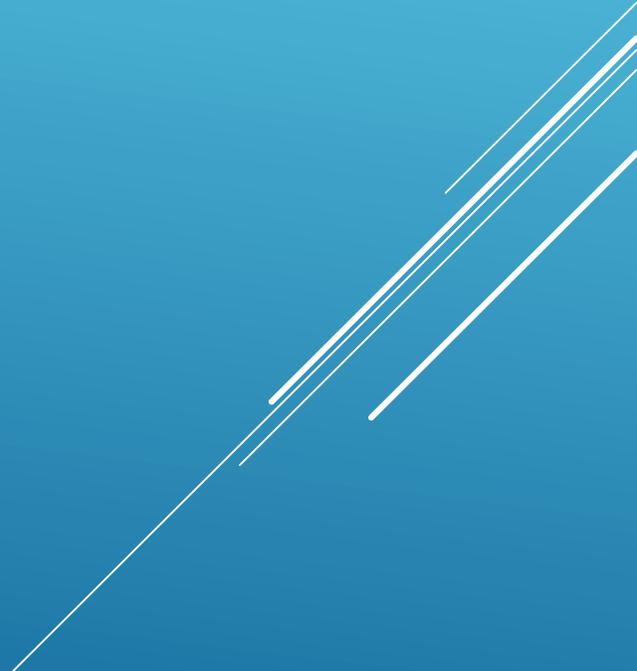


Truro Amateur Radio Club

Newbie Round Table

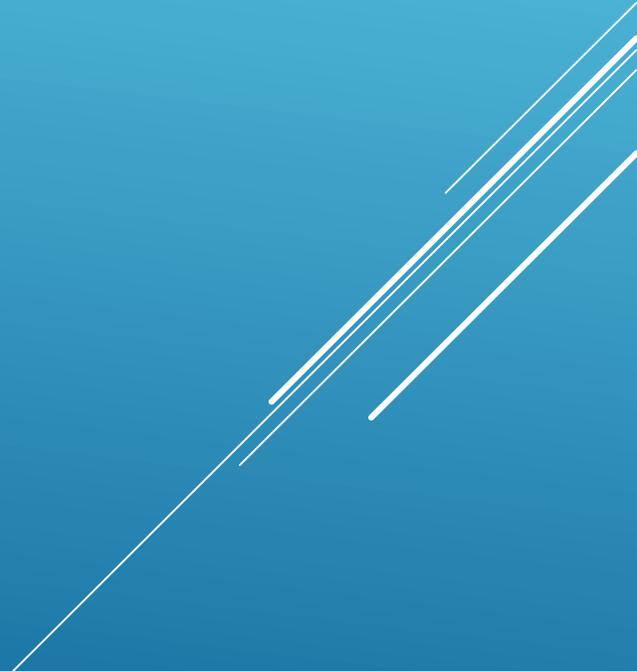
FAQ

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VE1HUL

Dave Hull

Truro, N.S.

A decorative graphic consisting of several parallel white lines of varying lengths, slanted upwards from left to right, located in the bottom right corner of the image.

The info provided in this presentation is available

@

truroamateurradioclub.ca/files/2018smartnewbiepresentation.pdf

Where to find good information on VHF & UHF operation locally?

The following are a number of links where some good information to help you along the way to a more enjoyable ham radio experience can be found.

Nova Scotia Amateur Radio Association http://nsara.ve1cfy.net/?page_id=18

Maritime Amateur <http://www.maritimeamateur.ca/>

VE1AIC – VE1CRA website <http://ve1cra.net/main/>

2012 Maritime Provinces Call Book – can be purchased from the Halifax Radio Club

Industry Canada Amateur Radio use - http://www.ic.gc.ca/eic/site/icgc.nsf/eng/h_07048.html#ic-subnav-2-

Industry Canada FAQ - https://www.ic.gc.ca/eic/site/025.nsf/eng/h_00006.html

NSARA Linking System 2012 (power point presentation) by VE1MR

<http://www.maritimeamateur.ca/undefined/NSARA%20Link%20System%202012.ppt>

Halifax Amateur Radio Club Repeater Linking Presentation by VE1KS

<http://www.halifax-arc.org/pdf/Rptr-Link-Club-Presentation.pdf>

The process for making a call?

The basic rule of thumb is to make a call is to say the call sign you are calling then say your call sign and wait for a reply, repeating as many times as you feel necessary. Due to the nature of many modern radios in scan mode it might be a good idea to say the call sign you are looking for up to 3 times followed by your call sign then wait for a reply, repeating as necessary.

Need to say your call sign how often?

According to Industry Canada you need to say **your** call sign at the start and finish of your conversation and at least once every 30 minutes during the conversation.

You do not need to say your call sign and the call sign of the person you are talking to every time the person talking changes. It is a good practice if there are more than two people talking to indicate who is next in line to speak.

(Ex: Turning it over to)

Use of phonetics?

Phonetics are designed to facilitate a better understanding of difficult call signs, names and other speech that could be misinterpreted when talking. The use of phonetics should not be necessary once the conversation has started as everyone should be aware of who they are talking to, unless someone new joins the conversation or a particularly hard to understand word is spoken. A lot of people use phonetics constantly when there is not a good reason to do so. **The use of phonetics for emergency communication is very important when information needs to be transmitted without the possibility of misinterpretation.**

International Telecommunication Union Phonetic Alphabet-

Word list adopted by the International Telecommunication Union, often referred to as the NATO phonetic alphabet

A--Alfa	J--Juliett	S--Sierra
B--Bravo	K--Kilo	T--Tango
C--Charlie	L--Lima	U--Uniform
D--Delta	M--Mike	V--Victor
E--Echo	N--November	W--Whiskey
F--Foxtrot	O--Oscar	X--X-ray
G--Golf	P--Papa	Y--Yankee
H--Hotel	Q--Quebec	Z--Zulu
I--India	R--Romeo	

VHF & UHF analog voice operation?

Simplex – essentially talking between point A and B via line of sight or slightly further. Location, power output of the radio and obstructions between you and the person you are trying to talk to (natural or man made) play a big role in simplex operation.

Repeater not linked to a network – similar to simplex although no longer just line of sight. A repeater is typically placed at a high location (hill or building) so that as long as your radio can communicate with the repeater the repeater will rebroadcast the signal enabling other operators who are not in line of sight of you to communicate with you through the repeater. This will greatly increase the communication range and area. As with simplex location is everything, not only for the operator but also the repeater.

Repeater linked to a network – Essentially the same as a repeater not connected to a network, but by connecting to a network of repeaters you greatly increase your range and area of coverage.

Echolink – Is using your computer to access ham radio repeaters anywhere in the world using VOIP.

IRLP – Is using your radio to access ham radio repeaters anywhere in the world using VOIP.

VHF & UHF digital voice operation?

Yaesu Fusion Digital – System Fusion is Yaesu's implementation of Digital Amateur Radio, utilizing C4FM 4-level FSK Technology to transmit digital voice and data over the Amateur radio bands.

Yaesu WIRES-X (Wide-Coverage Internet Repeater Enhancement System) is a comprehensive and easy-to-use system for linking repeaters and/or home stations together, using Internet voice technology. Now you can talk to old friends, or make new ones, around the world.

Yaesu WIRES-X HRI-200 (Wide-coverage Internet Repeater Enhancement System) enables Internet to RF communications that expands the range of amateur radio using internet enabled Voice-over-IP technology. With WIRES-X, an amateur node station connected to the Internet and interfaced to the WIRES-X HRI-200 unit can communicate using VoIP over long distances reliably with ease.

Motorola Digital Mobile Radio (DMR): We were one of the leading manufacturers involved in developing the European Telecommunications Standards Institute (ETSI) DMR standard and one of the founding members of the DMR Association where we helped design a cross-industry interoperability testing process. We license intellectual property rights essential to the DMR standards under ETSI terms to all DMR manufacturers.

Icom D-STAR is an open protocol – although it is published by JARL, it is available to be implemented by anyone. Icom and Kenwood are the only companies to date that manufacture D-STAR-compatible radios, any equipment or software that supports the D-STAR protocol will work with a D-STAR system. D-STAR systems can be built using both commercial and homebrew equipment and software.

Fusion Digital and WiresX

What do I need for a radio to talk on Fusion Digital?

- You will need a Yaesu C4FM compatible radio.
- The radios I am aware of are **FTM 3200DR, FTM 100DR, FTM 400DR, FT 991, FT 991A, FT1DR, FT1XDR, FT2DR, FT 70DR**

Do I need a computer to use Fusion Digital?

- No you **do not** need a computer to talk on Fusion Digital

Do I need a computer to use Wires X?

- You **do not** need a computer to access Wires X as long as you are able to work a repeater that is Wires X compatible Fusion repeater.
- If you are unable to access a Wires X compatible Fusion repeater then you will need a computer and a Wires X HRI200 unit.

What does the HRI200 do? The HRI200 is needed to set up your own node.

- You can use an HRI200 + a computer + an internet connection to set up a node where no radio is needed. You use the mic and sound card on the computer to connect to Wires X and the world
- Or you can use an HRI200 + a node radio (FTM100DR, FTM400DR, FT991 or FT991A) + a computer + an internet connection to set up a node. Please note that the node radio serves no other purpose than a node radio and will not work as anything else. You will need an additional C4FM compatible radio to talk to the node radio and out to Wires X and the world.

Are there many Fusion Repeaters in Nova Scotia? Yes there are several

Repeater name	Frequency	Location	Wires X	Room #
VE1XK	146.790 -	Truro	yes	28329
VE1BFB	146.775 -	Southampton	yes	28463
VE1AO - Node	CQ Canada Room	Truro	Yes	40678
VE1JSR	441.800 +	Antigonish	Yes	21961
VE1YAR	444.700 +	Yarmouth	Yes	40269
VE1HPR	145.490 -	Hammonds Plains, Halifax	Yes	40923
VE1RCC – Node		Wedgeport	Yes	28329
VE1ZC – Node		Dartmouth	Yes	28504
VE1HUL – Node		Truro	Yes	40054
VE1LN – Node		Hebrun	Yes	40269
VE1WRG - Node		Kentville	Yes	40579

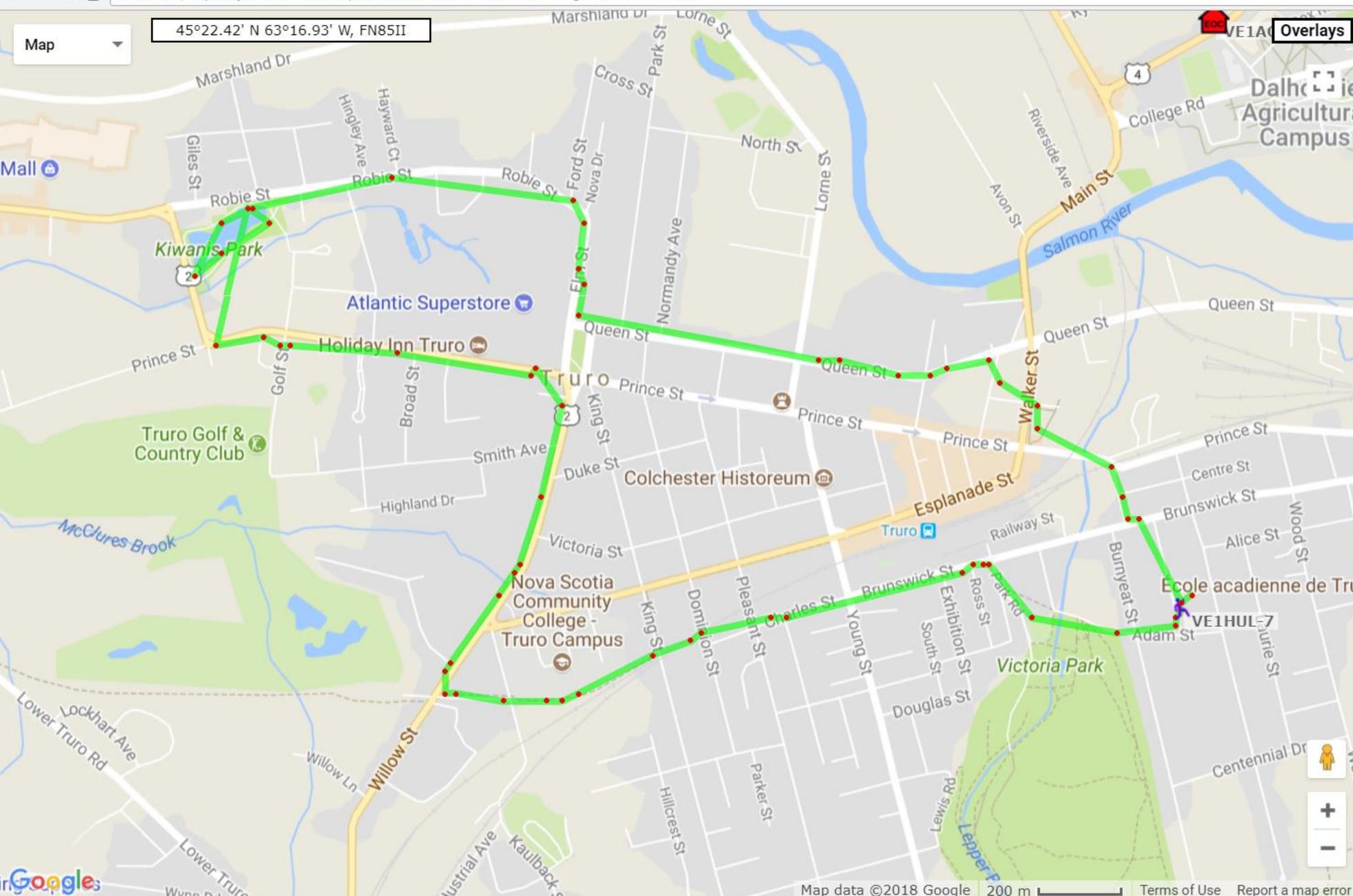
APRS - Automatic Packet Reporting System

Is an amateur radio-based system for real time digital communications of information of immediate value in the local area. Data can include object Global Positioning System (GPS) coordinates, weather station telemetry, text messages, announcements, queries, and other telemetry. APRS data can be displayed on a map, which can show stations, objects, tracks of moving objects, weather stations, search and rescue data, and direction finding data.

APRS data are typically transmitted on a single shared frequency (144.390mhz in North America) to be repeated locally by area relay stations (digipeaters) for widespread local consumption. In addition, all such data are typically ingested into the APRS Internet System (APRS-IS) via an Internet-connected receiver (IGate) and distributed globally for ubiquitous and immediate access. Data shared via radio or Internet are collected by all users and can be combined with external map data to build a shared live view (see map on next slide).

APRS has been developed since the late 1980s by Bob Bruninga, call sign WB4APR, currently a senior research engineer at the United States Naval Academy. He still maintains the main APRS Web site. The initialism "APRS" was derived from his call sign.

APRS can be used via a radio equipped as a stand alone APRS unit (handheld or mobile). or by a smart phone/tablet with appropriate software connected to a TNC (Terminal Node Controller) connected to a radio (handheld or mobile) or by a smart phone/tablet with appropriate software connected directly to the internet.



aprs.fi · Login

Free Cell Phone Tracker - Get Location...
 1) Enter Any Cell # and Track Free. 2) Get Name, Current Address, Pics & More! whoeasy.com/cell-phone/tracker-free

Track callsign: ?

Address, city or Locator: ?

Show last:

Track tail length:

VE1HUL-7

Updated: 2018-04-03 08:43:58 (7h34m)
 Position: 45°21.64' N 63°16.08' W

Other SSIDs: VE1HUL VE1HUL-13

VE1HUL-9

Wx: 37°F 52% 1023 mbar 4.9 MPH W

Other views:

- [Station info](#)
- [Raw packets](#)
- [Status packets - Beacon packets](#)
- [APRS/CWOP weather - Telemetry](#)
- [Messages - Bulletin board](#)
- [Prefix browsing](#)
- [Google Earth KML ?](#)
- [Data export tool](#)
- [Preferences - My account](#)

Information:

Packet radio

Is a form of packet switching technology used to transmit digital data via wireless communications. Packet radio uses the same concepts of data transmission using datagrams that are fundamental to communications on the Internet, as opposed to older techniques used by dedicated or switched circuits. Packet radio can be used over long distances without the need for a physical connection between stations. Packet radio can also be used for mobile communications.

Packet radio is a digital radio communications mode. Earlier digital modes were telegraphy (Morse code), teleprinter (Baudot code) and facsimile.

It is possible for any packet station to act as a digipeater, linking distant stations with each other through ad hoc networks. This makes packet radio especially useful for emergency communications. Mobile packet radio stations can automatically transmit their location, and also check in periodically with the network to show that they are still operating.

The most common use of packet radio is in amateur radio, to construct wireless computer networks. Packet radio uses the AX.25 (Amateur X.25) data link layer protocol, derived from the X.25 protocol suite and adapted for amateur radio use. AX.25 was developed in the 1970s. AX.25 includes a digipeater field to allow other stations to automatically repeat packets to extend the range of transmitters. One advantage is that every packet sent contains the sender's and recipient's amateur radio callsign, thus providing station identification with every transmission.

146.520 mhz North American Call Frequency – Simplex

Ideally this is the frequency that you should monitor for simplex calls. Once you have established contact on 146.520 then you should move to another frequency to conduct your conversation. That would free up 146.520 for others to use. It has been suggested that 146.490mhz, 146.550mhz or 146.580mhz could be used as they are easy to find on the go.

Should I use simplex, the local repeater or the MAVCOM System?

You should use simplex if possible to make contact. If unable to make contact using simplex the next step would be to go to a local repeater. If still unable to make contact then use your local repeater to link to the MAVCOM System to make contact and complete your call.

If you are in the Truro area for example:

1. On simplex you can talk around Truro and the surrounding area (Bible Hill, Salmon River, Onslow, Lower Truro) and that's about it depending on location.
2. On one of the repeaters VE1XK, VE1TRO or VE1HAR you have now increased your range of communication and can now talk to Elmsdale, Windsor, New Glasgow, Tatamagouche, Oxford, etc
3. On one of the repeaters VE1TRO or VE1HAR linked to the MAVCOM System you now could talk to Yarmouth, Sydney, Amherst, Halifax and virtually everywhere in between plus all over PEI if you so wish.

Can a repeater be used locally without effecting the MAVCOM System?

Yes it can, as long as you do not have the repeater linked to the MAVCOM System. Listen to the number of beeps at the end of your transmission over the repeater 1 beep you are not linked to MAVCOM 2 beeps you are linked to MAVCOM

Don't be afraid to use the repeaters.

Don't be afraid of the repeaters, go ahead and use them if required. If for some reason the repeater is not working the way that you think it should or you can't get it back to normal or down link it don't worry just leave it alone. After a little while it will time out and reset itself back to normal, then you can try again.

Repeater Announcement.

All the repeaters on the MAVCOM System will announce when they are uplinked and when downlinked. Some of the repeaters may make their announcement using CW. Also in some cases it may take some time between sending the link code and hearing the announcement.

Time out Timers.

- Radio time out timer is generally 3 minutes. Most radios are set to drop the transmitter after 3 minutes of continuous transmitting. So if you think your monologue will be longer than 3 minutes take a short break to allow all timers to reset.
- Link **activity** timer is generally 3 minutes. Most controllers are set to drop the transmitter after 3 minutes of continuous receive carrier - this applies to both repeaters and links. So if you think your monologue will be longer than 3 minutes take a short break to allow all timers to reset.
- Link **inactivity** timer is generally 5 minutes. This will ensure the link will time out if there is no activity on the link for the set time. So if you drive out of the coverage area of a repeater you up linked, do not worry, the link will time out with no activity.
- Often the **inactivity** timer on the repeater side will be set to a longer time typically 20 minutes. This allows listening to a net when no one is checking in from a particular repeater. Not all controllers allow this.

Repeater drop out.

If you are listening to a conversation on the MAVCOM System and not using your repeater very much to participate then the repeater may time out from lack of use. The best way to get around this issue is to key the mike every so often to reset the time out timers.

What to call the repeater?

All repeaters have callsigns, although it may be fine to call the repeater by its location name for those in the local area it may not be so good for those from away. It is always best to use the repeaters call sign.

As an example I had no idea that Lundy was VE1GYS or that Digby was VE1AAR until I looked up the names in the 2012 Maritime Provinces Call Book.

MAVCOM one big System.

The MAVCOM System of repeaters is one big system. Essentially once you link your repeater to the system you will hear any and all activity that is currently on the system. Remember the party line phones back in the day, the MAVCOM System is just a newer version of this. It is suggested that if you don't need to be on the MAVCOM System to carry on your conversation then then don't use it. This frees it up for use by others who need it to make their conversations happen.

One code to destination repeaters.

A one code to destination repeater differs from the other repeaters that make up the MAVCOM System in that they **do not** have to be linked to the system to link to other repeaters. You simply go to the one code repeaters frequency and enter the link code of the repeater you wish to link to and the link will be established. This makes the linking process much simpler, unlike the other repeaters in the system where you must link the repeater to the MAVCOM System before you can enter the link code of the destination repeater.

What could possibly be a draw back to the one code to destination repeater is if you have multiple repeaters linked then the down link process becomes cumbersome, as the one code to destination repeater also down links itself. There has been some software updates to most of the one code to destination repeaters that will allow you to down link multiple repeaters without the one code to destination repeater down linking itself. There is one catch to this though there is a timer and if the one code to destination repeater does not hear DTMF codes after 30 seconds it will down link itself, and you will have to relink in order to continue down linking. Because of this you will not have time to announce the repeaters as you down link them, so make your announcement of your intentions prior to starting the down link process and then after everything is down linked make the announcement that you are returning the MAVCOM System and repeater you are using back to normal usage. For the one code to destination repeaters that have not had the software updates to down link multiple repeaters you will have to uplink the one code to destination repeater after each down link.

The one code to destination repeaters are:

Callsign	Location	Frequency	Up link code	Down link code
VE1HNS	Halifax (tone sq 82.5)	146.940-	106*	107*
VE1PSR	Halifax (tone sq 82.5)	147.270+	110*	111*
VE1GYS	Lundy NS	146.700-	194*	195*
VE1LUN	Lunenburg NS	147.330+	114*	115*
VE1MHR	Musquodoboit NS	147.030+	116*	117*
VE1SPR	Springhill NS	147.000-	130*	131*
VE1BHS	Sugarloaf NS	145.350-	132*	133*
VE1TRO	Nuttby Mtn NS	147.210+	112*	113*

Hard Linked Repeaters

When a repeater is designated as hard linked to another repeater, this means that they are always linked. So when you link to the main repeater you are also linking to the hard linked repeater(s).

VE1SDR	Sand River NS	145.270 -	is hard linked to			
			VE1WRC	Amherst NS	147.285+	154* 155*
VE1KIL	Inverness NS	146.730 -				
VE1CBI	Cape Smokey NS	147.240 +				
VE1CR	Sydney NS	146.610 -				
VE1HAM	Boisdale NS	146.880 -	are all hard linked to			
			VE1OBN	St Peters NS	147.105 +	196* 197*
VE1SAB	Sherbrooke NS	145.390 -				
VE1ESR	Sheet Harbour NS	145.450 -	are both hard linked to			
			VE1MHR	Musquodoboit Harbour NS		
					147.030 +	116* 117*
VE1OPK	Barrington NS	147.255 +	is hard linked to			
			VE1SCR	Shelburne NS	146.610 -	160* 161*
VY2PEI	Cavendish PEI	145.150 -				
VY2CFB	O'Leary PEI	147.120 +	are both hard linked to			
			VE1CFR	Summerside PEI	146.850 -	124* 125*

Linking Repeaters:

1. Monitor the repeater for a few seconds to see if it is active or not
2. Give your call sign and announce your intentions to up link your repeater to the MAVCOM system.
3. Then push the PPT button and enter the link code. Make sure that you push the buttons on the DTMF pad long enough to generate a long enough tone for the repeater controller system to understand it. Also make sure that you pause for a couple of seconds after you push the PTT button before entering the DTMF code, this allows all the repeaters currently linked time to activate. After you release the PTT button the MAVCOM system will dial and link the repeater you are calling.
4. Listen for a few seconds to see if the MAVCOM System is in use.
5. Give your callsign then the repeater you wish to link to and then enter the link code.
6. Listen to confirm the repeater announcement is for the repeater you requested.
7. If you are on a one code to destination repeater then you can skip steps 2,3 and 4.
8. Listen for a few seconds to confirm if the repeater you have linked to is busy or not.
If yes wait until the first break in the conversation and give your callsign. Then wait until you are called into the ongoing conversation. At which point you can explain your reason for calling and most likely be allowed to continue your call.
If the repeater is not in use make you call to the amateur radio operator you are looking for.

Up linking and down linking do I need say the callsigns of the repeaters as each repeater announces itself?

If you are up linking or down linking only a couple of repeaters go ahead and say the callsigns. If you are up linking or down linking a large number of repeaters then announce yourself every few repeaters saying your callsign and what you are doing then continue.

Using the MAVCOM System to link to VE1CFR or VE1CRA on PEI

The way the MAVCOM System is set up in order to link to VE1CFR or VE1CRA on PEI, you need to link VE1BHS to the MAVCOM System first. Then you can link to the PEI repeaters.

HAM RADIO ETIQUETTE

Congratulations on your new ham license. We understand that getting on the air can be a bit intimidating. Don't worry; we all were new hams once upon a time.

The following information a simple guide to courteous operation on our repeaters, comes from various sources, and is not intended to be a "rule book". If you operate by these simple guidelines, you will surely always be welcomed on any of our repeaters.

- Take the time to listen to the repeaters.
- Speak like you were talking to someone face to face. Key the mike, AND THEN start to talk. Don't start speaking as you key the mike. Repeaters have a short delay before transmitting. If you start speaking too soon, your first few words may not be heard. Make sure you have finished talking before you un-key the mike. Give your call sign clearly, and slowly.
- Use English and avoid jargon as much as possible. Q-codes are really a Morse code short hand. They have their place when voice communications are marginal. Say, "My wife" rather than the "xyl".
- Avoid falling into the habit of using cute-isms: "Roger Roger", "QSL on that"...
- Avoid phonetics unless you are asked to do so. When using phonetics, use standard phonetics. "Alpha, Bravo, Charlie"... etc.
- If you are listening and would like to have a conversation, just give your call sign. You can add "monitoring", or "listening". **Using the term "CQ" on a repeater is generally discouraged.**

- When you wish to communicate on a frequency, listen for a while before talking, there may be a conversation in progress.
- If you want to join into a conversation, just give your call between transmissions rather than using the term "Break Break". You will be acknowledged and allowed into the conversation.
- If you want to talk to a certain person, call them using their call sign once or twice, then your call sign.
- In an emergency, give your call and say "emergency" rather than using "Break Break". Saying "emergency" will make it clear why you are interrupting and it will also get more attention from those just listening.
- Make sure you ID (state your call sign) according to the rules, but avoid over ID'ing. If you are using a repeater system, the repeater has a timer so that it can ID every 10 minutes, or however long it is set for. Whenever you hear the repeater ID that is a good time to give yours. There is no need to give your call sign, then say "For ID". Your call sign is your ID.
- It is generally frowned upon to "Ker-chunk" a repeater. That means keying up your radio for just a moment so that the repeater transmits, usually you hear the "courtesy beep" afterwards. This is also annoying to the repeater owners and control operators. If you want to make sure you are transmitting okay, make sure you give your call sign.
- Even 'mild' obscenities are not good operating practice. This includes suggestive phrases, and suggestive phonetics.
- **Do not monopolize the repeater.** If 90 % of the conversations for long periods of time, night after night, include you and one or two others, something is wrong. If other hams turn off their radios for big blocks of time because they can hardly talk to someone other than you, something is wrong. You do not own, nor single handedly finance the repeater. It is supposed to be a shared resource. Don't drive other people off the air. **You know who you are!**

- If you feel compelled to interrupt an existing conversation, remember that it is **no more polite** to do so on the air than if you did it in person. Would you barge into a roomful of people engaged in a discussion without saying anything of interest? ...or even worse, saying something completely unrelated to the topic of conversation?
- Ignore jammers and others who try to disrupt the repeater's normal operation. Without any reaction from the repeater users, they will have no audience and probably go away in short order.
- If you are someone who is the subject of frequent interference, it may be a sign that **you** are aggravating people with your operating habits. This may be a sign that it is time for you to adjust your attitude and use of the repeater. This isn't always the case, but history has shown that those who have the most trouble with jammers are the ones who have caused the most friction amongst the repeater users.
- Transmit your call sign when you first come on the air. Make sure you ID once every 30 minutes, but there is no need to identify too often. Ignore stations who break-in without identifying.
- Don't cough, clear your throat, sneeze, etc., on the air; Unkey your microphone first.
- Be upbeat and courteous. Don't complain. This especially includes complaining about other hams, the repeater, or some aspect of the hobby. We all deal with unsafe and discourteous drivers, please don't describe their actions to us on the air.
- Do not use the word "break" to join a conversation. It is not considered good operating practice and in some circles the word "break" is reserved for announcing emergencies. The appropriate amateur radio term is break-in. If you simply want to join in, just transmit your call sign.

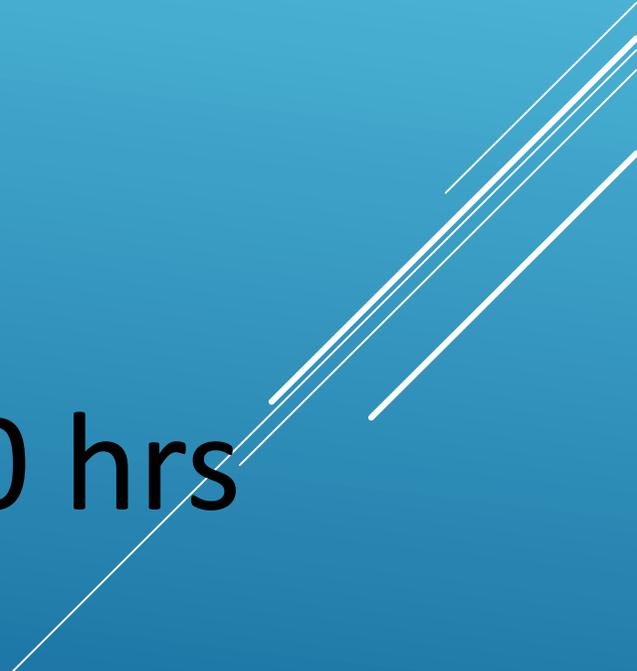
- Promptly acknowledge any break-in stations and permit them to join the conversation or make a quick call.
- **Do not use phrases learned on 11 meters** such as "handle", "making the trip", "got a good copy on me?", "the personal here is...", "what's your 20?", "you're giving me 20-pounds", and other strange phrases which should stay on CB. Speak plain English; this is not a cult. The less said about 11 meters on the air the better.
- The commuting hours (drive times) should be left to the many mobile stations who have limited time to converse. Home based stations should refrain from frequent or prolonged use of the repeater during these hours. The repeater is there to help extend the range of mobiles and portables, so be courteous and give them priority during commuting hours.
- Following a roundtable, or rotation format is the best way for 3 or more to participate. Don't ignore people by not passing it to them for several turns.
- Not all repeaters have "courtesy tones". Sometimes we rely on courteous operators rather than courtesy tones. Provide a brief pause between transmissions in order to allow folks to join in. People breaking into a conversation should transmit their call sign when the current user unkeys. Do not wait for the repeater tail to drop.
- Remember above all else have some fun with the Amateur Radio Hobby

These are just a few pointers to help you sound like an old pro. You will make friends. Do not be afraid to ask questions. We were all newbies at one time.

Truro Amateur Radio Club

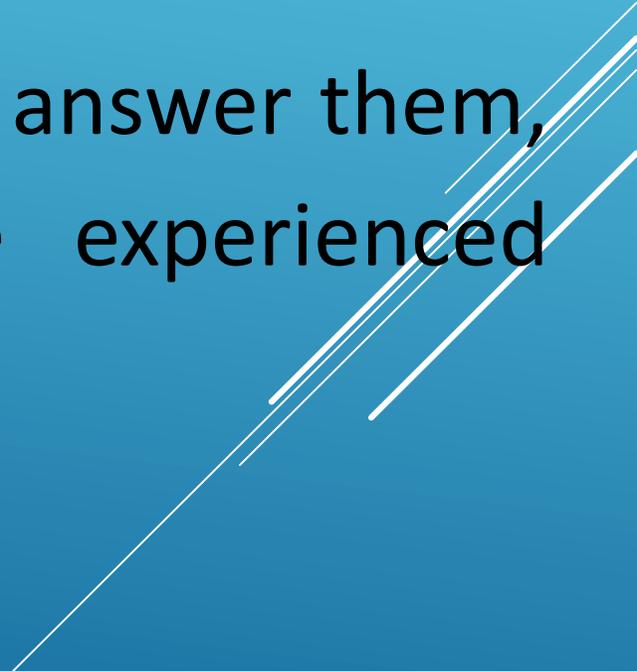
Newbie Round Table

Is on Sunday nights @ 2100 hrs

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This is the end of the presentation.

If anyone has questions I will do my best to answer them, along with the assistance of the more experienced amateur radio operators.

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