



October 2021

Feedback

Newsletter of the Georgian Bay Amateur Radio Club

A Word from the Editor



Welcome to the October issue of Feedback. This month we begin a whole new era of our club's newsletter. But first we have to say a big thank you to the previous editor, Tom VA3TS whose hand held the mighty pen for many years.

Now it's my turn and while my enthusiasm for the task burns brightly I hope to introduce new ideas you'll find interesting. But mostly this is your newsletter and it will be made better by your contributions, so please tell me what's on your mind and what you have been up to. I want to hear your stories!

I hope you enjoy reading this month's issue.

73 de John VA3KOT Email: newsletter at gbarc dot ca

In this month's issue

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- **Technical Tidbits** – Why our 80-meter net works
- **Auxiliary Communications Service** - aka ARES
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- **For Sale and Wanted** – Bargain Hunters and Scroungers
- **On the Web** – Outdoors On The Air – a Canadian YouTube channel

GBARC members live in Grey & Bruce counties and far beyond!



President:
John Corby
VA3KOT
Vice-President:
Tom Van Aalst
VA3TVA
Secretary:
Rob Walker
VE3RWY
Acting Secretary:
Marvin Double
VE3VCG
Treasurer:
Doug MacDougall
VE3DGY

Webmaster:
Tom St Amand
VA3TS
Newsletter Editor:
John Corby
VA3KOT
Net Manager:
John Corby
VA3KOT

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President's Report

John Corby VA3KOT

I joined this club on Field Day 2019. Do you remember the good old days when Field Day was actually held out in the field?

XYL Krystyna and I had visited Owen Sound many times while house hunting. I had always monitored the

local repeater during my visits but never heard a signal break squelch. I'll admit to kerchunking a couple of times to see if VE3OSR was actually on-the-air.

After our move was complete I checked into the Wednesday night net and there was Tom, VA3TS and Maureen VE3MIO - just Tom and Maureen! I committed to checking in whenever I was able and before long they made me Net Manager.

Things started to improve and the number of check-ins began to grow. I am pleased to say we now have quite a vibrant net each week. Our club activities have managed to survive lockdowns and our club is in good health.

Following on from my humble efforts as Net Manager they made me President and now I am also Newsletter Editor. Wow, three hats! Maybe I should learn to juggle.

We are staring down the barrel of another long winter but thanks to Zoom and our wonderful supporters Todd and Karen Ludlam, who paid for our subscription this year, we can continue our club meetings and Tech Talks through the long, cold, dark nights in the comfort of our shacks.

This month is headlined by the annual Simulated Emergency Test (SET) in which everybody is encouraged to participate. In our region Frank VA3GUF, EC for Grey County and Marvin Double VE3VCG, EC for Bruce County will be heading up the event. Full details are posted in this newsletter. Frank is making the SET a contest style event to add to the fun. Please get involved!

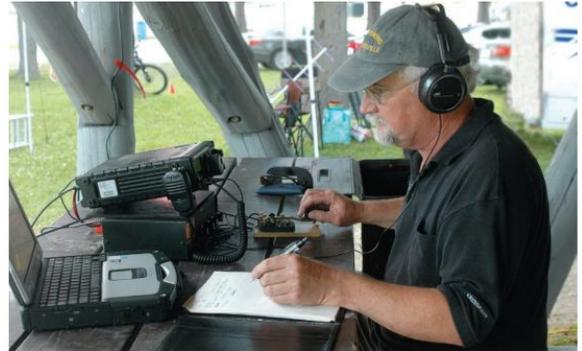


PHOTO BY BRIAN LOCKHART
Dufferin Amateur Radio Services member John Corby, keys in Morse Code during a 24 hour session held at Hyland Park in Shelburne. Members of the organization invited the public to see what they were all about as they contacted other radio operators from around the world.



Georgian Bay Bay
Amateur Radio
Club meets every
4th Tuesday of the
month at 7:00pm
EST/EDT

Our meetings are
held on Zoom
during the present
restrictions on
personal gathering

When the weather
and daylight hours
allow, we try to
meet outdoors



Minutes of Meeting

Marvin Double VE3VCG Acting Club Secretary

Date: Tuesday September 28, 2021

Meeting location: Harrison Park Band Shell, Owen Sound

This is an outdoor location and all COVID-19 meeting protocols were observed.

Attendees: Frank Gufler VA3GUF, Greg Larocqe VE3RQY, Doug MacDougall VE3DGY, Berni Monderie VE3BQM, Tom Van Aalst VE3TVA, Rob Walker VE3RWY, Marvin Double VE3VCG, Janet Double VA3EAC.

Tom Van Aalst Chaired the meeting.

Meeting was called to order at 7:15 (19:15) by the Chairman.

Meeting minutes from the previous meeting were not available. A motion was made that members could read the previous meeting minutes online and objections or corrections would be forwarded to the secretary and carried forward to be raised as old business at the next meeting.

Motion: Greg VE3RQY: Accept Previous Meeting Minutes with noted provisions. Second: Bernie Monderie. Motion Carried.

Treasurer's Report: Doug MacDougall

[Dollar amounts redacted]

Opening balance before transfer to new TD Account:

Equipment sales and Donations for repeaters:

Repeater repairs:

Transfer to new web host, paid to Sept 2024:

Bank charges:

Member dues so far:

Balance as of Sept 20:

Motion: Bernie VE3BQM: Accept Treasurer's Report

Second: Greg VE3RQY

Motion Carried

Old Business:

No issues were raised or discussed.

Chairman: Request to close old business

Doug VE3DGY: Motion to close old Business

Second: Bernie VE3BQM

Motion Carried

New Business: Tom Van Aalst Re: Grand Gravel Fondu.

Tom was approached by the organizers for the Grand Gravel Fondu and asked if GBARC would provide support for their event on Saturday October 2 2021. Acting in his capacity as Vice President, Tom advised that a request for operators was put forward in the newsletter and put on the clubs online calendar. No volunteers came forward and so Tom advised the organizers that GBARC could not support the event this year.

A general open discussion ensued as to an apparent break-down in communications within the club resulting in members not being well informed about the event with sufficient time to plan to participate. Several ideas were discussed regarding things which could be done to provide for better communications within the club.

No proposals to resolve the issue were tabled however, It was agreed that further discussion is needed on this topic.

Doug VE3DGY advised that he will contact Tom VA3TS with regard to getting his suggestions for setting up an educational workshop or event on repeater function, programming and/or repair. The objective is to create an educational event which will benefit the general knowledge and understanding of repeaters by all members of the club. Such an event will also provide the opportunity to allow other club members to participate in maintaining repeaters in the future.

Other suggestions for hands on educational events included leaning to build various antennas, baluns and other all other manner of DIY radio related gear

Frank advised that he has been talking to the Mayor and Fire Chief of Hanover as one of his functions as ACS EC for Grey County. This discussion has led Frank to be invited to attend an emergency planning meeting in roughly a month.

Marvin VE3VCG asked to also attend the meeting with Frank and this idea was accepted by Frank.

A general free ranging discussion opened covering a number the broad

topic of interlocking issues related to emergency preparedness strategies, in Grey County specifically. These discussions were not detailed in nature but did cite certain potential problems which might arise during a wide area blackout, including fueling for emergency vehicles, hydro vehicles etc as well as the backup generators at various locations which will be called to service during a blackout situation.

The cold weather related blackout in Texas earlier this year was mentioned and discussed broadly as a point of reference. It was noted in the discussion that such a low incidence, high impact event is also possible in Ontario.

Information with regard to related known issues or potential issues was shared with the group in a conversational manner but without a specific agenda or proposal.

Frank Gufler VA3GUF advised of the upcoming Grey County Simulated Emergency Training which will be held this year in November. Frank also noted that he has been invited to participate in this upcoming SET after being excluded from the previous SET.

Discussions were informally concluded

Chairman: Request motion to adjourn meeting

Motion: Doug VE3DGY: Motion to adjourn

Second: Bernie VE3BQM

Motion carried

Chairman: Meeting adjourned



Next Club Meeting

Date: Tuesday 26th October 2021 at 7:00pm

Location: Zoom

<https://zoom.us/j/96133739174?pwd=ODh4UUU1Bdk9IcFlhaE45L0ovZENJUT09>

Meeting ID: 961 3373 9174

Passcode: 795699

Draft Agenda:

- Call to Order, John VA3KOT
- Presidents Report, John VA3KOT
- Secretary's Report - approval of minutes of last meeting, Rob VE3RWY pp Marvin VE3VCG
- Treasurers Report - Doug VE3DGY
- New Business - club
- Discussion - club
- Motion to adjourn – club

Strange Signals from Space

“Commander, come here a minute” called the young radio officer in the Comms Room in the remote colony on Titan, one of Saturn’s moons. The colony enjoys a lonely existence one and half billion kilometers from the Earth. It was first established when settlers from Earth arrived a hundred Earth years earlier. A posting to Titan is a one-way trip and many of the settlers were now third generation Titaners (the name derived from “Titan Pioneers”) who had never seen Earth. Most of the original settlers had long since passed away.

Strange signals were coming in on the station’s powerful radio receivers. They were on a frequency of around seven megahertz. The colony didn’t use such a low frequency for their communications with Earth but monitored “DC to daylight” to check for unusual transmissions.

The station commander listened as the signals continued. It was a strange sequence of short bursts of carrier wave that formed a pattern with which he was familiar from his early training days.

“That’s Morse Code” he said. “Morse Code is still popular on Earth among amateur radio operators. Won’t these guys ever learn? They are trying to send NVIS signals on a frequency too high for present conditions and the signals are passing through Earth’s ionosphere straight up into space.”

GBARC operates 2 permanent repeaters VE3OSR & VE3GBT



Georgian Bay
Amateur Radio
Club meets on-
the-air each
Wednesday
evening at
7:30pm on
VE3OSR (146.94-
T97.4) in Owen
Sound, VE3GBT
(146.73- T97.4) in
Paisley, Ontario
and immediately
afterwards on
3783KHz +/-.

VE3OSR can also
be accessed on
Echolink (node
#333014).

Why not join our
team of amazing
net controllers?

Email
netmanager at
gbarc dot ca to
volunteer.



Net Reports

John Corby, VA3KOT Net Manager

Wednesday 1st September 2021 NCS Tom VA3TS

Open mic night, any topic

VHF

VE3PAV Bobby

KO4DXQ Bob

VA3KOT John

VE3FP Adam

VE3VCG Marvin

VE3RQY Greg

VA3MFO Jim

VE3MIO Maureen

VE3BQM Bernie

HF

VA3KOT John

VE3FJN Colin

VE3BQM Bernie

VE3RQY Greg

VE3MIO Maureen

VE3FP Adam

Wednesday 8th September 2021

No report available

Wednesday 15th September 2021 NCS: John VA3KOT

VHF/Echolink:

KO4DXQ Bob Tennessee

VE3VCG Marvin Paisley
VA3EAC Janet Paisley
VE3WI Dave Port Elgin
VE3FP Adam Elmwood
VE3RQY Greg Owen Sound
VE3BQM Bernie Owen Sound
VE3OZW Richard Mildmay
VE3OUI Doug Elliot Lake

HF 3777KHz

VE3VCG Marvin Paisley
VE3BQM Bernie Owen Sound
VE3OZW Richard Mildmay
VE3OUI Doug Elliot Lake
VE3FJN Colin Hamilton
VE3RQY Greg Owen Sound

Wednesday 22 September 2021 Net Controller - VE3OZW Richard

Topic for discussion -

1. Your amateur radio projects completed in 2021 and what's left to do?
2. Q codes - What are your thoughts for phone? Should they be used mainly for CW? Are they needed on 2m?

VHF

KO4DXQ Bob (Echolink)

VA3KOT John

VE3VCG Marvin

VA3EAC Janet

VE3RQY Greg

VE3OUI Doug

VA3OAG Lucille

HF

VE3VCG Marvin

VE3RQY Greg

VE3FJN Colin
VE3OUI Doug
VA3OAG Lucille

**Wednesday September 29, 2021 Net Controller Marvin Double
VE3VCG**

Topic for this net was “what educational or practical events would you like to see the club organize or support?”

Participants: For 2 meters

K04DXQ (Bob via Echo Link from Tennessee)

VE3MIO (Maureen via Echo link from Warton)

VE3BQM Bernie

VE3RQY Greg

VE3RQY Rob

VA3TS Tom

VA3GIO (Larry via Echo Link from Woodstock)

Participants on 80 meters

VE3MIO Maureen

VA3GIO Larry

VA3TS Tom

VE3BQM Bernie

VE3RQY Rob

VE3FJN Colin

-- End of Net Reports --

Radio Amateurs of Canada Liability Insurance

Georgian Bay Amateur Radio Club is an affiliate club of Radio Amateurs of Canada. GBARC members enjoy the benefit of liability insurance protection provided by RAC's affiliated insurance company. GBARC members who are also RAC members enjoy insurance protection for their personal ham activities as well. GBARC encourages all members to join RAC and offers discounted club membership dues for those who do.



You may be an EXPERT and not know it. Why not share what you know with the club. There are two definitions of expert, neither of which is in the dictionary. An expert is someone who knows slightly more than the next guy about a topic. Another definition of expert is: X is an unknown quantity, SPURT is a drip under pressure. See, everyone qualifies! Sign up and make yourself (in)famous.

TIPS FOR SPEAKERS

Choose an appealing title.
Write a 4 sentence description using the AIDA rule:

TechTalks

TechTalks are held on Zoom on the 2nd Tuesday of each month except July and August.

SPRING SEASON

January [Postponed]

February - Frank VA3GUF: VHF/UHF 4 Bay dipole details

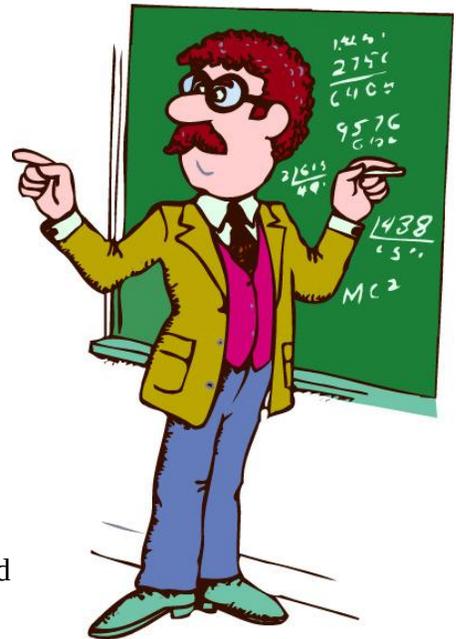
This presentation is about the commercial 4 bay antennas we see on many towers and GBARC's repeater. When taking one apart I was surprised at what I found and how they are actually put together when they are called a dipole. I am sure you will find it interesting. See you on Zoom.

March - Marvin VE3VCG: Rethinking EmComm 2021

The recent power outages in Texas require a rethink about the need for robust, reliable, off-grid emergency communications. This presentation delves into several possible ways HAM radio can better support communities during emergencies. It covers a unique method of using newly emerging technologies to put emergency communications where they are most needed, in communities. This presentation has a little something for everyone. Whether you are a maker, electronic tinkerer, an ARES volunteer, or you have experience with networks, you will find a good deal to consider.

April - John VA3KOT: Operating HF in The Great Outdoors

After being cooped up indoors all winter it's a great feeling to take a portable rig out on the trails, into the parks and to your favourite secluded beauty spot. The noise floor in the great outdoors is so low you can easily copy those weak signals and, if you get up on top of high ground, you can be heard further and better than you ever imagined. It takes only minutes to get all set up, then operate from a hammock, one of those cozy zero-gravity chairs or while laying on a sunny, sandy beach. Join me as I recount swashbuckling tales of cliff-top carrier waves in the Great Outdoors.



- **Attention**
- **Interest**
- **Desire**
- **Action**

Make your slides simple. Don't put everything you want to say on the slide or your audience will read it for themselves and pay less attention to what you are saying. Check into the club net on the Wednesday before your talk and make an elevator pitch for your talk. [Elevator pitch: Imagine you have a great business idea and step into an elevator with Bill Gates. You have about 30 seconds to persuade Mr Gates to invest in your idea before the elevator reaches its destination.]

**SPEAKERS
NEEDED FOR
NOVEMBER &
DECEMBER**

May - John VA3KOT: The Satcom North Expedition 1999

In June 1999 I travelled to Canada's High Arctic as communications support volunteer for the Otto Sverdrup Centenary Expedition the following year. My role was to test the satellite communications equipment the expedition would use during it's 12-month stay in the far north. My QTH for 3 Arctic "days" was the tiny hamlet of Resolute Bay, Nunavut. I mixed with native Inuit seal hunters, A US research team that flew over the North Pole every night and a pack of Canadian Eskimo dogs that shielded me from a group of polar bears. My satellite email caused a minor commotion on the subway in Oslo, Norway when the expedition team received it and realized they would have proven communications from their Arctic base the following year.

June - Dave VE3WI: Chokes and Baluns

We will discuss:

- how they work & why you might need one
- where to buy them
- how to build them & where to buy materials to build them

FALL SEASON

September - Tim Duffy K3LR (CEO of DX Engineering): Basic Antenna Theory and Construction of Yagis at K3LR

Tim has been an active amateur radio operator for 48 years – starting as WN3SZX in 1972. He has hosted 145 different operators from around the world as part of the K3LR Multi operator radio sport contest efforts since 1992. Tim has built a 13 tower station with 11 operating positions. He was the ARRL Atlantic Division Technical Achievement award winner in 1998. Tim has been the moderator of the Hamvention Antenna forum for 35 years.

October - John Corby VA3KOT: The Parks On The Air (POTA) Program

The Parks On The Air program (POTA) is a wildly popular program among outdoor ham radio enthusiasts. POTA encourages "Activators" to set up portable stations inside Federal, Provincial and State parks and make a minimum of 10 contacts with "Hunters" within the same UTC day. Hunters may operate from anywhere - even from home. POTA offers awards for various achievement levels by both Activators and Hunters.



HF signals are propagated by one of three methods:

1. Groundwave

Short range, affected by terrain but protected from ionospheric disturbances

2. Near Vertical Incidence

Skywave (NVIS)

Medium range, signals travel straight up to the F2 layer of the ionosphere, passing through the D layer where absorption occurs.

Only works for low-bands

3. Skywave

Long range, signals are refracted by the the F2 layer. Short and medium distances are in the "skip zone".

Technical Tidbits

Every Wednesday, immediately following the first round of our nets on our club repeaters, we move to the 80-meter band for the second round. We usually find it easy to connect with each other on 80m despite often poor propagation conditions, but why is that?

Before I answer that I would just like to go back in history a little way. Donkey's years ago there were no VHF repeaters. Sure VHF was around but communications had to be line-of-sight. So how did radio operators stay in touch with each other over longer distances?

The answer is HF; low-band HF to be precise. During the battle for Arnhem in the Second World War, allied troops on the European mainland used frequencies close to our present 160-meter band to communicate between forward operating bases and command centres in England. Their radios were mounted in a backpack. The antenna was a short coil-loaded vertical whip and the output power was around 3 watts. The ground connection was carried on a soldier's body to conductive shoe plates!

There were numerous issues with this arrangement. First, a quarter wave whip on 160m must be 130ft long. To shorten it requires a large loading coil, but the Q-factor of a very short loaded whip is extremely high so it is very difficult to obtain a low SWR. No problem, because, of course, in the good old days of tube-based radios nobody cared about SWR. The radio/antenna was tuned for maximum plate current and that is all that mattered.

Using a soldier's body to carry the ground connection down to conductive plates on his boots meant he was exposed to RF. Perhaps that was ameliorated by the low transmitted power. In any case, it didn't work very well. A re-enactment was staged in recent years to analyze the reasons why. Here is what it found.

A vertically-polarized antenna is the best arrangement for groundwave propagation. The success of groundwaves depends to a large extent on the terrain between the sending and receiving stations. During the Battle for Arnhem the terrain between the stations was the English Channel.

The English Channel is a narrow body of water between the North Sea and the Atlantic Ocean; it is frequently a very rough piece of water. I have experienced the turbulent channel myself on a ferry ride between Dunkerque, France and Dover, England. Waves were splashing over the

upper decks of the bridge and most of the passengers saw their suppers for a second time.

Seawater is a great medium for reflecting radio waves and can result in great DX contacts, but rough seas can reflect radio waves in random directions and actually disrupt communications. It was rough in the Channel during the Arnhem campaign.

During the Vietnam War, US Marines made extensive use of Near Vertical Incidence Skywave (NVIS) antennas to communicate over short-range. NVIS antennas are also known as "cloud burners" because the signal travels straight up and is reflected straight back down again by the F2 layer. Reception is very good over a limited range but useless for DX.

So, back to the GBARC 80m nets. Most of us are located in the Owen Sound area and can communicate via groundwave very easily. Others, who are a little further away, for example Colin VE3FJN in Hamilton, rely on NVIS propagation. VE3FJN doesn't always have a strong signal here at my QTH and that may be because NVIS propagation is subject to D-layer absorption and the thickness of the D-layer is a variable known only to the Sun and varies a lot as the seasons change.

A technical note is appropriate here. Some of us are tempted to fire up an amplifier and blast out a high power signal. That may help with skywave but is quite unnecessary for groundwave propagation. High power is a problem for NVIS. Here is what happens. The groundwave signal mixes with the incoming NVIS signal from the F2 layer and causes interference due to phase differences over the different path lengths. High power can actually make NVIS signals harder to copy from some locations.

Sometimes we get check-ins from even further afield, for example Bob VY2NX in PEI. Bob is too far away for reliable NVIS propagation and is subject to the vagaries of regular skywave propagation.

So there we have it; those of us in the Owen Sound area are immune to solar disturbances to the F2 layer when we are talking to each other because we will be hearing groundwave signals. Stations with horizontally-polarized antennas will also be heard over a range of about 500km due to NVIS. Every wire antenna for 80m is an NVIS antenna unless it is higher than 130 feet above ground. Stations with vertically-polarized antennas will be harder to copy over NVIS range but will have an advantage for longer range contacts.

See you on the nets!

Amateur Radio Volunteers Serving the Community



Emergency
Coordinator Grey
County:
Frank Gufler
VA3GUF

Emergency
Coordinator Bruce
County:
Marvin Double
VE3VCG

Auxiliary
Communications
Service (ACS) is
also known as
Amateur Radio
Emergency
Service (ARES)

GBARC is a
registered backup
emergency
communications
provider to Grey
County

Emergency and Event Communications



"if all fails, Amateur Radio works"



Georgian Bay Amateur Radio Club
<http://www.gbarc.ca>



Emergency and Event Communications



Avoid the rush, volunteer now!

Frank VA3GUF reports from Grey County:

OCTOBER 30th, SIMULATED EMERGENCY TEST from 9am to 12 Noon using the mobile repeater frequency 147.105+ MHz with a tone of 97.4. Frank Gufler VA3-GUF is net control.

Alternate frequencies in use for integrated Grey and BRUCE county SET
With Marvin Double as Net Control on alternates:

- 09am – 10am / HF phone @ 3.800MHz
- 10am – 11am / JS8call @ 3.578MHz
- 11am – 12pm(Noon) / 2 meter simplex @ 146.520MHz

SET is set up as a contest to make contacts to Mobile repeater net control and alternates.

1 point for each contact to NET control.

1 point for each contact on 2 meters off the mobile repeater frequency. No points for GBARC repeater frequencies.

5 points for both operators of a HF message relay to another operator, relayed to NET control.

Additional 5 points for HF relay message originator. Maximum HF message relay points is 100 for relay operator and 200 for relay message originator.

(YYMMDDHHMM). Each message will have using this format a unique number in the EOC and log.

The subject line with the message serial number is then logged into an EOC ARES radio message log sheet that records outbound and inbound message metrics and then sent. The log sheet will also be usable to track messages if needed for auditing what was actually sent, described later in the article.

Since the message form is a divided into two sections, message and response, the radio operator keeps the message in a file in the order outbound messages are send so that it may be retrieved once a reply comes back. In the event of a reply, the serial number in the format will make it easier to retrieve and update the message log sheet on an inbound response. The response is written in the response section (bottom half) of the form and forwarded to the initial message originator. The originator will keep the transmission and response for their own event records.

The second scenario of an originating inbound message. The form is filled out from the top down with the details of the originators message and passed on to the intended recipient that is written into the too portion of the form. The recipient response when received is transmitted to the appropriate radio station with the message logged in the message log as a response and the message form filed with the rest of the message forms on file. The file now holds a copy of all messages sent that have not been responded to and those that are responses to messages received at the EOC. If the message sheet gets misplaced by the originator and they want to find a copy of the note, the message log will identify the responder and a new message to the responder radio station can request a resend of their copy response with the initial message relaying the entire message for replication for the originator. The possibilities of this type of follow up of a lost or misplaced message would in my opinion be extremely rare. Following the above process with single copies of messages will reduce the amount of paper flowing within an EOC during an emergency event allowing the simplicity of single copies instead of dealing with carbon copies.

A sample of the message form ICS-312 with and without the second page instructions and a copy of the GREY COUNTY EOC log sheet would be found on the GBARC Forum in the emergency communications section and reposted prior to any anticipated significant weather event.





Solar Flux Index (SFI) > 100 Good
A-index < 5 Good
K-index:
1-3 Good
4-5 Storm
> 6 HF blackout
Sunspot number (SSN): the higher the better!

It's always a good idea to be aware of HF propagation conditions

How? Visit www.gbarc.ca/propagation.php



HF Propagation Report

We are currently in solar cycle 25 which began in December 2019. It is expected to peak somewhere around 2024/25 and then will begin to decline again until we reach another solar minimum around 2030. Each cycle lasts approximately 11 years.

After several years of disappointing HF propagation conditions due to the solar minimum as we progressed from solar cycle 24 into solar cycle 25, conditions are beginning to improve. Progress is slow but your newsletter editor is beginning to make more and more DX contacts which is a very encouraging sign.

NB: The parameters to watch are listed in the blue sidebar but spaceweather is complex and conditions can change rapidly and unexpectedly. Check the GBARC propagation page at www.gbarc.ca/propagation for the current forecasts.

Other Resources Worth Monitoring:



“Space Weather Woman”, Dr Tamitha Skov, is a space physicist and popular media personality who provides regular video forecasts of space weather conditions. Visit her website at: www.spaceweatherwoman.com.



Spaceweather.com provides a very detailed analysis of what is happening on the Sun and its effects on our planet.

Always keep the coffee and the soldering iron hot!



This is the first part of a series of articles on the nanoVNA

In subsequent issues of the newsletter we'll take a look at practical measurements using the nanoVNA

If you own a nanoVNA and would like to share how you use it with newsletter readers, please contact the Editor:

newsletter at gbarc dot ca



On the Bench

1. The Barebones Basics of the nanoVNA

They are cheap, actually extremely cheap compared to full-size benchtop alternatives. They have more uses than a piece of string, but they do have their limitations. You need very good eyesight and delicate fingers to use them. I bought one and it has proved to be one of the most useful gadgets in my shack.



What is it? It's a pocket-sized Vector Network Analyzer. What's a Vector Network Analyzer? It's a test instrument that can measure SWR over a wide range of frequencies, phase relationships, impedances, common-mode choke attenuation and a whole lot more.

The nanoVNA has two ports. One sends a low-level signal (called the "stimulus") and can measure the return signal from the Device Under Test (DUT). This is called a S11 measurement and is often used for SWR measurements across a whole band. The second port is a receive-only port and can be used to measure the signal coming from the first port after it passes through a DUT. This is called a S21 measurement and can be used, for example, to measure the common mode current rejection of a choke.

The nanoVNA has 100 measurement points so it gives more accurate results if the frequency range is limited to a single band. You can make measurements across a very wide frequency range if you just wish to obtain an overview of the performance of the DUT – e.g. finding the resonant points of a multi-band antenna.

Next month we'll take a deeper look at this amazing instrument.



Do you have a story to tell?

Did you QSO with a rare DX station on the bands?

Maybe you were operating FT-8 and got a contact with the research station at the South Pole?

Or perhaps the International Space Station was flying overhead and you made contact with one of the ham astronauts

"Inversions" sometimes extend the range of a VHF repeater to hundreds of kilometers. If you experienced this let us know

Whatever on-air event you would like to share tell the Editor! Send me your story. Just the barebones if you prefer and I'll spin it into an action superhero tale our readers will love to read.



On the Air

Surprise 2 meter QSO with Germany

by Marvin Double VE3VCG

Since the first day I've been a licensed amateur I continue to be surprised by the variety of experiences that the hobby provides. There are certainly moments which stand out as gems worthy of sharing.

I spend a lot of time writing or doing research online. The computer I use for this is situated next to my radio hutch. I can't call it a shack because it's an old, large TV, solid maple cabinet with closing doors in the corner of my bedroom. It is one might say, a literal shack in a box.

Commonly when I'm working I leave the 2 meter right on with my beam pointed to OSR. This was the case on Thursday morning September 31. I heard an Echolink station on the repeater but could not catch the entire call. The operator was speaking English but with a distinctive accent. After his second call, I responded.

The operator was Hans DK6LV, operating via Echolink from a small village in Germany, somewhere close to the Danish border. Regrettably I didn't write down the name of the village and so that information is lost to the ages.

In our QSO Hans shared that he'd visited Owen Sound years ago and was using Echolink to see if he could make a connection with someone here, all these years later. We had a great chat about his experiences while in Canada, including a visit to Niagara Falls and visiting Tobermory and taking a boat trip out to the famous islands just offshore.

Our QSO must have lasted 30 minutes and was lots of fun. He was obviously very impressed with Canada and expressed that he liked the country and the people many times. He also shared that he had relatives living in Owen Sound at one time but had lost contact and so didn't know their location now.

Before he signed off, Hans and I both agreed that such unexpected contacts are one of the things that keeps HAM radio interesting and fun. I took it that Hans had called on OSR on a whim but having done so made the day a little brighter for us both, no passports or COVID documents required.

Thanks Hans for reaching out. You are definitely in my log.



For contest details visit [www. Contestcalendar.com](http://www.Contestcalendar.com)

The WA7BNM Contest Calendar site provides detailed information about amateur radio contests throughout the world, including their scheduled dates/times, rules summaries, log submission information and links to the official rules as published by the contest sponsors.



Contest Calendar

You don't have to wear a diaper and be fed through a tube to enjoy contesting. It's really ok to grab a few minutes sleep every 48 hours or so – just don't leave the shack 'til the fat lady sings!

The following is a sample of contests compiled by Bruce Horn WA7BNM at <https://www.contestcalendar.com/> If you see a contest that interests you please visit Bruce's website for full details or the complete list.

Selected November Contests:

Weekly contests

- K1USN Slow Speed Test (CW max 20wpm) 0000Z-0100Z every Monday (Sunday evenings EDT/EST) and 2000Z-2100Z every Friday
- CWops Mini-CWT Test 1300Z-1400Z every Wednesday
- CWops Mini-CWT Test 1900Z-2000Z every Wednesday
- CWops Mini-CWT Test 0300Z-0400Z every Thursday (Wednesday evenings EDT/EST)
- Phone Weekly Test - Fray 0230Z-0300Z every Monday (Sunday evenings EDT/EST)

Other contests

- Silent Key Memorial Contest 0600Z-0859Z, Nov 1
- Worldwide Sideband Activity Contest 0100Z-0159Z, Nov 2
- Phone Weekly Test - Fray 0230Z-0300Z, Nov 3
- VHF-UHF FT8 Activity Contest 1700Z-2000Z, Nov 3
- SKCC Sprint Europe 2000Z-2200Z, Nov 4
- Two-Meter Classic Sprint 1300Z-1330Z, Nov 6
- ARRL Sweepstakes Contest, CW 2100Z, Nov 6 to 0300Z, Nov 8
- High Speed Club CW Contest 1400Z-1700Z, Nov 7
- Worldwide Sideband Activity Contest 0100Z-0159Z, Nov 9

- VHF-UHF FT8 Activity Contest 1700Z-2000Z, Nov 10
- Day of the YLs Contest 0000Z, Nov 13 to 2359Z, Nov 14
- OK/OM DX Contest, CW 1200Z, Nov 13 to 1200Z, Nov 14
- SKCC Weekend Sprintathon 1200Z, Nov 13 to 2400Z, Nov 14
- FISTS Saturday Sprint 1600Z-1800Z, Nov 13
- CQ-WE Contest 1900Z-2300Z, Nov 13 (CW/Digital) and 0100Z-0500Z, Nov 14 (Phone) and 900Z-2300Z, Nov 14 (Phone) and 0100Z-0500Z, Nov 15 (CW/Digital)
- 4 States QRP Group Second Sunday Sprint 0100Z-0300Z, Nov 15
- Worldwide Sideband Activity Contest 0100Z-0159Z, Nov 16
- Walk for the Bacon QRP Contest 0000Z-0100Z, Nov 18 and 0200Z-0300Z, Nov 19
- NAQCC CW Sprint 0130Z-0330Z, Nov 18
- NCCC Sprint 0230Z-0300Z, Nov 19
- ARRL Sweepstakes Contest, SSB 2100Z, Nov 20 to 0300Z, Nov 22
- Homebrew and Oldtime Equipment Party 1300-1500Z, Nov 21 (40m) and 1500-1700Z, Nov 21 (80m)
- FISTS Sunday Sprint 2100Z-2300Z, Nov 21
- Run for the Bacon QRP Contest 2300Z, Nov 21 to 0100Z, Nov 22
- Worldwide Sideband Activity Contest 0100Z-0159Z, Nov 23
- SKCC Sprint 0000Z-0200Z, Nov 24
- CQ Worldwide DX Contest, CW 0000Z, Nov 27 to 2400Z, Nov 28
- Worldwide Sideband Activity Contest 0100Z-0159Z, Nov 30





After reading **Nuggets of Wisdom** you may be none the wiser but you will be better informed.

The saddest part of life right now is that science gathers knowledge faster than society gathers wisdom – **Isaac Asimov**

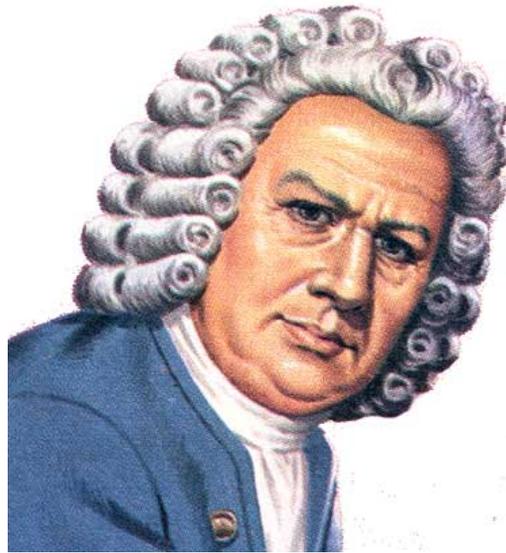
The only true wisdom is in knowing you know nothing – **Socrates**



Nuggets of Wisdom

A monthly offering of tidbits of useful radio trivia

What did Beethoven do for Ham Radio?



You may not be a classical music fan but you're probably familiar with the opening bar of his 5th symphony: "dididit dah". Let that go around in your head a few times. There, now you know the letter V in Morse Code!

Now add the simplest letter of them all, E. It's just a "dit" in Morse. Hey, now you know

VE. Now add a "dah" to Beethoven's famous V and you've got yourself a 3. Now you know VE3 already.

Ah, but what if you have a VA3 callsign? No problem; just add a "dah" to the E.

Everyone knows SOS; it's 3 "dits", 3 "dahs", 3 "dits". So now you've learned 6 letters and that's nearly a quarter of the whole alphabet.

Thanks Ludwig!



Next month: What did Alexander Graham Bell do for ham radio?



The Radio Amateur's Creed:

When a ham has something to sell, it's a rare treasure and he will part with it only very reluctantly, as long as it's understood that it's worth every penny of the asking price.

When he is buying, it's just a piece of junk and it "ain't worth nothin'".



For Sale and Wanted

Do you have something to sell, or need something? You can list it on the club forums and now in the newsletter too. *Send your listings and ad responses*

to newsletter at gbarc dot ca.

Wanted to Buy

- High voltage transmitter variable capacitors. John VA3KOT

Services

- 3D Printing Available. Your design professionally printed for cost plus a donation to the club. Richard VE3OZW

Other ham radio marketplace websites:

<http://www.kwarc.org/swapshop/>

Welcome to the Interactive KWARC SwapShop

The ham radio virtual fleamarket on the Web!

Welcome! You're probably here because you're interested in buying or selling some good used ham radio gear. Before you think about letting go of your hard earned money, please educate yourself about online fraud. You can start with my [Online SwapShop Safety Tips](#) and there are some more links to follow there. Have fun but be safe!

www.ontars.com

ONTARS Market Place

Our FREE - easy to use- online swap shop for amateurs

Amateur Radio's best kept secret!

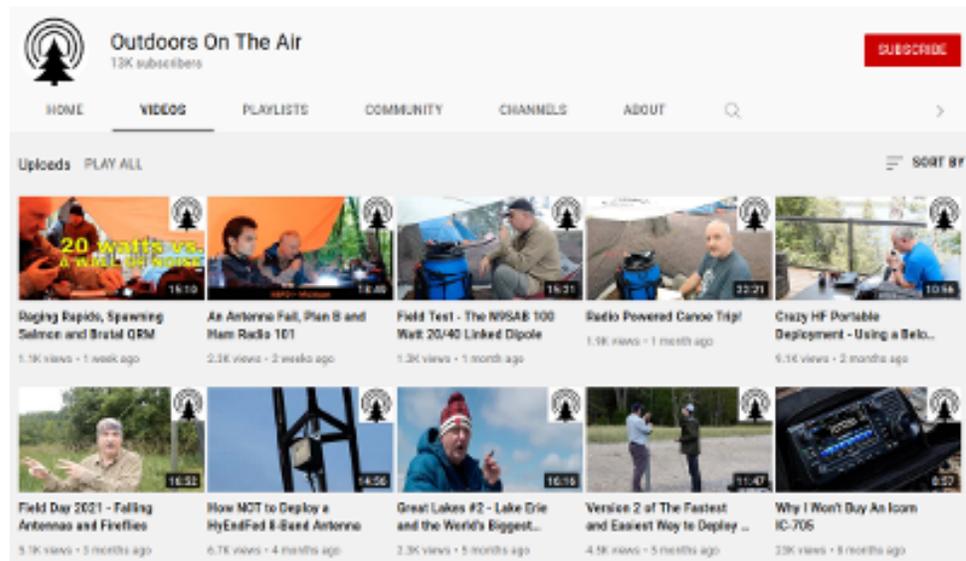
Click for today's new deal!





On the Web

If you share your newsletter editor's passion for operating outdoors, check out this channel on YouTube. Tracy McKim VE3TWM from Burlington, Ontario has a very strong and clear presentation style that makes his videos a pleasure to watch.



It is nice to see a Canadian ham doing so well on this medium. I have been subscribed to Tracy's channel for quite a long time and always enjoy his content.

One of my personal favourite videos in Tracy's channel is this one. Tracy is on a quest to operate outdoors at each of the five Great Lakes. In this video he is on the shore of Lake Superior where I too have operated.

Watch his channel and maybe you'll get the "outdoors" urge too!



Great Lakes On The Air #1 - Lake Superior

And finally ...

A big thank you to all those who have contributed to this month's newsletter. Your contributions have made the job of compiling it much easier. Your suggestions for additional subjects or content that you would like to see are most welcome.

I hope to see you on the club nets and in our upcoming Zoom meeting. Maybe we'll even catch each other on the bands.

**73, Good DXes CU Next Month
de John VA3KOT**