FEBRUARY 2019 Volume 8 Issue 2

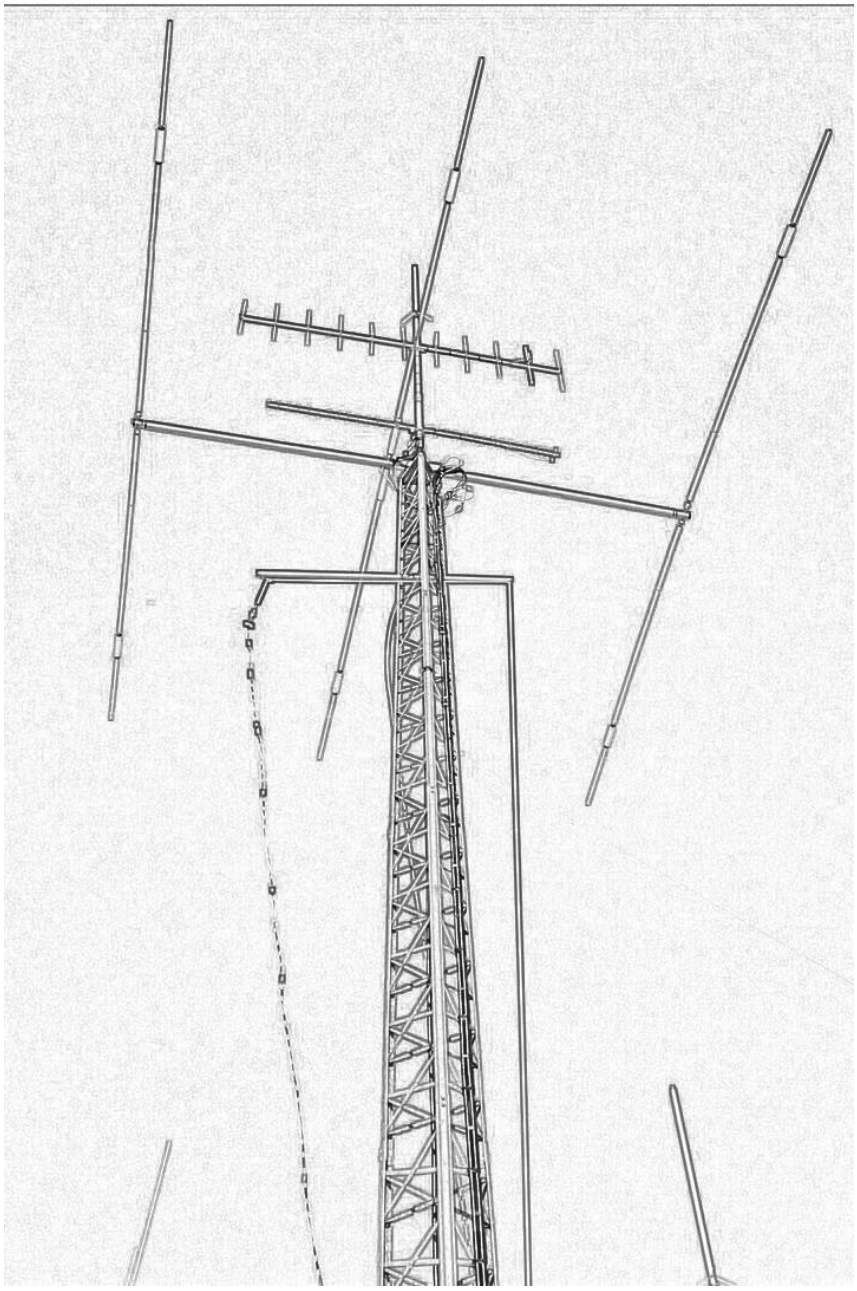
VE3ERC-LUB

President: Brian VA3DXK
Vice-President: Ted VE3TRQ
Secretary: Tom VE3DXQ
Treasurer: Paul VA3PDC
Trustee: John VE3JXX
QSL Manager: Paul VA3PDC
Repeater Trustee: Wes VE3ML
Website Admin: Ted VE3TRQ
Lighthouse: Al VA3TET
Maple Syrup Display: Al VA3TET
Newsletter: Bob VE3IXX

ERC REPEATERS

UHF 444.700 TONE: 131.8
UHF 444.700 TONE: 123.0
VHF 147.390 + TONE: 123.0
EMERGENCY SIMPLEX: 147.51
UHF– IRLP node 2404
VHF– IRLP node 2403, ECHOLINK node VE3ERC-R

In an emergency, tune Into our repeaters,
UHF 444.700 or
VHF 147.390 or
HF 3.755 LSB or
Simplex 147.510
For coordination and assignments.



So….. who belongs to this tower?

THE PREZ SEZ!

This club is Radio-ACTIVE

President's Update for February 2019

With the Elmira area and most of Ontario having been locked in the icy grip of winter for the past several weeks, winter is finally starting to wear out its welcome for many and inexorably yield to the approaching equinox and the beginning of spring. A lot of pressure sits on the shoulders of some small furry animals whom we count on to traditionally predict the beginning of spring. This year the famous furry forecasters were once again somewhat split in their decisions: Wiarton Willie predicts – early spring, Shubenacadie Sam – sticking to winter, Punxsutawney Phil – claiming spring is on its way. I don't know how you all feel but I'm going with our own Wiarton Willie's ever so esteemed and accurate prediction – an early spring!

This month we took a new approach to our monthly meeting format and had the Guest Speaker presenting first before the business part of the meeting. Our own Ted VE3TRQ presented: 'A Review and Demonstration of HF Digital Modes'. He had two radios set up and talking to each other, primarily using FLDigi and wsjt-x. We enjoyed a very informative and thorough presentation and the big screen mirroring of computer screens made the visuals easy to see and understand. The new meeting format went over very well and so we will continue with it. We have an exciting lineup of speakers/presentations as we move forward.

This time of year we take a meeting or two to update the Club Roster so be sure to check and update your contact information as needed at the meetings or email me with any updates if you miss the meetings. Club membership dues are due anytime now so get a jump on it and bring your cash or cheque in to Paul VA3PDC. $40 RAC members, $50 non-RAC members.

On the technical end of things I would like to extend the Club's thanks to Tony VE3DWI for taking the time and lending his expertise to do some well needed maintenance and repairs to our VHF repeater, and for supplying a backup system to keep us on the air while doing so. Also a thankyou to Ted VE3TRQ for linking up the repeaters through Echolink so that our friends and fellow amateur radio operators from far and wide can join us on the morning and Wednesday evening nets.

On behalf of the Elmira radio Club VE3ERC I would like to wish you all a hopefully early spring and I look forward to seeing you at our next meeting on Wednesday, March 27th, 2019.

Brian VA3DXK

Back-of-the-Napkin Eyeball

QSO notes and stuff

by Rich, ve3DCC

FEBRUARY 2019

On the lighter side! Well now, we all believe that our hobby, Amateur Radio, is out of this world. But, it really is!

There are many, many amateur satellites in orbit around the earth. Have you ever tried to QSO thru one?

In my first experience, many years ago, and according to my log book on 1994/05/09, I was able to do a short QSO with a station in Syracuse via RS-12.
RS-12 was a Soviet era Amateur satellite in polar orbit. It was an interesting experience since the Doppler Effect which I have discussed in earlier articles raised the radio frequencies as it raced towards me out of the north-west and then dropped the radio frequencies as it departed into the south-east. The pass lasted just a few minutes, so I had to tune my Kenwood TS 430S radio using the split frequency memory to listen on my 14AVQ Vertical antenna and transmit on my tuned dipole, all the while shifting the frequency manually and switching between the antennae, again, manually.

The published specs for RS-12 were:
RS-12
Uplink 21.210-21.250
Downlink 29.410-29.450
Beacon 29.4081/29.4543
As you can see, this was a cross-band contact as the uplink was in the 15 metre band, and the downlink or listening side was in the 10 metre band.

My log entry indicated:
1994/05/09 via 21.242 and 29.442
It required a weird hand, ear and eye coordination. It does not have to be that hard!

At a recent ve3ERC meeting, Frank ve3FJM, proposed a novel idea: With a Canadian Astronaut on board the International Space Station, might we be able to do a scheduled ham contact with ISS?

Tony ve3DWI volunteered that, after several attempts, he had been able to QSO with the Space Station from his mobile. That week, on several occasions, Frank and I attempted a call, but, we were unsuccessful. Frank even designed a cool antenna but… nil.
Now since each orbit is approximately 93 minutes and the Earth rotates, the passes over Canada will vary in time and location as they appear to "move" eastwards. The ideal is a nice long 10 minute pass directly overhead. In order to "track" the ISS, you require software that can update key information on orbit location and angle to the equator so as to accurately predict where the satellite is at a given time. There are many software options on the web—my IPAD uses Track Sats, but there are many free programs on the internet. As an aside the map showing the passes or ground tracks has a peculiar Sine-curve like appearance. Next month, I will delve into this peculiar appearance, and do a small side-trip into the FLAT EARTH society. No kidding… and you may want to read an article "FLAT EARTH 101*" that caught my eye in the Canadian Geographic January/February 2019 edition (pages 48-52, as homework, if you can browse the mag at your local book store!). Do not be concerned! I will also explain how I became convinced that the Earth is a sphere!
Now back to ISS(call signs NAISS and RSOISS)

After hearing only static for several weeks, I send this note to the Canadian Space Agency:
Request: Ham radio contact with ISS
Message
Members of Our Elmira Radio Club, located north of Waterloo ON, would like to complete a vhf radio contact with either NAISS or RSOISS on the current uplink at 144.59 M/148.80downlink. We have tried but we have failed. Is the station active? Is there an availability sched.?
Richard Clausi, ve3DCC

And I received the following reply:

Good day M. Clausi,

Thank you for contacting the Canadian Space Agency (CSA).

For more information on Ham radio contact with the International Space Station (ISS), we invite you to consult the ARISS website.

The frequencies currently used by the amateur radio ISS contact is:

- Voice and SSTV Downlink: 145.80
- Voice Uplink: 145.20 for ITU Region 1 (Europe, Russia and Africa)

Please note that the astronauts are not always available for amateur radio contacts. These contacts are random and unscheduled because the astronauts are making them during their breaks, pre-sleep time, and before and after mealtime. The work schedules of the ISS crew dictate when they are able to operate the radios. The crew's usual waking period is 0730 - 1930 UTC (0230 – 1430 EST). The most common times to find a crew member making casual contacts are about one hour after waking and before sleeping, when they have free time. They are usually free most of the weekend, as well.

Astronauts have contacted thousands of hams around the world. We hope your club members to be among them.

Best regards,

Service à la clientèle | Communications et affaires publiques
Agence spatiale canadienne | Gouvernement du Canada
asc.info.csa@canada.ca | Tél.: 450-926-4351

Customer Service | Communications and Public Affairs
Canadian Space Agency | Government of Canada
asc.info.csa@canada.ca | Tel.: 450-926-4351

?????????? You may have noticed a small glitch: We are in North America and we were not using the Region 1 frequencies. Is it possible that only the Russian cosmonauts are working the ham bands?

I then responded with the following email:

To: "Info (ASC/CSA)" **<asc.infocsa@canada.ca>**
Subject: FOLLOWUP-General information : Ham radio contact with ISS

Thank you for your response, below. Is it possible to actually schedule a contact, hopefully with our Canadian astronaut? Of course, it would be a short, perhaps ten minute pass contact, but we would be able to arrange local Waterloo/Elmira media coverage for the event... a good thing, right? Regards,
Richard Clausi, ve3DCC, FOR ve3ERC Inc, Elmira Radio Club.

As of today, that is where we stand. Has anyone out there been able to contact ISS?
Give it a try and let us know.

Regards, de Rich, ve3DCC

CONTRIBUTIONS TO VE3ERC-CLUB NEWSLETTER

Do you have an article you'd like to submit? Or photos? Do you have any comments you'd like to make?

Perhaps you'd like to share a photo of your shack, a special project you are working on or a special interest!

SEND THEM TO:

Bob bobve3ixx@gmail.com

(519-787-2279)

WEDNESDAY NITE NET CONTROLLERS

JANUARY 23 - M E E T I N G
JANUARY 30 - AL VA3TET
FEBRUARY 6 - REG VE3RVH
FEBRUARY 13 - TOM VE3DXQ
FEBRUARY 20 - PAUL VE3PVB
FEBRUARY 27 - M E E T I N G
MARCH 6 - BRIAN VA3DXK
MARCH 13 - BOB VE3IXX
MARCH 20 - TED VE3TRQ
MARCH 27 - M E E T I N G
APRIL 3 - AL VA3TET
APRIL 10 - REG VE3RVH

Paul VE3PVB sent the following e-mail:

New sdr radio /transceiver looks like a winner to me.

Hamgear and Gadgets

ANAN-7000DLE MKII HF & 6M 100W SDR Transceiver **i5 CPU**

The ANAN-7000DLE MKII monoblock SDR transceiver incorporates an Intel 8th Generation i5/i7 core computer, the SDR client software is preloaded and calibrated making the unit completely Plug and Play!

Unlike other Software Defined Radios which incorporate embedded processing with limited capabilities and no upgrade path, the ANAN-7000LE MKII uses a powerful Intel 8th Generation Quad core SoC and Windows 10, this allows for digital transmission such as FT-8 and others out of the box.

Using Direct Down Conversion with an ultra low phase noise clock yields an RMDR of 116dB@2Khz separation, this means that close in weak signals will not e masked by the receiver's phase noise.

The transmitter specifications are also off the chart, use of a new 16bit DAC with an ultra low noise clock source results in transmit phase noise better than any other product available in the market.

Use of the LDMOS drivers and an optimized final Amplifier stage with adaptive Predistortion Algorithm (PureSignal) yields transmit IMD of -68db@100W PEP, this is at least 20dB better than any Class A transmitter and over 30dB better than the competition.

Use of the two 16bit phase synchronous ADC's allow for advanced applications such as Diversity reception for ultimate noise mitigation and effects of signal fading.

Other Improvements

1. Integrated i5/i7 Windows 10 computer with SDR client preloaded and calibrated at the factory making the radio completely plug and play. (NO EXTERNAL PC Required)
2. Capable of driving three full HD monitors, ideal for digital modes.
3. Stainless steel chassis and large aluminium heatsink for excellent thermal dissipation and Rx/Tx isolation.
4. PA board improvements for higher duty cycle, 100% ICAS duty cycle supported.
5. Tx Signal generation redesigned to improve SNR at low power levels.

This following article was suggested by both, Marc Koechl VE3VMK and Ken Buehler VE3KCY. It was written by Paul Colbourne for the CBC in Newfoundland.

https://www.cbc.ca/news/canada/newfoundland-labrador/amateur-radio-1.4968865

It's not just a hobby.
In a crisis, amateur operators provide a lifeline

Paul Colbourne · for CBC N.L. · Posted: Jan 27, 2019 7:00 AM NT | Last Updated: January 27

As many as 1,500 people in Newfoundland and Labrador are amateur radio operators. (Paul Colbourne)

Larry Horlick still marvels when he thinks about what happens when he turns on his ham radio.

"I'm taking my voice and that radio is converting it into an electrical signal and the amount of electrical energy that he is receiving is so minuscule," said Horlick, a Coley's Point resident who is one of a group of radio enthusiasts in Conception Bay North.

"It is like a human hair in an ocean and that fascinates me to this day."

Amateur radio was around for nearly a century before the internet, and to this day is the only form of communication that does not depend on a network.

David Parsons first got the bug for amateur radio when he received a pair of walkie-talkies as a child. (Paul Colbourne/CBC)

Even in a world of smartphones, Facebook and texting, ham radio still holds a mystique for many people. More than two million people around the world still use the technology. Of the estimated 40,000 users in Canada, as many as 1,500 live in Newfoundland and Labrador.

An amateur radio user can connect with anyone practically around the world. The only countries that do not allow amateur radio operators are North Korea and Yemen.

The legacy, and appeal, of Marconi

If amateur radio has a prophet, it surely would be Guglielmo Marconi, the communications pioneer who in proved — in St. John's — that radio waves follow the curvature of the Earth by bouncing off the ionosphere.

No longer did telegraph wires or "ground waves" bind communication. Now it was possi-

ble to talk to anyone in the world who also had a transmitter and receiver.

"When other hams discover you are from Newfoundland, they want to know about Signal Hill," said Horlick, referring to the place where Marconi received a wireless transmission in December 1901.

Guglielmo Marconi proved that radio waves follow the curvature of the Earth.

Carbonear ham radio operator David Parsons agreed the allure is strong with colleagues.

"A friend of mine visited me last year and that is one of the things he had to do — go to Signal Hill and see where it all started," Parsons said.

Right in the middle of the action

Geographically, Newfoundland is in the centre of a lot of amateur radio activity, because it happens to be between Europe and the rest of North America.

"We're centrally located — you've got everything all around us here," Parsons said, pointing to a screen to see which parts of the world are likely to be reachable. "It's a really good spot for radio."

For many enthusiasts, amateur radio is a hobby. They log their daily "QSOs," or contacts. While talking to other people around the world, they exchange weather, call signs or other information.

There are contests on who can make the most contacts over a certain amount of time. Some even talk to astronauts on the International Space Station.

Amateur radio operators like Parsons have made contacts around the world, including this station in Norway. (Submitted by Torgeir Strisland)

However, this hobby has a serious side as well. In the event of natural disasters or other emergencies — when more conventional forms of communication go down — amateur radio operators are called on to help.

In the summer of 2017, for example, damage to fibre optic cables meant that internet and phone services failed in much of Atlantic Canada.

*Cut by construction: details emerging about why the lines went dead in Atlantic Canada

*'Perfect storm' of cable cuts led to Atlantic cell outage, says Bell Aliant

Parsons and other amateur operators helped keep communications open. They were on alert to help ambulances and other emergency personnel locate people in distress or to just relay information from one station to another.

After an earthquake struck Nepal, amateur radio operators relayed requests for help around the world. (Omar Havana/Getty)

The incident proved that a communications system that gets taken for granted can be vulnerable.

"The internet, the world wide web, is just that. It's a web of interconnected signals that are transmitted by satellite," said Parsons, adding that the chance of failure becomes greater as the world becomes more interconnected with Wi-Fi, satellites and cellular towers.

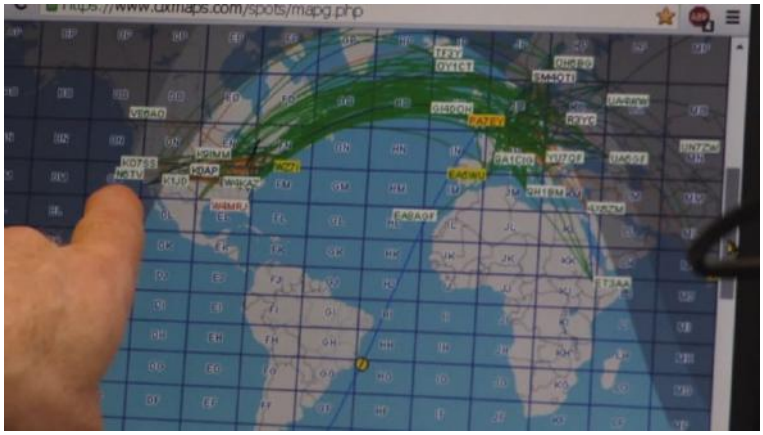
A simple form of communications

The beauty of amateur radio is its simplicity: one radio talking to another.

"All you need is a power source, a transceiver and an antenna," said Parsons. "Power can be in the form of a car battery, a gas power generator or solar panels."

Parsons has also helped out with other cases farther from home.

During the 2015 earthquake in Nepal, Parsons helped relay radio traffic from Israel and sent it to stations in the United States.



Parsons points to a screen showing which parts of Earth are covered in sunlight. The information can help determine where signals can most easily travel. (Paul Colbourne/CBC)

Parsons and Horlick both belong to BARK — the Baccalieu Amateur Radio Klub — which operates in the Conception Bay north area. The club holds an annual field day every year where about a dozen local operators use only generated power to make contact with hundreds of other operators worldwide.

The Society of Newfoundland Amateur Radio — or SORNA — is another organization that is trying to recruit new members through education and community outreach.

Becoming an amateur radio operator, though, it is not as simple as buying the equipment. After all, a ham radio is capable of operating in the commercial radio spectrum, where ships and air traffic controls operate.

Parsons operates his ham radio. (Paul Colbourne/CBC)

Operators require a licence, and the licensing process is a verification of your skill.

"You really got to know what you are doing, so you do not interfere with their operations," said Horlick. "That could be very dangerous."

Read more articles from CBC Newfoundland and Labrador

Used with permission from the CBC.

VE3ERC Elmira Radio Club Inc.

Minutes from Feb. 27 , 2019

Brian VA3DKX Tony VE3DWI Jim VE3JMU Johan VA3JBO Andy VE3CDF Jim VE3JLC Ted VE3TRQ Bruce VE3QB Bob VE3IXX Kirk VA3KXS Frank VE3FJM Wes VE3ML Paul VE3PDC Bill VA3QB Rich VE3DCC

At 7:30 pm Brian VA3DKX called the meeting to order.

Each of the members introduced themselves

Brian then made a special welcome to our newest member Kirk VA3KXS.

A motion to adopt the minutes was passed.

Ted VE3TRQ was then introduced and gave a presentation on the "HF Digital Modes" which proved most informative and interesting. Using two computers and two radios Ted demonstrated fourteen different digital modes. The members were able to hear the signals and see them on the computer screens.

The presentation was met with many questions and much applause at the end.

Treasurer's Report: Paul VE3PDC gave the Treasurer's Report and made a motion to have it accepted. It was seconded by Tony VE3DWI.

President's Report: Brian VA3DXK reminded everyone to renew their membership. The fee is $40.00 for members who also have a RAC membership and $50.00 for non-RAC members. He encouraged all to also get RAC memberships as it is through RAC that we get insurance for all our sponsored activities. Brian also passed around an updated membership list and a list of committees and asked everyone to check for accuracy.

The Maple Syrup Festival will take place on April 6. As with last year, we have rented two tables. Paul VE3PDC, Brian VA3DXK, Ted VE3TRQ and Al VA3TET will begin set-up on Friday at 2 pm. Ted will bring his digital equipment. Brian will have a sign-up sheet ready for next month's meeting and will try to locate the ERC posters. Brian introduced a motion to pay for registration and was seconded by Bill VA3QB.

Regarding the VHF repeater, Tony VE3DWI is still working on retuning the Duplexer and is also making up a new harness for the repeater. Brian thanked Tony for his hard work and a round of applause was given.

Ted has been working hard to tie the two club repeaters together on "Echolink" using two Raspberry Pi's, his radios and computers. The Uhf repeater is hooked up to Echolink node 2403 and the VHF repeater to node 2404. Ted will write up a methodology for the newsletter for those who do not know how to set up Echolink on their computer or tablet. Brian thanked Ted for his hard work and was met with another round of applause.

Regarding work at the repeater site at the feed mill, we will wait for spring when the weather is better. John VE3JXX is the liaison with the owners of the feed mill.

Unfinished Business: Brian has been in touch with the Scouting groups and received a request to do a program for the Cubs. The tentative dates are April 29 or May 27. Some brainstorming followed. Suggestions included doing Morse code activities, making contacts using VHF, setting up an HF station and letting the cubs talk on the air, setting up WSPR live map so the cubs can see where the signals are going and Jim VE3JLC offered his CW-decoder to demonstrations. Brian will see about getting a Public School for the event. Ted VE3YRQ, Frank VE3FJM and Jim VE3JLC volunteered to help but we will need a few more people.

Ham Tech is set to run next September 21. Frank VE3FJM volunteered to Chair the committee and Bob VE3IXX will work with advertising and Posters. Bob VE3IXX made a motion that $600.00 budget be set aside for costs such as rental of the Legion Hall. It was seconded by Bill VA3QB.

Paul VE3PDC invited any interested members to go to McDonald's for coffee following the meeting.

The next ERC meeting will be March 27.

Bruce made a motion to adjourn and was seconded by Johan VA3JBO

COMING SEPTEMBER 21

HAM TECH 2019

MARK YOUR CALENDARS

AND

CHECK OUR WEBSITE AT

www.ve3erc.ca

Amateur radio (illegally) aiding yacht racers

By Dan Romanchik, KB6NU

The Golden Globe Race (https://goldengloberace.com), a 30,000 mile, non-stop solo yacht race to celebrate Sir Robin Knox-Johnston's historic 1968/9 world first solo non-stop circumnavigation. There are 18 sailors in the race, which started on July 1, 2018 from Les Sables-D'Olonne, France.

Amateur radio is at the heart of the latest controversy surrounding the race. *Scuttlebutt Sailing News* reported (https://www.sailingscuttlebutt.com/2019/01/21/maintaining-information-barrier/) on January 21, 2019 (day 205 of the race):

> "Sailors have been making use of the Amateur Radio net (ham radio) for decades, and while National telecommunication authorities have often turned a deaf ear to unlicensed operators using made-up call signs while at sea, warnings from a National regulator to Golden Globe Race skippers has created intrigue into an exciting finale for race leaders.
>
> "Modern navigation and routing tools are restricted from use in the 2018-19 contest, limiting GGR skippers to the type of equipment available for the inaugural Sunday Times Golden Globe solo non-stop round the world race in 1968-69. That includes Amateur Radio.
>
> "The skippers have been using this free communication system to gain weather forecasts and maintain contact with their teams, which is allowed under the Race Rules. However, it is the responsibility of each skipper to ensure that they abide by National and International regulations which Jean-Luc Van Den Heede and Mark Slats, in first and second in the race, have not been doing. [[Neither Van den Heede or Slats have valid amateur radio licenses…Dan]]
>
> "Said the warning, 'You use an amateur callsign and are making connections with amateur radio operators. The call sign letters are not registered, and thus illegal. I ask you to stop. If you have a legal amateur callsign then I urge you to present it.'"

As a result of this warning, Slats is considering dropping out of the race, even though the race is nearly complete. *Yachting Monthy* reports (https://www.yachtingmonthly.com/boat-events/golden-globe-race/golden-globe-race-slats-considers-quitting-comms-row-68574):

> "Mark Slats, who is less than 50 miles from Golden Globe Race leader Jean-Luc Van Den Heede, has announced he is thinking about retiring from the race after being banned from broadcasting on the Ham Radio Net.
>
> "Race organisers said the Dutch skipper does not have the required licence, and has been warned by the Dutch authorities to stop broadcasting, which has left him unable to communicate with his shore team.
>
> "Under the rules of the race, all of the entrants are able to use this free communication system to gain weather forecasts and maintain contact with their teams, but, it is the responsibility of each skipper to ensure that they abide by national and international regulations."

It's not only the yachters that are flouting the rules, it's the amateur radio operators who are communicating with them. According to *Yachting Monthly,* OFCOM, the UK regulator issued the following warning:

> "Fair warning both to unregistered GGR skippers and to legitimate Ham radio operators communicating with them. In Britain, the Ham Radio net is controlled by OFCOM, which recently revoked more than 500 licences for non-compliance. This includes communicating with unregistered Ham radio operators. The maximum penalty is 6 months in prison, a £5,000 fine and loss of their licence."

This is a fascinating story, and I wish that I'd found out about this sooner. It would be interesting to listen in on some of these communications. One question I have is why these guys failed to obtain a valid amateur radio license? The Golden Globe Radio website notes, "[The race] will be sailed under the auspices of the Royal Nomuka Yacht Club in the Kingdom of Tonga. His Royal Highness, Crown Prince Tupouto'a Ulukalala is Patron of the Race." They probably could have issued valid amateur radio licenses to all the racers.

If any of you have heard the communications or know any more about the technical details, I'd love to hear from you.

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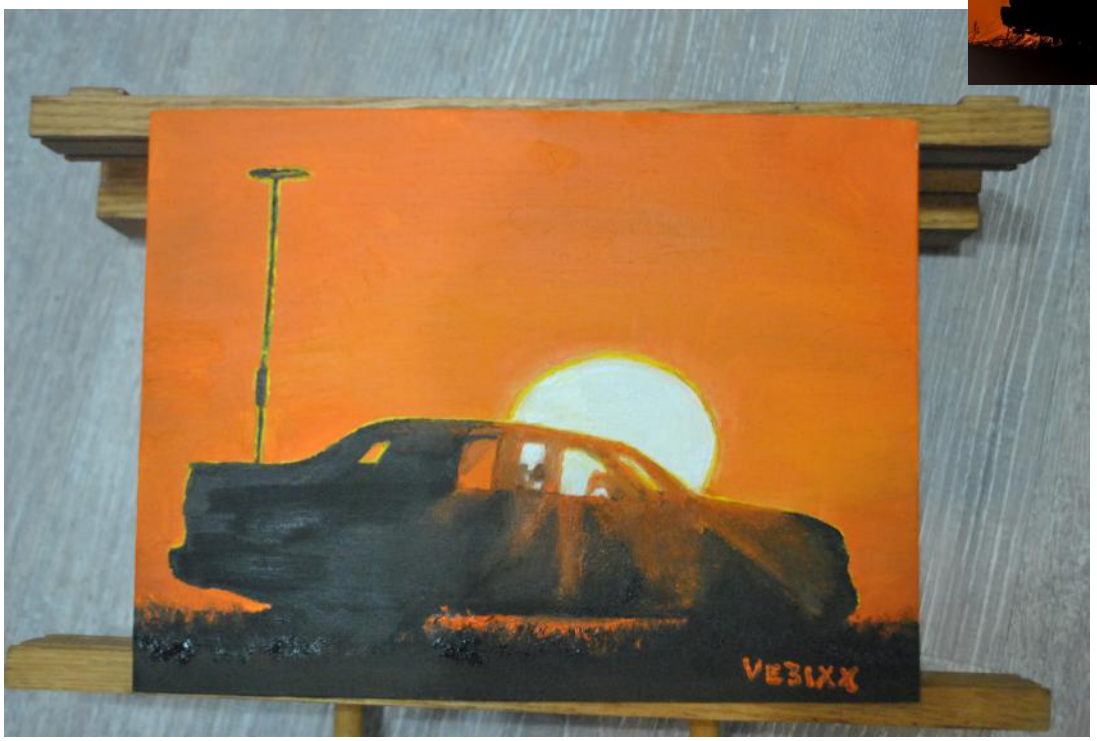
Dan Romanchik, KB6NU, is the author of the KB6NU amateur radio blog (KB6NU.Com), the "No Nonsense" amateur radio license study guides (KB6NU.Com/study-guides/), and one of the hosts of the No Nonsense Amateur Radio Podcast (NoNonsenseAmateurRadio.Com). When he's not thinking about operating maritime mobile, you'll find him on 30m, 40m, and 80m.



This oil painting was inspired by one of the pictures shown (Inset) in last month's newsletter that featured the photos of Jerry Clement (VE6AB).