Donations to the Salvation Army or to the Heart and Stroke Foundation of Ontario would be appreciated by the family.

Interception of enemy wireless signals was crucial to outcome of WWII

By O. E. "Ernie" Brown, VA3OEB
<oebrown@cyberus.ca>

Much has been written about the work of the Royal Navy and the Royal Canadian Navy in the interception and decoding of enemy signals during the war.

Little mention has been made of the work of civilian monitoring stations supporting this work by intercepting messages, and taking direction finding bearings on enemy submarines and surface vessels.

One such station was the Ottawa Monitoring Station, which began in the fall of 1939 with a staff of two, to copy messages from German coastal stations.

Direction Finding was done initially at St. Hubert, using a high frequency direction finder which had been built to support trans-Atlantic air flights.

During 1940, many operators were added to the staff of the Ottawa Station, located in an old farmhouse on the Central Experimental Farm, until nearly all rooms were fitted with receiving stations and overflowing into the hallways.

In 1941, a new station was built on the farmlands between Fisher Ave. and Merivale Road, and north of the Baseline Road. A new HFDF was installed in the field east of the station. Operations moved into this building in late 1941, and the staffing level grew to 125 during 1942.

Operators monitored assigned frequencies of German coastal stations in occupied Europe, and copied every message heard, all on CW. These messages were forwarded by teletype to Naval Headquarters. We were not involved in decoding any messages.

At intervals, a signal with a different tone, and sent by hand, would be immediately recognized as a mobile or from a submarine. The message would be very short, usually just one code group of five letters, so speed was imperative in notifying the DF operator of the frequency of the signal.

At the DF station, the operator had to memorize the most-used frequencies, and the corresponding dial settings on the HRO receiver, as well as the correct plug-in coil.

At the call on the interphone of: "Mobile on . . ." one might have to change the coil and spin the dial to the correct setting and hope to catch the end of the message, and swing the goniometer dial, noting the null point, to get a bearing. We would rarely get another chance to refine the bearing.

The work could be deadly boring if one was monitoring a station with little activity, or it could be very demanding if the station had high activity and frequent mobiles.

This writer was fortunate to have been assigned to a fairly busy station to monitor, and later working in the DF shack, had some slack days, but mostly busy days with frequent bearings to take.

We know that our station contributed significantly to the continuing flow of intercepted messages and DF bearings so important in the Battle of the Atlantic, which is commemorated in May each year.

The building is now used for research on the Experimental Farm, and there is nothing to indicate its history as a wartime wireless receiving station. It also housed the Government Wireless Station VAA, which operated point-to-point CW communications with other government stations across the country, in regional offices, and at northern stations, in the days before land-line teletype became widespread.

At the end of the War in Europe, many of the staff transferred to a similar station at Point Grey, Vancouver, where they copied Japanese KANA code until the end of the Pacific War.

Many Radio Operators who worked on these stations continued in careers with the Department of Transport, some joined airlines, and a few followed other careers. A number of them also became Amateur Radio operators and will recognize the old monitoring stations.

Hank Rugg, VA3HN, SK: *Scientist toiled in secrecy to build radar*

In the dark days of the Second World War, a group of young scientists, many of them just out of university, worked on a top-secret project in Ottawa to build Canada's radar defences against a German attack.

A member of the group was Henry (Hank) Rugg, a scientist and engineer, who passed away in St. Catharines, ON on October 29, 1997 at age 80.

When he joined the war effort in August 1940, the 23-year-old Mr. Rugg had recently graduated with degrees in science and engineering from Bishop's, McGill and Harvard universities.

Before the war, the government had refused requests for funds to develop radar. After the war began, a frantic effort was made to catch up. Mr. Rugg's role was to help to develop the electronics for radar defences against enemy ships on Canada's Atlantic coast.

He recalled his wartime experiences in a book recently published by the Canadian Institute for Strategic Studies titled *No Day Long Enough*, with the subtitle *Canadian Science in World War Two*.

Mr. Rugg said in the book that the level of secrecy in the radar development team "was such that we could not even tell our families what we were working on."

He spent part of the war in Halifax setting up radar defences to protect Allied shipping entering and leaving Halifax. One day, he and his team picked up radar signals showing a very large camouflaged ship leaving the harbour. He learned later that it was the *Queen Elizabeth*, then the world's largest and fastest ocean liner, taking Canadian troops to war in Europe.

Sir Stafford Cripps, a British politician who played a senior role in the Allied war effort, said: "Radar played a greater part in the whole war than the atom bomb itself. It contributed to the winning of the war more than any other single factor."

Of his war work for the National Research Council (NRC), Mr. Rugg wrote: "I think that the main lesson to be learned, and indeed marvelled at, from the NRC wartime experience, was how these relatively young graduates adapted to a totally new technical field. I feel that this demonstrates the value of teaching fundamentals, and not becoming too preoccupied with the technological breakthrough of the day."

After spending the war working for the NRC, Mr. Rugg taught mathematics and physics at Carleton University in Ottawa in its early days in the mid-1940s. He then spent more than 35 years in industry, working on many development projects, including electro-medical equipment, sonar displays, and aviation research.

For most of his life, since he was 17 in 1934, Mr. Rugg was an enthusiastic Amateur Radio operator, holding the calls VE2HN, VE3JX, VE2JZ and finally VA3HN. In 1992, in his mid-70s, he was part of the VE8CWI DXpedition to the Canadian Arctic.

Hank was a member of the Niagara Peninsula ARC since moving to St. Catharines a few years ago.

He is survived by his wife, Margaret, and two sons, Andrew, VE2EM/VA3TEE, a chartered accountant in Cornwall, ON and an active Amateur, and John, a mechanical engineer in Mississauga.

– Thanks to Andy Rugg, VE2EM/VA3TEE; Jim Thompson, VE3BCA; and Michael Prentice, The Ottawa Citizen

Larry, VA3RSQ Bi0

I started to get interested in Amateur radio when I lived in Ottawa in 1970. What started it all was my XM49777 call sign I had when we needed a licence for CB radio. I had been a truck driver for a few years and decided to "leave the road." I had a Spitfire tube radio with a 50 foot tower and a 36 ft horizontal and vertical beam at my house. I used to belong to the Night Owl Club that started at midnight. It would not be unlike me to stay up till 4 am talking on the radio. Back then the (skip) propagation was excellent. I actually made a contact to Australia with 5 watts. My radio room had QSL Cards on three walls. So that made me think "I wonder how I can get on other frequencies?" The Ottawa Amateur Radio Club was running a course so I signed up for that. Unfortunately, I could not manage to learn Morse code which was required back then to get your licence. Someone told me I had a tin ear and could not put it together so I opted out of the course. Many years later, while I was living in Tottenham, I was told that Morse code had been dropped as a requirement for getting your licence. So with the help of a friend and self study, I earned my basic with honours amateur licence. I believe that was in 1999. So I had to decide what call sign should I get. I worked at Mosport and Shannonville Race tracks for several years as a flagger and rescue worker. I had my own Rescue Squad for a BEMC and CRDA and it was called RSQ Motorsport Rescue. I thought "I wonder if VE3RSQ was available?" After all, I was in Ontario and doing rescue work at the track. Back then it was saved for some reason or another however VA3RSQ was available so hence my call sign. Later, the call sign VE3RSQ became available but I was to slow to change my mind so someone else took it. I went back on the road again when I moved back to Tottenham and of course had my 10 and 11 meter radios along with a VHF radio in my rig. I made many contacts as I drove thru Canada and the USA. It helped keep me keep awake many a day and night. I moved to Cornwall area about 10 years ago and installed a HF radio and antenna in the two different locations we lived in. I didn't listen to UHF or VHF very much so I didn't know about SVARC until later. I was at Lancaster Resort Trailer Park when I noticed an amateur licence plate VA3BS so needless to say I introduced myself to Dean. He was the one who got me involved with the club so I started to attend the meetings and events that the club helps out with. That was a couple of years ago. I enjoyed the friendship and events that I attended. VE3EAH ED was looking to "retire" his position as President of the club so more or less I volunteered and you all know how that turned out. So as of 2020 I am now the President of SVARC.

Editor's note….Reprinted from April 2020 to go with the Shack picture Larry sent in this month.

Also, Larry is presently a Net Controller on the **ONTARS Amateur Radio Net** and can be heard at 5 PM local on Sunday afternoons at 3.755 MHz.

VA3RSQ Shack

SVARC Newsletter Article - March 2021
Prepared by Earle DePass (VE3IMP), Group Coordinator
Stormont, Dundas and Glengarry Amateur Radio Emergency Services ((SD&G ARES)
earfran@bell.net or (613) 930 2145

SD&G ARES Update

Newsletter Article Purpose: The purpose of this short article is to provide readers with a summary/status update of SD&G ARES.

ARES Article from VE3IMP

SD&G ARES Purpose: SD&G ARES is a support organization consisting of Amateur Radio equipment and licensed Amateur Radio Operators ready to provide emergency communications should the need arise.

Antenna: We currently have the following antennae at the following locations;

1. City Of Cornwall - Emergency Operations Centre (EOC); 360 Pitt Street, Cornwall; one 40-75/80 horizontal trap dipole (unserviceable), two VHF/UHF Antennae, plus the city's radio and antenna,
2. City Of Cornwall - Secondary EOC; 601 Campbell Street, Cornwall; one VHF/UHF Antenna, plus the city's radio and antenna,
3. City Of Cornwall - Cornwall Civic Complex, 100 Water Street East, Cornwall; one UHF/VHF Antenna,
4. United Counties of Stormont, Dundas and Glengarry building; 26 Pitt Street, Cornwall; one UHF/VHF Antenna,
5. Township Of South Stormont, 2 Milles Roches Road, Long Sault; one UHF/VHF Antenna.

Formal Agreements: We currently have formal agreements to provide emergency communication services with:

1. The City Of Cornwall,
2. The United Counties of Stormont, Dundas and Glengarry; 26 Pitt Street, Cornwall, Katherine Beehler,
3. The Township of South Stormont, 2 Milles Roches Road, LongSault, and,
4. The Township Of South Glengarry, 6 Oak Street, Lancaster.

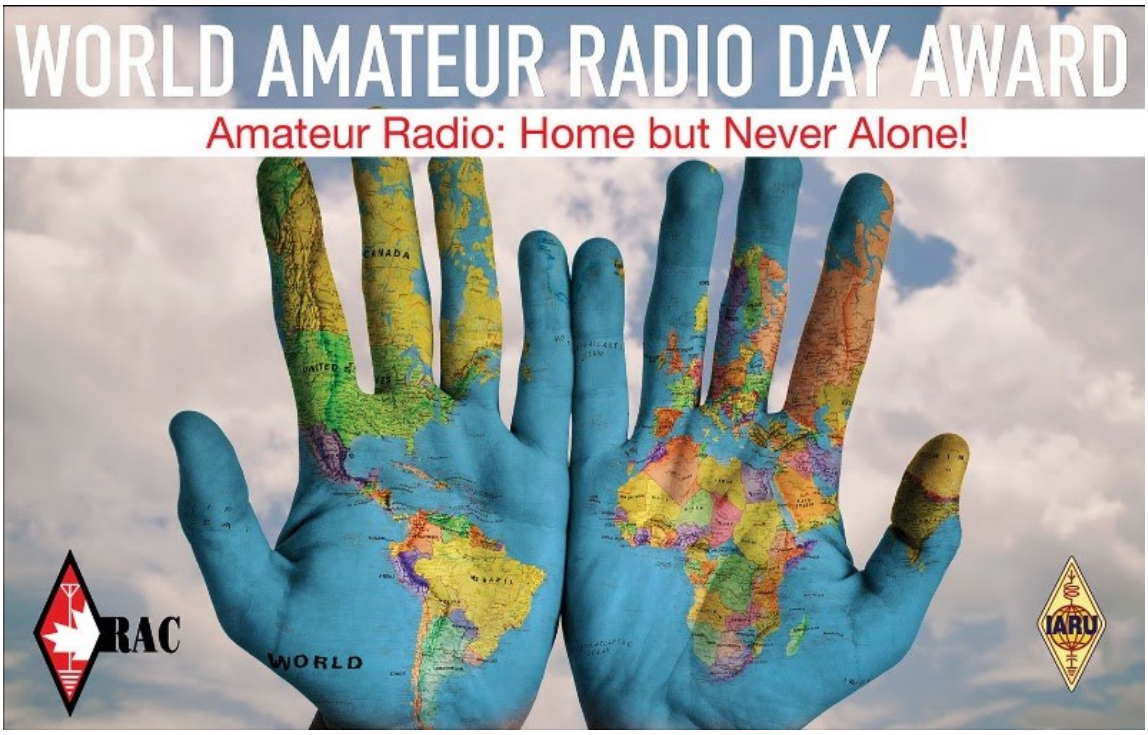
Equipment: We currently have a suite of Yaseu 8800 VHF/UHF transceivers and power supplies (confirmed serviceable) and HF communications equipment at the home of Earle DePass. These transceivers are ready for deployment within SD&G should the need arise. There is also one serviceable Yaseu 8800 VHF/UHF transceiver and power supply at the United Counties of Stormont, Dundas and Glengarry building.

Operators: The confirmed 8 SD&G ARES Operators are; Ed Halliwell (VE3EAH), Art Horovich (VE3AIH), Suzan Horovich (VE3EXN), Earle DePass (VE3IMP), Roger Bélanger (VA3GBV), Murray MacDonnell (VE3XLJ), Hal Green (VE3HWG) and Doug Pearson (VE3HTR). If you are interested in becoming an ARES Operator, please contact Earle using one of the methods above.

Exercises: Over the past five years, SD&G ARES has conducted practice communications exercises to confirm the serviceability of equipment and the capability of Amateur Radio operators to respond. Each Monday evening a communications net is conducted on several area repeaters. In addition to the social aspects they afford, these weekly nets confirm that the repeaters are serviceable.

Plans: Once COVID-19 concerns are over our plans are to; hold another communications exercise and fix the currently-unserviceable HF antenna at City Hall, The City of Cornwall.

RAC “Get on the Air on World Amateur Radio Day” special event: Sunday, April 18



On Sunday, April 18, 2021, Radio Amateurs of Canada is organizing a special on-air event to celebrate World Amateur Radio Day.

Every year on April 18, Radio Amateurs worldwide take to the airwaves in celebration of Amateur Radio and to commemorate the formation of the International Amateur Radio Union (IARU) on April 18, 1925.

President, Radio Amateurs of Canada

Radio Amateurs of Canada is once again holding a **“Get on the Air on World Amateur Radio Day”** special event in which we encourage as many Amateurs as possible to get on the air and contact as many RAC stations as possible.

- RAC official stations will operate across Canada from 0000Z to 2359Z on April 18. The RAC official station call signs are VA2RAC, VA3RAC, VE1RAC, VE4RAC, VE5RAC, VE6RAC, VE7RAC, VE8RAC, VE9RAC, VO1RAC, VO2RAC, VY0RAC, VY1RAC and VY2RAC.
- Those contacting one or more of these stations will be eligible for a special commemorative certificate noting their participation in RAC’s Get on the Air on World Amateur Radio Day Event.
- Participants simply need to complete one or more contacts, on any band and mode, with RAC official stations to earn their certificates.
- No logs need to be submitted; simply check back on the RAC website when instructed and enter your call sign to download your certificate.
-

Note: From 0000z to 0500z and again from 1200z to 1800z, VA3RAC will be active in the Ontario QSO Party and will be sending the contest exchange. Stations contacting VA3RAC during those time periods are encouraged to send their contest exchange in return (state/province/country or Ontario county).

Thank you for your continuing support and understanding during this time of crisis. As with many of our Amateur Radio activities, overcoming challenges is a great way to learn. Please take care of yourself and your loved ones, stay safe and have fun while celebrating World Amateur Radio Day.

For more information on World Amateur Radio Day and the RAC "Get on the Air on World Amateur Radio Day" special event please visit:
https://www.rac.ca/operating/world-amateur-radio-day-april-18/

Glenn MacDonell, VE3XRA

Editor's Note: I was fortunate enough to make a contact on 40M last year and have a very nice coloured certificate on my wall to show for it! Mark it on your calendar and let's see how many contacts we can make!

Thanks Doug.. We will find out if you've hit any nerves **;)**

RAC Amateur of the Year | Radio amateur de l'année de RAC :

Alphonse "Al" Penney, VO1NO

https://www.rac.ca/rac-amateur-of-the-year-2020-al-penney-vo1no/

The RAC Board of Directors takes great pleasure in selecting Al Penney, VO1NO, as the recipient of the RAC Amateur of the Year Award for 2020 in recognition of his tireless efforts to promote Amateur Radio in his home province of Newfoundland, throughout Canada and internationally.

Through the **RAC Amateur of the Year Award**, Radio Amateurs of Canada recognizes the outstanding contributions made by Canadian Amateurs. The RAC Board considers nominations for the RAC Amateur of the Year Award and presents it if and when the nomination demonstrates the exceptional contribution made. If there are several nominations the best for that year is approved.

Alphonse (Al) Penney, VO1NO, was born and raised in Corner Brook, Newfoundland. A Remco crystal radio kit Christmas gift, and the acquisition of a Hallicrafters S-38D shortwave receiver as a boy sparked a lifelong fascination with the “magic of radio”.

Al was licensed in early 1977 after taking an evening course sponsored by the local Department of Communications (DOC) Radio Inspector.

Al has served on the Executives of many clubs throughout Canada and the USA, including Vice-President of the West Island ARC in Montreal, and President of the VE2CMR ARC, Halifax ARC, West Carleton ARC in Ottawa, and the Pike's Peak Radio Amateur Association in Colorado Springs while serving at NORAD Headquarters.

More recently he co-founded the Annapolis Valley Amateur Radio Club in Nova Scotia, a "virtual" club that appeals to those who do not like to take part in more traditional clubs.

Al has been involved with teaching prospective Amateurs since the early 1990s. He is one of the primary instructors for the Halifax ARC for their Basic and Advanced courses, and he organized and taught the RAC Online Basic Course in response to the global pandemic.

Al has been the RAC Band Planning Coordinator since 2013 and he spearheaded the effort to update the Canadian HF band plans and have them published in a graphic format. He is currently coordinating the update of the VHF/UHF band plans. He lives in Aylesford, Nova Scotia on 10 acres he would like to turn into an antenna farm!

Stay tuned to the March-April 2021 issue of The Canadian Amateur and the RAC website for complete information about our Amateur of the Year 2020 and the presentation of the award later this year.

For more information about the RAC Amateur of the Year Award visit: https://wp.rac.ca/rac-amateur-of-the-year

Glenn MacDonell, VE3XRA

RAC President and Chair

Yaesu System Fusion Part 1

This is Part 1 getting started. System Fusion makes it easy to get into digital as there are several radios. The entry level FT-70DR HT and the FTM-3100R but if you want more features, they offer the FT3DR HT the FTM -300DR mobile and the FTM-400DR mobile. But if you want an all-in-one shack in a radio check out the FT-991A this is a 6 meter to 160 meter with 2 meter and 440 all mode radio. C4FM can be used for 2 meter, 440, 6 meter and 10 meter. SVARC has 2 Yaesu DR-2X Repeaters that are in AMS (Automatic Mode Select) which means if it receives FM it will transmit in FM, likewise, if it receives digital it will transmit in digital. So, all you need is a Yaesu C4FM radio. The first time you turn it on it will ask you to enter your call sign and that is all you need if there is a repeater in the area. You do not even need to press the WIRES-X button. The only time you need to press the WIRES-X button is if you want to change room (which will be another article). Th only time you need to register the radio is if you are going to host a node as I do with an HRI-200, or you have a FT2DR, FTM-100DR, FTM-300D or a FTM-400DR/XDR that you plan to connect to a computer and use in PDN mode (Personal Digital Node). PDN will be another article. So to recap, if you own a Yaesu C4FM radio all you need to do is tune to VA3SDG @ 145.570 with a negative offset and be in DN mode then it is the same as any repeater. I keep the node connect to CQ Canada VE1AO although it does change rooms once and awhile.

VE3OLB/VA3OLB

Reprinted with permission from W4TJE, who lives on the Blue Ridge Parkway in Virginia and who I have had several nice QSO's with on 40 meter CW.

Art, VE3AIH

AND NOW SOMETHING FOR THE SUNSPOT CYCLE CONSPIRACY CROWD

With Cycle 24 working its way toward oblivion, it's time once again to dust off the old sunspot bottom list. When 70% of these have been checked off, Cycle 25 will have begun.
Anecdotal evidence of a Sunspot Bottom
1 You decide to take up other forms of aerobic exercise, like bowling.
2 You discover the internet has other uses than for dx packet spots.
3 Your children no longer refer to you as “that guy who lives in the basement”.
4 The ARRL starts a suicide prevention hotline for QRP’ers.
5 You get excited when you hear a pile-up for a W6.
6 You call the W6.
7 The W6 doesn’t hear you.
8 Your radio club changes its name to Sunspot Cycle Grief Counseling Center.
9 You blame it all on Al Gore.
10 Someone starts the rumor that new sunspots have been sighted, in the hope that if enough hams start to repeat it, it will come true.
11 You start listening to the local 2m repeater.
12 Your boss notices that over the past few years, you have gone from most sick days taken to least sick days taken.
13 You finally get around to filling in that 2000 Census form.
14 You start going to church again.
15 You watch the A52 dxpedition video, just so you can remember what a real pile-up sounds like.
16 You actually put more money into your retirement fund than in your new equipment fund.
17 You clean up your shack for the first time in 11 years.
18 No one even bothers to submit a score for the state QSO party.
19 You remove the sleeping cot from your shack.
20 You and your spouse start going to bed at the same time again.

But the most surefire sign that a solar bottom has been reached and a new cycle is ready to be born: RENOWNED SOLAR FORECASTERS MAKE DIRE PREDICITIONS
OF ANOTHER GRAND MAUNDER MINIMUM, WITH NO SUNSPOTS FOR YEARS OR DECADES TO COME.
Once you start reading such gibberish, rest assured, a new cycle will be underway in short order, as it is now. COME ON CYCLE 25!!!

Off Center Fed HF Dipole Antenna

Here is a simple, low budget and efficient HF antenna I built last year.

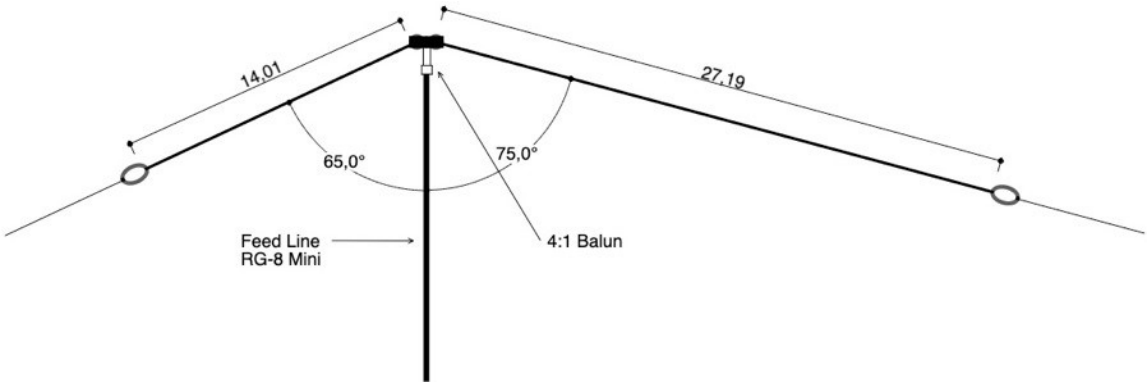
Design:

What makes an OFC antenna particularly interesting is that it resonates on even harmonics as opposed to a center fed dipole which resonate at odd harmonics. This means that if it is cut for 80 meters, it will resonate on 40, 20 and 10 meters. The downside is that the odd harmonics, like WARC bands will not be as good as 10.1, 18.068 and 24.89 MHz are actually the 3rd, 5th and 7th harmonics.

The other characteristic of an OCF dipole is that the impedance varies with the feed point and with the height over the ground. An OCF fed at the 34%-point, layout in an inverted V configuration and with its apex at 30 feet above the ground will have an impedance of approximately 200 ohms. This means you will need a 4:1 balun fed by a 50-ohm coax cable like RG 8X.

Finally using an inverted V configuration allows you tie the dipole arms at a manageable height.

With this said the design I chose is as follows:



Fi 

:

Inverted V Off Center Fed Dipole. (measurements in meters)

Cost:

This antenna can be built on a very low budget. To be honest the 140 feet of wire was given to me by Mel, VE3OJN, (Again, thanks Mel!

The 4:1 balun was purchased from Ali Express at a cost of $40 CDN with shipping:

The 4:1 Balun is rated at 350 Watts from 100 KHz to 54 MHz with a VSWR of less than 1,5:1

The feed line is a 100 feet RG-8X which cost $0.50 per foot if you buy 200 feet or more from MacFarlane Electronics. In a way you would need a feed line irrespective of the antenna you install. So, I did not count it in the antenna cost and it was not in the published budget to the XYL!

The balance of the expenses for the antenna are the insulators, the lightning surge protector and nylon cord.

As far as installation goes, well I do not climb towers.

When we bought the house there already was a 30' tower with a VHF_UHF TV antenna and rotor which we did not use. Ed (VE3EAH) referred me to Miron Electronics in Green Valley who does tower work. They charged $140 to remove the antenna and rotor. The Miron guy was very nice and offered me to install the OCF at the same time, thank you!

All in all, the dipole it-self can be built for less than $50, even less if you make the balun yourself. I chose not to because the cost of the ferrites, the casing and connector plus the work involved did not seem worth it to me.

Performance:

Standard Amateur Bands:

I had chosen the dipole arms lengths to resonate in the CW part of the 80-meter band, hoping I could get my CW speed back after 27 years off the air, I did not include the fact that I was 27 years older in that plan...!

It turned-out that, for some reasons, it ended -up resonating in the top part of the 80-meters band. This may be partly because the antenna apex is only $\lambda/8$ above the ground. In the other bands the percentage bandwidth is low enough for the VSWR to hold across the band except for the 10-meter band where the percentage bandwidth is a bit higher. I also suspect that the balun, while it is specified at better than 1,5:1 VSWR up to 54 MHZ, is starting to drop in the 10-meter band.

I should also mention that the following results were measured in the winter with the ground covered in snow. Results may be somewhat different over dry ground. I will remeasure it next summer.

80 meters		40 meters		20 meters		15 meters		10 meters	
MHz	VSWR	MHz	VSWR	MHz	VSWR	MHz	VSWR	MHz	VSWR
3,550	2,40 :1	7,005	1,20 :1	14,005	1,10 :1	21,005	2,20 :1	28,005	1,25 :1
3,650	2,20 :1	7,045	1,20 :1	14,050	1,10 :1	21,100	2,50 :1	28,200	1,20 :1
3,750	2,00 :1	7,105	1,10 :1	14,100	1,10 :1	21,200	2,90 :1	28,400	1,50 :1
3,850	1,60 :1	7,180	1,10 :1	14,200	1,20 :1	21,300	3,00 :1	28,500	1,80 :1
3,950	1,15 :1	7,255	1,10 :1	14,250	1,20 :1	21,400	3,20 :1	28,700	2,60 :1
		7,295	1,10 :1	14,300	1,30 :1			28,900	3,00 :1
				14,345	1,40 :1				

Table 1: VSWR in Standard Amateur Bands

From the above one could see that the VSWR is below 2:1 in the upper half of the 80 meter band, across the band on the 40 and 20 meter bands and in the lower part of the 10 meter band.

While the 15-meter band is an even harmonic (6th), the VSWR is not very good. It is actually the 6th harmonic of 3,5 to 3,575 MHz, i.e., the bottom of the 80 meter band where the VSWR is also above 2:1.

A VSWR below 2:1 which means that the power delivered to the system is over 90% with less than 10% power reflected back into the transmitter. With a 100 W transmitter this is a very workable operating point.

For the 15-meter band and the other band segments where the VSWR is higher than 2:1 I use an MFJ- 949 antenna tuner. In all these cases I was able to easily tune the antenna to better than 1,2:1.

WARC Bands:

Now for the WARC bands, as expected, the results are not so good but not terribly bad either:

30 meters		17 meters		12meters	
MHz	VSWR	MHz	VSWR	MHz	VSWR
10,105	2,50 :1	18,070	2,20 :1	24,895	1,90 :1
10,125	2,50 :1	18,110	2,40 :1	24,950	2,00 :1
10,145	2,50 :1	18,160	2,50 :1	24,985	2,20 :1

Table 2: VSWR in the WARC Bands

Here the same argument we made for the 15 meter band could be made here, i.e., easily tunable down to 1,2:1 with an antenna tuner.

The following table illustrate the effect of VSWR on the throughput power delivered to the antenna system. You can see that even at a VSWR of 2:1, the throughput is above 90% as mentioned above.

VSWR	R.L. (dB)	Reflection Coeff.	Missmatch Loss	Refl. Power %	Throughput %
1	∞	0,00	0,00	0,00%	100,00%
1,25	19,08	0,11	0,05	1,23%	98,77%
1,5	13,98	0,20	0,18	4,00%	96,00%
1,75	11,29	0,27	0,34	7,44%	92,56%
2	9,54	0,33	0,51	11,11%	88,89%
2,25	8,30	0,38	0,70	14,79%	85,21%
2,5	7,36	0,43	0,88	18,37%	81,63%
2,75	6,62	0,47	1,07	21,78%	78,22%
3	6,02	0,50	1,25	25,00%	75,00%

Table 3: VSWR, Return Loss and reflected Power

Notes on measurement method:

1. I measured the VSWR using an MFJ-949 antenna tuner: This tuner has a 300 W dummy load.
2. First, I set the transceiver in the dummy load in CW mode with the output power as low as possible, below 10 watts for the TS-140S.
3. Then apply the golden rule: Listen before transmitting.
4. I always stay 5 kHz from band edges, this is conservative since I measured with a CW tone, but the VSWR does not change much over 5 KHz, even at 3,505 MHz
5. Then I measured VSWR with the tuner in COAX DIRECT mode.

Feed Losses vs Return Loss

The feed line, 100' of RG-8X coax cable, has an insertion loss of less than 1 dB at 4 MHz and less than 2 dB at 29,7 MHz. This cause overall RL (Return Loss) at the transmitter O/P to be 2 to 4 dB higher than the RL at the antenna input from 80 to 10-meter bands.

This means that if you measure 2:1 VSWR at the feed line input, you actually have 2,5:1 VSWR at the antenna input at 4 MHZ and 3:1 VSWR at 29 MHz. If you measure a VSWR of 1,25:1 then VSWR at the antenna input is virtually the same.

What is important for the transceiver is the VSWR that it sees at the input of the transmission line. This where you need to protect your output stage.

If you can get away with a shorter feed line or a lower loss feed line, this would be great. Our house layout and my budget did not give me such a break.

73,

Roger B.

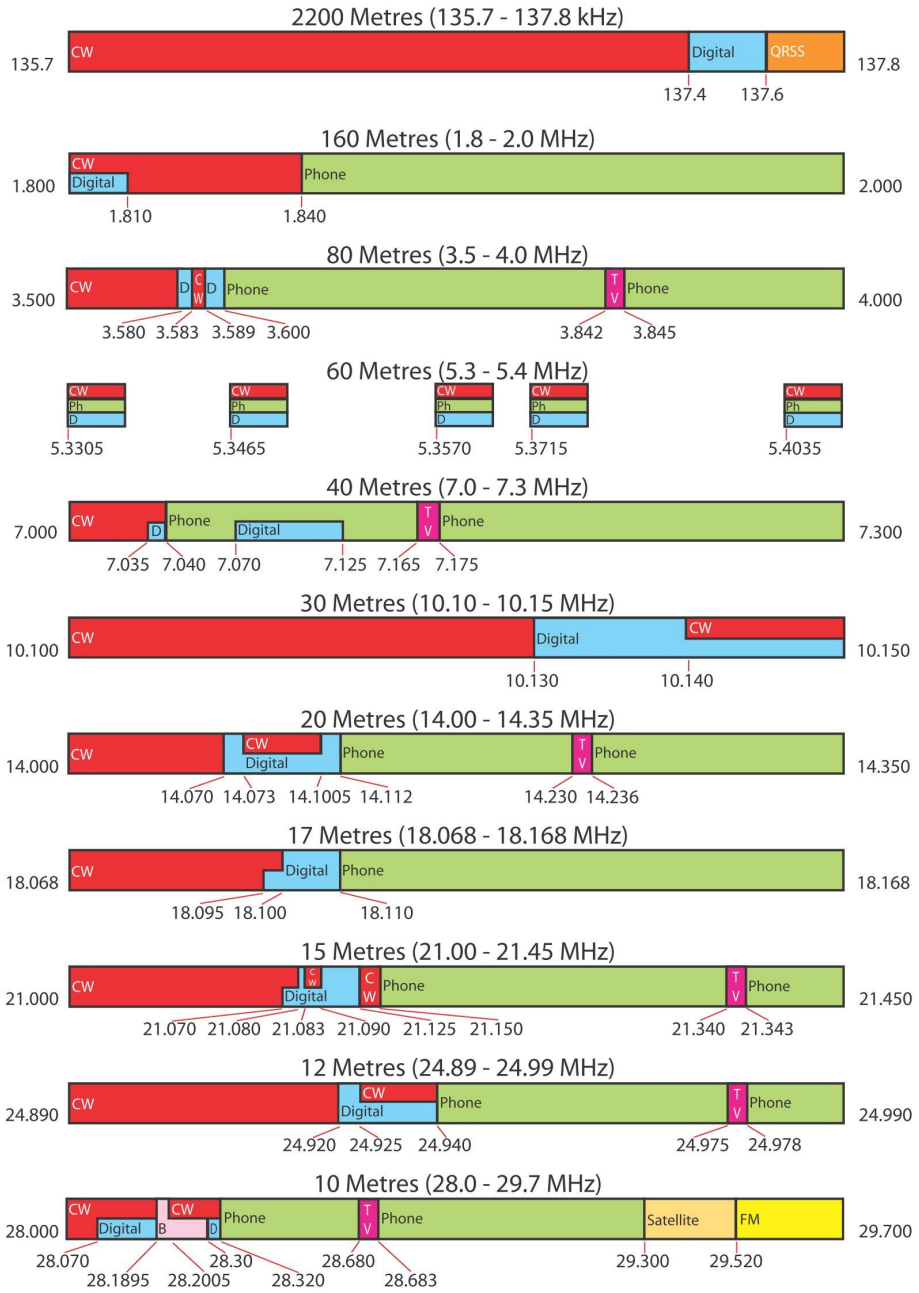
VA3GBV

Canadian 0 - 30MHz Band Plan

Effective Date: December 1, 2015

1. This is a simplified version of the official RAC Band Plan. Not all permissible modes/activities are represented.
2. LSB is used on 160, 80 and 40m. USB is used on all other bands that permit SSB, including 60m.
3. Consult various online resources for detailed information on what digital modes are used.
4. Maximum bandwidth permitted on 2200m is 100 Hz. Maximum power is 1 Watt EIRP.
5. Refer to the IC and RAC websites for full details before operating on the new 60m channels.
6. Remember not to allow your signal to spill over into adjoining band segments when operating close to the edges. During major weekend contests, activity in certain modes can spill over into other segments. Operators should avoid NCDXF beacons on 14.100, 18.110, 21.150, 24.930 and 28.200 MHz.
7. This graphic is a living document and will be reviewed and updated periodically to reflect changes in the band plans and operating habits.

www.rac.ca



Key

CW CW	FM FM	TV SSTV
QR CW QRSS	B Beacons	D Digital
Ph Phone	S Satellite	